



## SDI-Africa Newsletter

The Spatial Data Infrastructure - Africa (SDI-Africa) is a free, electronic newsletter for people interested in Geographic Information System (GIS), remote sensing and data management in Africa. Published monthly since May 2002, it raises awareness and provide useful information to strengthen SDI efforts and support synchronization of regional activities.

The Newsletter is prepared for the [GSDI Association](#) by the [Regional Centre for Mapping of Resources for Development \(RCMRD\)](#) in Nairobi, Kenya.



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The [Regional Centre for Mapping of Resources for Development \(RCMRD\)](#) implements projects on behalf of its member States and development partners.

The centre builds capacity in surveying and mapping, remote sensing, geographic information systems, and natural resources assessment and management. It has been active in SDI in Africa through contributions to the [African Geodetic Reference Frame \(AFREF\)](#) and [SERVIR-Africa](#), a regional visualization and monitoring system initiative. Other regional groups promoting SDI in Africa are [ECA/CODIST-Geo](#), [RCMRD/SERVIR](#), [RECTAS](#), [AARSE](#), [EIS-AFRICA](#), [SDI-EA](#) and [MadMappers](#)



## Announce your news or information

Feel free to submit to us any news or information related to GIS, remote sensing, and spatial data infrastructure that you would like to highlight. Please send us websites, workshop/conference summary, events, research article or practical GIS/remote sensing application and implementation materials in your area, profession, organization or country. Kindly send them by the 25<sup>th</sup> of each month to the Editor, Gordon Ojwang' - [gojwang@rcmrd.org](mailto:gojwang@rcmrd.org) or [sdiafrica@rcmrd.org](mailto:sdiafrica@rcmrd.org). We would be happy to include your news in the newsletter.

## This would be interesting to a colleague

PLEASE share this newsletter with anyone who may find the information useful and suggest they subscribe themselves. You can visit the [GSDI](#) website: Newsletter back issues - <http://www.gsdi.org/newsletters.php>. You can join the GSDI Association at <http://www.gsdi.org/joinGSDI>.

Enjoy Reading - the SDI-Africa team



## Support and Contributions to this Issue

Thank you to the [Global Spatial Data Infrastructure \(GSDI\)](#) Association; Hussein Farah, RCMRD (Kenya); Kate Lance, GSDI listserv moderator (USA); Karen Levoleger, kadaster (Netherlands) for their contributions to this issue of the newsletter. We also acknowledge the various websites and links referred as source of information.

## SDI News, Links, Papers, Presentations

### GSDI 14 World Conference and AfricaGIS 2013 - November 4-8, 2013



[EIS-Africa](#), the [GSDI Association](#), the [International Geospatial Society](#), and the [United Nations Economic Commission for Africa \(UNECA\)](#) are pleased to announce a close partnership in offering the joint AfricaGIS

The GSDI 14 World and AfricaGIS 2013 is a combined conference that will take place at the UNECA Conference Center in Addis Abbaba, Ethiopia from November 4-8, 2013. AfricaGIS is the largest regularly occurring GIS conference in Africa with participants from the entirety of the continent. The GSDI World Conference has built a reputation for excellence in content and moves across the globe to offer geospatial specialists in all parts of the world opportunities to better exchange ideas and learn from global peers in building

spatial data infrastructure.

The theme of the conference is "Spatially Enablement in Support of Economic Development and Poverty Reduction".



Important Links: Conference Website: <http://www.gsdi.org/gsdi14>; Past GSDI World Conference Proceedings: <http://www.gsdi.org/gsdiConferences>; Past open access Books affiliated with the conference: <http://www.gsdi.org/openaccessbooks>; Other: <http://www.gsdi.org/gsdiconf/gsdi14/dates.html>

We look forward to seeing you in Addis Ababa in November 2013. The primary organizers and hosts of this conference include the GSDI Association, EIS-Africa, the UN Economic Commission for Africa, EiABC - Addis Ababa University, and the International Geospatial Society.

## GEO Challenge Grant

The Group on Earth Observations (GEO) has contributed \$5,000 to help defray expenses of worthy applicants from economically disadvantaged nations in Africa to attend the combined AfricaGIS 2013 and GSDI 14 conference and training workshops before and after the conference. If your organization can make a contribution to help support deserving peer professionals from across the African continent, please contact Sives Govender, Director, EIS-Africa, email: [SGovender@eis-africa.org](mailto:SGovender@eis-africa.org), phone: +27-12-3491068.

## GPS and phones to help map neglected diseases in Africa



The countries in Sub-Saharan Africa will begin using the latest technologies to map and collect data on the distribution of neglected tropical diseases (NTDs) later this year. Officers running national NTD control programmes will be trained to use the latest mapping tools - including geographic information systems (GIS), geographic positioning systems (GPS) and smart phones to create maps and collect data, to help with 'practical control' of diseases that continue to afflict millions of people on the continent.

Despite being some of the easiest diseases to treat, NTDs continued to ravage populations across Africa. "National control programme officers will be trained in using the latest tools to locate these diseases, and collect and analyse data for cost effective control of NTDs," explains Simon Brooker, professor of epidemiology at the London School of Tropical Medicine, United Kingdom. This is the first time African government programmes will deploy such technologies for NTDs surveillance. "Accurate and reliable data on NTDs is not available in many African countries, while foreign researchers and some NGOs who are the only people using satellite technology may not necessarily share their results with national governments".

The five most common NTDs on the continent targeted are intestinal worms, trachoma, elephantiasis (lymphatic filariasis), river blindness, and bilharzias. Training for control officers from Ethiopia, Ghana, Kenya, Liberia, Mozambique, Nigeria and Zambia began on 13-17 May at the Kenya Medical Research Institute (KEMRI) in Nairobi, after which the officers will start mapping the NTDs in their respective countries. "The significance of using these technologies in mapping NTDs is to establish the distributions, target treatment in need areas, and estimate drug and resource requirements in affected populations and obtain clear information for monitoring and control purposes," says Sammy Njenga, Director of the Eastern and Southern Africa Centre of International Parasite Control (ESASIPC) based at KEMRI. "NTDs are 'focal' in their distribution, meaning that even in localities where they are found they usually occur in pockets - thus the importance of using the technologies in establishing their distribution".

Erick Khamala, a remote sensing specialist at Nairobi's Regional Centre for Mapping of Resources for Development (RCMRD), says using satellite technologies to map diseases is the most effective way of capturing their distribution to target interventions. "Data collection can be done by a few people and the software required can be downloaded free from the internet".

The initiative is collaboration between the Centre for Neglected Tropical Diseases at the Liverpool School of Tropical Medicine, UK, and the ESASIPC, with funding from the Bill and Melinda Gates Foundation.

## New malaria tool to help track insecticide resistance



A new interactive online mapping tool will help track insecticide resistance (IR) in malaria-causing mosquitoes, experts say. The tool, the IR Mapper, "consolidates reports of insecticide resistance in malaria vectors onto filterable maps to inform vector-control strategies". The Swiss company Vestergaard Frandsen in collaboration with the Kenya Medical Research Institute and the US Centers conducted data consolidation for the programme for Disease Control and Prevention (KEMRI/CDC). ESRI Eastern Africa developed the map interface.

The system launched in April allows users to view new data from tests on insecticide susceptibility and resistance mechanisms, and to retrieve existing published data, including historic information from as far



back as 1952. These data can be used to generate tailored maps from 51 countries. "IR Mapper is a tool used to view results from insecticide studies (WHO susceptibility tests) using malaria mosquitoes collected from sites throughout the world," "It can also be used to view results from investigations of insecticide-resistance mechanisms (molecular and biochemical assays) in malaria mosquitoes collected from the same or different sites" said Willis Akhlwale, head of disease control at the Kenya's Ministry of Public Health and Sanitation.

The data on interactive site is obtained from scientific articles and reports as well as from IRBase - an existing database dedicated for storing data on occurrence of insecticide resistance in mosquito populations worldwide. The tool will help inform policy on malaria vector-control strategies. The site is accessible to everyone, but most users are likely to be decision-makers for mosquito-control strategies and policies, research scientists, and those involved in vector-control product development."

Current malaria-control mechanisms are heavily reliant on insecticide-based interventions. These include indoor residual sprays (IRS) and the use of long-lasting insecticide-treated mosquito nets. In 2012, the UN World Health Organization (WHO) launched a strategic plan to help fight insecticide resistance in malaria vectors. If insecticide resistance was inadequately tackled in the world, it was estimated that more than 26 million new cases of malaria would surface. According to WHO, insecticide resistance is widespread and is reported in nearly "two-thirds of countries with ongoing malaria transmission. It affects all major vector species and all classes of insecticides." WHO's strategic plan said: "Current monitoring of insecticide resistance is inadequate and inconsistent in most settings in which vector control interventions are used."

Malaria, a preventable and treatable infectious disease, remains one of the world's biggest killers. There are an estimated 219 million malaria infections and 660,000 deaths annually; many of the fatalities occur in children under five years old. [This report does not necessarily reflect the views of the United Nations].

## [New technologies for monitoring water resources in Africa](#)



In Tigray, northern Ethiopia, the ICRC is preparing for droughts by using a geographic information system to monitor water points. The track passes a wind generator before plunging into a brown landscape, dry and desert-like at this time of year. In September, the same fields will be green, covered with onions, lettuce, and teff, a typically Ethiopian type of cereal. The two colours symbolize the rigours and the beauty of a land that has seen many a cruel drought.

Ato Mulu Tadesse who works for the Tigray water board, carry out weekly inspection of water points in the district of Kilte, 50 kilometers north of the regional capital, Mekele. He measures water levels, checks pumps, and makes the necessary repairs. Once his tour of inspection is complete, he adds all this information to the database of the central water management office in Mekele, using a USB wireless modem supplied by the ICRC, which connects to the internet wirelessly.

The ICRC's presence in the region is linked to 1998-2000 conflict between Ethiopia and Eritrea, and one of the few humanitarian organizations operating near the border. The ICRC engineers have built new water points, repaired existing wells, drilled new ones and promoted hygiene. In 2010, the ICRC launched a programme to put the region's wells into a geographic information system (GIS), which combines new technology and local knowledge. The ICRC supplied computers and USB wireless modems to the water management offices of the 34 woredas, or districts. The organization trained the staff of the offices on the new technology and then handed the wireless modems over to them. Now, staff can log in to the GIS via internet and see the exact locations of the water points on a map. They can see the type of water point, its functions, number of people it can supply, and proximity to different communities.

"The information is updated regularly, giving the authorities detailed information on each water point", explains Tesfay Gebrehiwot - in charge of the ICRC's geolocation project in the region. This new method makes it easier to identify communities who lack water, and to see what repairs a water point needs. In this part of Ethiopia, rapid access to information on the state of water points is an essential part of reacting to the risk of natural disaster. By supplying the technology needed to improve access to this information, the ICRC is helping to counter the effects of future droughts. From 2014, the Tigray water board will be running this programme independently.

## [Land reform programme and Nasarawa GIS commended](#)

The Surveyor General of the Federation, Nigeria (SGOF), Professor Peter Nwilo and members of the Surveyors Council of Nigeria (SUCON) have hailed the lands reform programme of Governor Umaru Tanko Al-Makura and its Nasarawa Geographic Information Systems (GIS) as a model in Nigeria and Africa. The SGOF, who led a team comprising members of SUCON and the director of mapping, visited and carried out





an inspection of the newly commissioned complex of Nasarawa GIS in Mararaba, at the gateway to Abuja, the Federal Capital Territory (FCT). He said Nasarawa has broken the record as the first state on the way to comply fully with the Survey Coordination Act 1962, as well as the standards set by the Presidential Taskforce on Lands Reform, which has advocated for the aerial mapping of all lands in the country.

Taking a cue from Abuja's GIS programme which was executed by former FCT minister, Mallam Nasir El-Rufai, Nasarawa initiated and awarded a similar contract to a consortium of firms under Siraj Engineering Consultants, which is providing the GIS, aerial mapping of the state lands in use, as well as creating cadastral districts for planned development intended to phase out the expanding slums in the state, far surpassing Abuja which pioneered the computerized lands administration.

Professor Nwilo hailed this project as also conforming with the presidential taskforce's directive for issuance of Certificates of Occupancy (CofO) within the stipulated period of not less than three weeks, as the reforms by Al-Makura has now shortened the period of certification to 14 days from the date of application. The delegation was received and shown round the project by the partners in the reform programme including the Project Manager, Alhaji Ibrahim Usman Jibril, Engr. George Elzoghbi of Siraj, Roland Klaus, Heiko Howey, Ibrahim Khoury and Tiffany Okewole of GIS Transport Limited, as well as Brian Glynn Lovett of Aeroprecisa Limited, and other consultants on the project.

## Ghana's homegrown space program takes-off



In a small laboratory on the ground floor of a university 80 kilometers north of Accra, students initiate countdown for the launch of their model satellite. Scarcely larger than a can of Coke, so-called CanSat then climbs nearly 200 meters into the overcast mid-May sky. While successfully launching the miniature device is but a small step toward establishing Ghana's foothold in the heavens, nearby posters of Japanese and American spacecraft on the lab's lime green walls suggest the true size of the students' ambitions.

Their dream of putting large-scale satellites into orbit is shared by Ghana's government, which launched a national space program just over a year ago. But unlike African countries such as Nigeria that have received foreign help in developing satellites, Ghana is taking a home-grown approach. Officials hope to have an observational satellite in orbit within five years. In order to ensure a strong program over the long term, they need to educate more students with a passion for space.

Students at All Nations spent several months working on the model satellite, coming into the lab after class and sometimes staying until just before dawn. Though they had initially hoped to launch the model satellite using a rocket, they were unable to get permission to import one. So instead, at just after 1 p.m. on launch day, they attached CanSat to a bright yellow balloon, hoisting it up into the air using rope and letting it slowly fall down to earth with the help of a parachute, achieving a maximum height of 165 meters. While only one of the two launch attempts was successful, the satellite did collect readable data, accomplishing what group's primary objective. As a cheering crowd looked on, the director of the lab read out temperature and air pressure readings and projected images taken by CanSat on a screen.

While some question Ghana's need for satellite technology and a space program - especially as data collected from satellites can be purchased from countries and agencies already using the technology - government officials emphasize satellite technology's ability to aid in predicting weather and natural disasters, and in monitoring natural resources. But Samuel Donkor, president of All Nations University, says he has been questioned repeatedly on why he supports the program for students, which has so far cost the university \$50,000. "Why should we be thinking about going into space when we have basic fundamental issues with the economy and standard of living? These are some of the questions they ask," he said. "They wonder why anybody would even think of it when we can't get a stable power supply in the country." Despite the skepticism, he says the university will continue to support the satellite program. Students say they hope to cast CanSat into orbit within two years.

## Computerizing the Uganda land registry

In 2006, a comprehensive programme for the computerization of the Uganda Land Registry was introduced into the PSCP II as a 'Land Component'. The land component within the PSCP II project worth US\$23 million was intended to complete the rehabilitation of dilapidated land records and secure them in electronic form throughout the country. In addition, it was to develop a National Land Information System (LIS) and establish a centre, construct 21 ministry zonal offices, review and harmonize all land related laws, revamp, modernize and retool the School of Surveying and Land Management, inventorize all government land, and enhance the capacities of technical staff to support and sustain the land sector reforms.



Thirteen zonal offices have so far been constructed or renovated at Arua, Masindi, Gulu, Lira, Jinja, Mbale, Mukono, Wakiso, Mbarara, Masaka, Kabarole, Kampala, and Kibaale. Six of these are part of the LIS pilot set up to test the efficacy of the designed LIS. The customization, connection, and networking of the LIS are planned upto February 2014.

The GRM Registry for the processing and management of land transactions, and GRM Multi-Cadaster for managing land parcels, creating deed plans and mapping are the software/applications used in the installation of LIS. The procurement and delivery of IT equipment including computers, barcode scanners, and printers is completed. The training of zonal staff has not taken off as scheduled due to lack of funds for recruitment of assistants to handle the issues of data cleaning, vetting, scanning, etc. This shortfall necessitated a startup of zonal offices on half day to use the other half for training using the staff already trained to build confidence through hands-on practice.

A total of 492,000 title records have been converted into digital copies, and 16,509 cadastral map sheets and 5,843 maps that covering the pilot area (and Bugiri) have been scanned and linked to the registry digital information. In addition, topographic and cadastral data for the areas covered by the Uganda Wildlife Authority, Uganda National Roads Authority, Ministry of Works and Transport and National Forestry Authority is included and complete. After the 2nd phase of implementation, the LIS system shall reject any subsequent land use that falls on such areas. *Read more details on this [link](#). The author: Gabindadde-Musoke is the Permanent Secretary in the Ministry of Lands, Housing & Urban Development, Uganda.*

## [UNOSAT training for IGAD region enters second phase](#)



The second technical training on 'Introduction to Remote Sensing (RS) and Field Data Collection Techniques for Disaster Risk Reduction (DRR)' was successfully delivered within the IGAD-UNOSAT initiative Disaster Risk Reduction Capacity Development in East Africa Using Geo-spatial Technologies. The training was officially opened on 10 June 2013 at the Regional Centre for Mapping of Resources for Development (RCMRD) by a representative of the Royal Norwegian government (supports the UNOSAT capacity development programme in Eastern Africa).

This two-week intensive session follows the first technical training on 'Introduction to Geographic Information Systems (GIS) for DRR' that was held in Nairobi from 8-19 April 2013, with 18 participants from the IGAD Secretariat, ICPAC, ICPALD, CEWARN, IGAD Somalia, and the Kenya Polytechnic University. The aim of this training was to provide participants with concepts and methodologies related to remote sensing with specific applications on DRR. Also addressed were the data collection techniques using geo-spatial tools.

Dr. Hussein Farah, Director General of the Regional Centre for Mapping of Resources for Development ([RCMRD](#)), stated at the opening session that RCMRD is pleased to be associated with UNITAR/UNOSAT and IGAD in the organization of the training. The Norwegian government was thanked for their support to developing the capacity of IGAD in the areas of GIS and DRR. Professor Laban Ogallo, Director of the IGAD Climate Prediction and Application Centre ([ICPAC](#)), echoed Dr. Farah's words by thanking the Norwegian government and reiterated ICPAC's commitment to the success of the initiative. He explained why GIS is important in mapping resources and addressing regional challenges such as climate change. "Remote sensing is the next generation of data acquisition. We are therefore excited about the project as it allows us to geo-reference our data and help the region to address various development challenges".

Luca Dell'Oro of UNOSAT speaking on behalf of UNITAR shared the evaluation results from the first technical training, which had achieved its learning objectives successfully. The next training sessions within this initiative will focus on the development of advanced skills to meet specific needs of different IGAD entities. For more information, please contact: [unosat@unitar.org](mailto:unosat@unitar.org).

## [Kenya Revenue Authority eyes Sh3 billion from real estate businesses](#)



The Kenya Revenue Authority will have issued demands worth Sh3 billion for undeclared taxes in the real estate sector by June. The agency zeroed in on the sector for the last seven months after completing preliminary surveillance that revealed deep-rooted tax evasion practices. "We have identified relevant information and have profiled cases whose value is estimated at Sh3 billion," said Alice Owuor, the Commissioner for Domestic Taxes - small and medium taxpayers.

She said KRA has collected Sh453 million by end of March from the real estate sector - rental income and sales, and currently issuing demands worth about



Sh800 million. "We expect this to rise since we are focusing also on developers who build to sell and not just on rental income," Owuor said.

KRA had expected voluntary declaration by players in the sector but the pace of response "is a bit slow". "We have been able to raise fairly significant demands which are now being followed up by our staff. Collections may not be as fast-coming because the process is subject to many other factors," said John Njiraini, the Commissioner General. When KRA raises a demand (an assessment of taxes due) with a taxpayer, he said, they do not necessarily rush to Times Tower with a cheque, but they first have to dispute it. "They try to exhaust all available avenues," he said.

KRA has now turned to intelligence gathering (profiling) and block management (combing areas exhaustively) to ensure compliance. "We are in this for the long haul. We have a team exclusively dedicated on the real estate sector; it is what they do all-day. This will produce results; even if not immediate, they will be visible in the long term," Njiraini said.

The taxman has abandoned plans to procure its own database for geospatial data, betting on wider efforts by the government to establish a National Geospatial System that will avail the database. KRA ran into hurdles trying to establish owners and locations of properties as no single government agency has done comprehensive profiling to create such a system in the past. The agency said this was far from its core business. There are no timelines on when the national geospatial database will become a reality, though the government has been "quite keen on it", according to Njiraini.

### Malawi will conduct survey to explore its mining potential



The Malawi Government through the Ministry of Mining will conduct an airborne geophysical survey with the aim of highlighting the mineral potential that several areas in the country possess as part of the Mining Growth and Governance Support Project (MGGSP). The Minister of Mining John Bande, told Parliament to a question raised by MP for Chitipa East Kenzie Msukwa who asked the Minister to consider exploring the mineral potential in some areas of his district. Msukwa said areas in Mughona, Kaleghania, Mponda and Mwamalanze are perceived to have some mineral potential therefore needed to be considered for studies to explore the possibility of

mining.

Bande said the areas that have been mentioned will be part of the beneficiaries of the MGGSP which has the component of Airborne Geophysical Survey, launched by the Government in January this year to be implemented across the country. "In addition to the airborne geophysical exploration, geological mapping and geochemical exploration covering the whole country have been lined up. After all these activities, the whole country shall have been well mapped and the full mineral potential will be known".

During the survey, aircrafts will be flying as low as 60 meters above the ground at 250 meters line spacing while collecting various geophysical data especially magnetism, radiometric and gravity. The ministry of mining is working with countries including Japan, Botswana, France, United Kingdom, China and Republic of South Africa in different geological and exploration fields to understand the mineral potential of Malawi.

### USAID/Tanzania partnership improves data gathering on agriculture



Through Feed the Future, the U.S. government's global hunger and food security initiative, efforts are underway in 19 focus countries, several of which are in East Africa, to strengthen agricultural development skills and promote broad-based economic growth. In 2012 alone, USAID/Tanzania provided \$24.6 million to government systems and local partners in support of these efforts, which will help Tanzania, achieve its goal of becoming a middle-income country by 2025.

One such project is a partnership with the Tanzanian National Bureau of Statistics to strengthen agricultural statistics in the country. The project takes a two-pronged approach that provides a \$1.1 million grant to support conducting a Feed the Future baseline survey, and an additional grant to help finance a U.S. study tour for 11 statisticians to enhance their skills. "It is virtually impossible to develop and implement sound agriculture policies without access to statistics on poverty, malnutrition and annual data on total food production for the population," said Tom Hobgood, the Feed the Future senior adviser in Tanzania. The \$1.1 million grant included training and access to innovative technology for 120 enumerators throughout Tanzania to conduct a 2011 baseline agricultural survey. Prior to the use of this





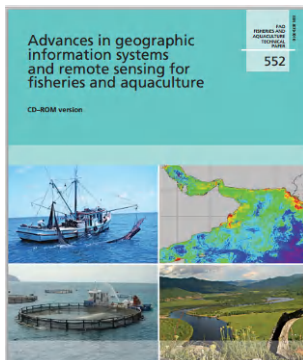
unique technology, which included GPS devices, 30 solar backpacks and 130 electronic tablets, all statistics in Tanzania were collected with pen and paper - and data could take years to aggregate.

The new tools, equipped with web-based software, provide access to agricultural statistics for all Feed the Future indicators, including stunting, poverty, per capita expenditures in agriculture, exclusive breastfeeding and anemia rates. Following completion of the survey, the tools transferred to the National Bureau of Statistics to use for future data collection. The data collected was more accurate, and much more quickly available to statisticians. The Government of Tanzania lauded USAID for introducing this technology, which will allow the collection of more reliable information about the country's 46 million inhabitants.

Eleven Tanzanian officials traveled to Washington and Purdue University on a two-week study tour of U.S. agricultural operations and statistical training in October 2012. The participants learned about organization, methodology, and program management for preparing the official agricultural statistics. "The lessons learned are countless. In addition to improving skills, knowledge and working experience, we had ample opportunity to correlate techniques used in agriculture statistics data collection, compilation and dissemination in the U.S. compared to Tanzania. Most of the data collection techniques used in the U.S. is more statistically sound than our systems," said Mwalim J. Mohammed, head of agriculture and environmental statistics, Office of Chief Government Statistician, Zanzibar.

After the learning tour, statisticians were better equipped to design and collect more accurate and reliable agriculture data used for making policy decisions on regions with food surpluses or deficits. The statisticians could also better understand how to achieve accurate statistics on key agriculture and livestock commodities. USAID/Tanzania Mission Director Sharon Cromer is a strong advocate for developing statistical skills in Tanzania. "Investing in the training and skill development of agriculture statisticians will raise the bar for data gathering throughout Tanzania," she said, "which not only leads to food security and holistic agriculture sector growth, but also to more accurate information in all sectors". This story originally appeared in the May/June 2013 edition of Frontlines, an online publication of the USAID, Washington.

## [Paper: Advances in GIS and remote sensing for fisheries and aquaculture](#)



The essential guide to understanding the role of spatial analysis in the sustainable development and management of fisheries and aquaculture is now available in an easy-to-understand publication that emphasizes the fundamental skills and processes associated with geographic information systems (GIS) and remote sensing. The FAO Fisheries and Aquaculture Technical Paper, "Advances in geographic information systems and remote sensing for fisheries and aquaculture", outlines the required spatial data and computer hardware and software as well as considerations necessary to implementing a GIS.

This publication is an essential guide to understanding the role of spatial analysis in the sustainable development and management of fisheries and aquaculture. The publication is an easy-to-understand publication that emphasizes the fundamental skills and processes associated with geographic information systems (GIS) and remote sensing. The first chapter initially puts the array of

spatially related problems into perspective and discusses the earlier applications of GIS and remote sensing. Chapters, 2, 3 and 4 outlines what are considered the basics on which GIS can function, i.e. hardware and software; spatial data; and how GIS systems themselves are best implemented. Chapter 5 looks at preparing the data for GIS use and Chapter 6 explores the composition of remote sensing and the main purposes for its use. Chapter 7 discusses the functional tools and techniques offered by typical GIS software packages. Chapters 8, 9 and 10 examine respectively, the current issues and status, including extensive case studies, of the application of GIS and remote sensing to aquaculture, to inland fisheries and to marine fisheries. The final two chapters examine the emerging thematic issues that will face fisheries and aquaculture in the near future, and provides useful clues as to how challenges in accomplishing GIS work may be overcome.

The paper concludes with a series of recommendations underlining the paramount need to recognize that it is mainly through the application of a spatial perspective and approach that problems in fisheries and aquaculture will be addressed better. The technical paper is an update of previous FAO publications. This publication is organized in two parts to inform readers who may be at varying levels of familiarity with GIS and remote sensing. One part is a summary addressed to administrators and managers, while the other is the [full document](#) intended for professionals in technical fields and for university students and teachers. The latter part is available in CD-ROM.

[Esri Eastern Africa Seminar: GIS for National Statistics](#), 25 July 2013, Nairobi, Kenya



Who should attend - Director Generals, Departmental Directors, Departmental Heads, Statisticians, GIS Analysis of National Statistics Organizations and Country Representatives and M&E officers of UNFPA and related UN Agencies.

Why should you attend?

- Learn how GIS and Remote Sensing improves census planning
- Learn how Mobile GIS eases data collection by automating the field to office workflow enabling rapid data exchange before, during and after a census exercise
- Gain insight on census data management and analysis using ArcGIS Desktop
- Learn how web maps create a Public Information Map for analysis and information sharing
- Share experiences and GIS best practices from regional statistical organizations

Participation in the GIS for National Statistics seminar is free-of-charge and is by invitation only. For more information contact: Everton Namasake on +254 720 559 115 or Email: [enamasake@esria.co.ke](mailto:enamasake@esria.co.ke).

## Practical SDI implementation materials from within and outside of Africa

### [Safaricom, Refugees United and Ericsson launch free phone tool to reunite separated families](#)



In keeping with this year's World Refugee Day theme of "One family torn apart by war is too many", Safaricom in partnership with Refugees United and Ericsson have launched Refugees United, a mobile phone platform to reunite families. By dialing \*883#, Safaricom subscribers can search for missing loved ones free of charge. Subscribers can also access the same service via a zero rated URL [www.m.refunite.org](http://www.m.refunite.org). Safaricom is also offering a toll free helpline 0800 724 882 where users can receive assistance on Refugees United in multiple languages.

There are more than 43 million forcibly displaced people globally and Kenya plays host to almost a million of these with the number increasing by the day. This means the need to reconnect separated families is enormous. Safaricom CEO Bob Collymore said, "Millions of families have been separated as they flee violence and war in their home countries. Refugees United empowers separated family members to take the search for missing loved ones into their own hands."

The Refugees United database currently contains more than 185,000 users and the target is to reach one million users on the platform by 2015. The search for missing family members, friends, and relatives is anonymous done to ensure security of every individual in the platform. David Mikkelsen, Co-founder Refugees United said, "Everyone has the right to know where their family is. Thanks to Ericsson and Safaricom, thousands of new families are able to make access to our free service easier than ever."

Ericsson is the main technology partner and provides technical expertise, technology support, and operational advice to Refugees United. "This initiative has the power to transform the nature of family tracing for generations to come. It is an example of how mobile technology is truly changing the lives of people on the African continent for good," said Margaret Kositany, Director of Sustainability & Corporate Responsibility at Ericsson Kenya.

The United Nations established the World Refugee Day to honour the courage, strength, and determination of women, men, and children forced to flee their homes under threat of persecution, conflict, and violence.

### [Nigeria in space by 2015](#)

Minister of Science and Technology, Prof. Ita Okon Ewa, has said that plans have been perfected to send the first Nigerian into space by 2015. This he said was part of a 25-year plan to establish Nigeria on the global map of space technology. The minister who stated this at the 2013 Ministerial Platform, also said that Nigerian universities must collaborate with research institutions in the country in order to add value and boost the impetus of the local capacity. He noted that in an effort to ensure that Nigerians achieve the vision 20 2020 agenda, the ministry had in the recent past replaced the lost NigeriaSate 2 and also launched NigeriaSate X, which, was build by Nigerian engineers.

And in trying to train local technologists, he said that adequate consideration will be given to women to be part of the ongoing capacity building for Nigerian technologists. His words: "We have a 25-year road map target to be in space by year 2015 since 2011. We do not just want space technology, we also want solar panel technology, which are components of the satellite. In trying to train our technologists, we had to consider women. We are trying to partner with China and USA on rocket technology." On the benefits of the satellite, the minister explained that the technology had since inception enhanced security surveillance,





urban and regional planning, land use mapping, agricultural land use studies and environmental surveillance, as well as surveillance of desertification and disease infested areas.

For Nigeria to tap from the benefits of the emerging knowledge-based economy and achieve sustainable growth, he said that research results by local scientists must be commercialized for increased productivity. "There is a problem. Some of the research works have not been commercialized. Priority attention must be given to them if Nigeria must leverage on them for growth into a knowledge economy. This is part of the reason the new science, technology and innovation policy was approved in 2012 and redesigned in 2013. The policy has all it takes to drive the economy, if it is well implemented."

## [Linking early warning to early action in the Sahel](#)



While AID agencies agree that early warning systems offer the chance to mitigate humanitarian crises, difficulty in funding pre-emptive measures and government sensitivities in admitting a looming disaster continue to hamper early action. "Most [weather-related] disasters or crises can be predicted," said Sarah Lumsdon, Oxfam's interim regional humanitarian coordinator for West Africa. "In this day and age, there are enough indicators and data, and enough coverage by governments and NGOs to know when things are looking bad or likely will be bad. And so we should be able to intervene to stop it."

This is particularly true when it comes to food insecurity in Africa's Sahel region, where drought and serious food shortages left some 18 million

people facing hunger in 2012. "Food crises can often be predicted 6-9 months in advance," said Rob Bailey, a senior research fellow at Chatham House and lead author of an April report on the link between early warning and early action. In monitoring indicators such as grain prices, cereal stocks, crop harvests, weather predictions, and household food security data, aid agencies and governments can predict a coming food crisis with a high degree of confidence.

Aid group Action Against Hunger (ACF) has success in using satellites to monitor pasture and map biomass production and vegetation levels as well as the scope of drought to predict which areas might need the most assistance. "We've used this [method] in the last two crises, in 2010 and 2012, and it's proved to be a good indicator of food production across the region," said Alvaro Pascual, ACF's Sahel desk officer.

However, one of the main challenges of responding to early warnings is funding. "Sometimes governments find it hard to justify public spending of aid money on something that hasn't happened yet, or can't show because people aren't starving yet," Bailey said. The same applies to donors, they can release some money for early action type activities, but when it's a big crisis, it probably is not enough to meet the needs". "What early warnings allow humanitarian agencies to do is to start to pre-position food aid, to buy stocks of foods and medicine, and place them in strategic locations in the Sahel region knowing that they might need to draw on them at a later date, said Denise Brown, World Food Programme's (WFP) West Africa director". So they are more prepared, more ready when things get serious."

Governments and donors obtain such information to put early action and contingency plans into place. While data on the impact of early interventions is still scarce, a 2012 disaster impact study by Oxfam showed that most families were able to have two meals a day because of early interventions and able to start 2013 in a better state. Similar success was witnessed in Chad where growing indications of childhood malnutrition was evident, and aid workers were able to prevent increases of wasting, mortality and food insecurity during the lean season. Governments may sometimes be hesitant to admit there is a looming crisis as it reflects poorly on them politically. Despite improvements in the technology and science used to predict crises, some aid agencies still act on the side when responding to early warnings.

WFP's Brown stressed that early warning systems are not just about ringing alarm bells. They are about thoroughly analyzing data and coming up with an action plan that considers the long-term perspective. "It's not always a perfect system, but it works." [Read more... This report does not necessarily reflect the views of the United Nations].

## GIS Tools, Software, Data

### [Mapping and surveying complement physical development activities](#)

The Nigeria Surveyor General of the Federation, Professor P.C Nwilo, has said that surveying and mapping products and output facilities complement all highways and physical development activities from conception to design and construction, which make surveyors and engineers partners in progress.



Speaking at a press conference in Abuja, Nwilo explained that the Office of the Surveyor General of the Federation (OSGOF) is vital in the provision of maps, map substitutes and other geospatial data that are required for planning, provision of infrastructure and for development of long-term strategies in National Defense and Security. He said, "It also generates plans for exploitation, management of minerals and other natural resources; sustainable environmental protection and conservation plans and definition of international and interstate boundaries of the country. Surveying and mapping products are also required to facilitate the planning, designs, location, and construction of roads, railways, power transmission lines, telecommunication line and other infrastructure. It also provides the frame work for the cadastral systems to support urban development and the provision of affordable housing for the populace."

In view of the enormous role of the OSGF, there is an urgent need to develop synergy between the office and other departments in the ministry and other ministries for improved performance and service delivery. Speaking on boundaries demarcation role of the office, Nigeria has 88 interstate boundaries covering about 22,000 km in distance.

### Comparing two GIS decision support tools available from USGS

The U.S. Geological Survey (USGS) Upper Midwest Environmental Sciences Center (UMESC) has developed two desktop Geographic Information System (GIS) [decision support tools](#) for general application to conservation planning. Both tools are very flexible and can be applied anywhere (they are not tied to a particular location). The first, [Geographic Information System Tools for Conservation Planning](#) (CCP GIS Tools), works in a vector environment within [Environmental Systems Research Institute's](#) (ESRI) ArcView 3.x program. The second, [LINK: ArcGIS Tools for Conservation Planning](#), works in a raster environment within ESRI's ArcGIS program. From a conservation planning perspective, the two tools are complementary. Both tools calculate potential species occurrence, species richness, and habitat area for a selected landscape based on user-defined species/habitat relationships. LINK works for large areas (multiple counties, states, regions) while the CCP GIS Tools are most appropriate for planning focused on areas the size of a county or smaller (refuges or national parks).

To use the CCP GIS Tools, you will need ArcView 3.x; to use the LINK tool, you will need ArcGIS. Both programs will run on the same computer. Major differences in the software programming languages used for the two ESRI GIS programs prevents us from upgrading the CCP GIS Tools to run in ArcGIS at this time. We plan to continue to add functions to LINK. However, the vector-based functions of the CCP GIS Tools have an advantage when working at local spatial scales.

### RCMRD Data Dissemination

The Regional Centre for Mapping of Resources for Development (RCMRD) has a large landsat data archive, dating back to 1972 for all African countries. It is also a reseller agent in Africa for the Digital Globe - QuickBird and WorldView 1/2 high-resolution satellite imagery, and supplies data from GeoEye (GeoEye 1/2, IKONOS & Orbview imagery), SPOT image (SPOT 2.5m, SPOT 5m & SPOT 10m), USGS (Landsat MSS, Landsat TM & Landsat ETM+) amongst other active and passive satellite image products and datasets for Africa. These datasets are available at subsidized rates. Other low-resolution imagery datasets available include 90m SRTM, NOAA, MERIS, MODIS, scanned maps, and vector data for Africa.

The center in collaboration with European Space Agency (ESA) and EUMESAT has established a facility for direct satellite reception for MERIS, MODIS, NOAA, and EUMESAT Meteosat Second Generation (MSG) data. These datasets amongst other services can be accessed online via: <http://www.rcmrd.org/geonetwork> or via email to [remotesensing\(at\)rcmrd.org](mailto:remotesensing(at)rcmrd.org). Further information, please visit website: [www.rcmrd.org](http://www.rcmrd.org).

### Training Opportunities

Have you signed up to receive [SDI-Africa Newsletter](#) notices? It only takes a minute, and then the GSDI Association can notify you when a new issue of the SDI-Africa newsletter is available, plus alert you to particular GSDI announcements (like a call for GSDI grants, or a call for papers for a GSDI conference).

The GSDI Association also hosts an [SDI-Africa E-mail Discussion List](#) with intermittent news and announcements of opportunities (this discussion list is separate from the SDI-Africa Newsletter list).

- The [SDI-Africa E-mail Discussion List](#) is open and available to anyone to read on the web. To submit messages or to receive submitted comments or notices by e-mail, one first must register.
- To see the collection of prior postings to the list, visit the [SDI-Africa E-mail Discussion List Archives](#).
- To post a message to the list, send an email to [sdi-africa@lists.gsdi.org](mailto:sdi-africa@lists.gsdi.org).

### 2013 GIS short courses through continued education at University of Pretoria



- Introduction to Geoinformation Standards - 15-16 July 2013 in Pretoria
- Introduction to Quantum GIS (on request)
- Remote Sensing (on request)
- The Basics of GIS (on request)

See [www.up.ac.za/cgis/http://web.up.ac.za/default.asp?ipkCategoryID=16147&subid=16147&ipklookid=11](http://www.up.ac.za/cgis/http://web.up.ac.za/default.asp?ipkCategoryID=16147&subid=16147&ipklookid=11)

### ESRI Technical Certification

ESRI has set the industry standard for GIS technology and is now establishing benchmark standards for individuals who use Esri software with the recently launched Esri Technical Certification Program. The ESRI Technical Certification Program recognizes qualified individuals who are proficient in best practices for using Esri software certification is awarded in different areas of expertise at both Associate and Professional level. The program is open to ESRI users worldwide and consists of 13 certifications recognizing expertise in desktop, developer, or enterprise use of ArcGIS. Users achieve certification by successfully completing computer-based examinations offered in more than 5,000 testing locations in 165 countries. Users are able to test for five certifications. Establishing an industry recognized benchmark of expertise in using ESRI software will:

- Improve success with GIS by creating a community of professionals proficient in using ESRI software.
- Help organizations maximize their investment in ESRI products by employing a workforce certified in using best practices.
- Create professional development opportunities.
- Provide an opportunity for individuals, partners, consultants, and other organizations to distinguish themselves among their peers.
- Assist hiring organizations in assessing candidate skills and abilities.
- Workplace experience, combined with GIS education and ESRI training courses, is the best preparation.

ESRI Technical Certification web site lists specific skills assessed in each exam, as well as training courses that aid in acquiring and improving these skills. [Read more](#).

### ESRI South Africa full spectrum of GIS courses: July and August 2013



The course covers GIS theory and functionality: The desktop products (ArcView, ArcEditor, and ArcInfo; Server products (ArcGIS server and ArcSDE); Programming to enable customization of the product, ArcGIS extensions, as well as Introductory and advanced courses in ERDAS Imagine Remote Sensing Software'. Various training venues are available at Esri South Africa, for further information contact: 011 238 6300 or [Email the training team](#)

### ESRI Eastern Africa GIS and remote sensing courses

ESRI Eastern Africa is now offering update courses to conform to improvements in ArcGIS 10 and ENVI 4.8, conducted with skilled and experienced instructors together with conducive and state-of-the-art training facilities. Courses offered in the following tracks: fundamentals of ArcGIS desktop; data and map production; geoprocessing and analysis; enterprise GIS; multi-user geodatabases; and remote sensing.

Request for training arrangement for clients on site for 12-16 students. [Download](#) the course catalogue and current class schedule. To register visit: <http://esrietraining.cloudapp.net/>. For more information, contact: [training@esri.co.ke](mailto:training@esri.co.ke), Phone: +254 20 2713630/1/2 or visit the offices on 3rd floor, KUSCCO Centre, Kilimanjaro Avenue, Upper Hill, Nairobi, Kenya.

### University of Twente - Faculty of Geo-Information and Earth Observation (ITC): 2013-14 courses



Apply online for courses starting in the academic year 2012-2013. Browse by programme (degree, diploma, and certificate), course domain (disaster management, earth sciences, geoinformatics, governance, land administration, natural resources, urban planning, and water resources) or location in the course finder at [www.itc.nl/CourseFinder](http://www.itc.nl/CourseFinder). For printed copy of the study brochure, email: ([alumni@itc.nl](mailto:alumni@itc.nl)).

### ITC Refresher Courses

In addition to the wide range of standard courses offered, ITC frequently provides training courses specifically designed to meet customers' capacity building requirements. These courses are conducted in the Netherlands or in the recipient's country or region. For more information about short tailor-made training courses, see [Project Services](#), [Contract training](#).

### One stop e-government for sustainable land administration

Certificate of attendance Vietnam 09 Sep 2013

2 weeks [Register](#)

### Sensors, Empowerment and Accountability





Certificate of attendance Tanzania 21 Oct 2013 2 weeks [Register](#)  
[Modernisation of Land Administration Systems in Sub Saharan Africa \(MODALS\)](#)

Methods and approaches to promote gender equality and incorporate poverty alleviation and good governance Certificate of attendance Ethiopia 21 Oct 2013 2 weeks [Register](#)

[The use of social media, crowdsourcing and webmapping to enable spatial web presence for the private sector in Southern Africa](#)

Certificate of attendance Namibia 28 Oct 2013 2 weeks [Register](#)

[MSc degree course in GIS and Natural Resource Management with KNUST](#), Kumasi, Ghana. Starting date: 2 September 2013; Duration - 18.5 months. For more information: [Louis Addae-Wireko, MSc](#) - KNUST and [ir Louise van Leeuwen](#) – ITC

[ITC Short Course at Makerere University](#), Uganda - September 16, 2013

The course focuses on flood risk management. The concepts taught regarding risk assessment and the identification of adaptation strategies can apply to other risk domains as well. The experiences and specific situations of the course participants within their own organization and cities is considered and discussed.

For candidates from Eastern Africa, the closing date - July 16, 2013. Female candidates are encouraged to make application.

### [Short-courses offered by RECTAS](#), Ile-Ife, Nigeria



The [Regional Centre for Training in Aerospace Surveys \(RECTAS\)](#) is offering a number of three-week courses. Note that RECTAS is able to package and deliver customised training for interested organisations. These could be either advanced or other certificate programs. Please contact: [info@rectas.org](mailto:info@rectas.org) or [thontteh@rectas.org](mailto:thontteh@rectas.org).

### [Regional Centre for Mapping of Resources for Development \(RCMRD\) Training Programme](#)



Geo-informational Courses (the courses last between one week to three months, and offered throughout the year):

- Introduction to Remote Sensing & Image Processing
- Introduction to Geographic Information Systems (GIS)
- Introduction to Global Positioning Systems (GPS)
- Application of Remote Sensing & GIS in natural resources management
- Application of Remote Sensing & GIS in Early Warning Systems for Food Security
- Application of RS & GIS in Disaster Risk Management
- Geospatial database development and management for use in planning process and decision making
- Principles of Digital Cartography
- Application of GPS technology in resource surveys and mapping
- Integrated Water Management
- Application of GIS in poverty mapping, health care & good governance
- Land Information Management Systems
- Service and Repair of Survey equipment

Information Technology Courses (targeted at school leavers, corporate organizations, and public).

Academic Programs

- Bridging Certificate in Mathematics
- Certificate and Diploma in Information Technology

Short Programs

- Foundation Course Graphics Application & Web Design
- Database Management
- Software Application Development
- Networking & Infrastructure Development
- PC Maintenance

Corporate Courses

- Information Systems for Management
- Computer Aided Financial Management
- Computerized Registry Management
- Management Information Systems for Monitoring and Evaluation
- Integrated Computer Training for Managers
- Database Design and Management
- Computer Based Auditing
- Computerized Records Management for Lawyers



- Analysis and Design of Information Systems
- Advanced Computer Applications for Executive Secretaries
- Basic Programming Skills

The center also offers tailor-made courses to suit specific needs of corporate clients. Courses also conducted at location of the client's convenience.

### [Image Interpreter, Mogadishu, Somalia](#)

CARE "... data and other remote sensed information on the status of infrastructure, cropped areas, livestock watering points (water catchments) and land degradation. GIS data management: manage (clean, aggregate, file, report, update, backup, etc) all resulting..." Closing Date: Wednesday, 10 July 2013

### [GIS & GPS Short Course](#)

[Introduction to Geoinformation Standards](#) (University of Pretoria, from Jul 15, 2013 to Jul 16, 2013)

During this course, the practical use of geographic information standards is demonstrated, and upon completion, the delegates will know how to read, interpret, and implement a geographic information standard. A selected number of ISO/TC 211 and South African national standards, such as ISO 19115, Geographic Information - Metadata, the South African address standard (SANS 1883) and some OGC web service standards, will be studied during the course. Date: 15-16 July 2013 Presenters: Serena Coetzee and Antony Cooper

[SA Surveying + Geomatics Indaba 2013](#) (Emperors Palace, Ekurhuleni, Gauteng, from Jul 23, 2013 to Jul 24, 2013)

The SA Surveying + Geomatics INDABA 2013, taking place on 23 - 24 July 2013 at the Emperors Palace, Ekurhuleni, Gauteng

[GIS Professional Practice](#) (University of Pretoria, from Aug 05, 2013 12:00 AM to Nov 30, 2013 12:00 AM)

The course covers the Professional Practice theme in the academic model of the South African Council for Professional Land and Technical Surveyors (PLATO). Topics: professionalism, professional ethics, social responsibility, professional practices, partnerships, client relationships, PLATO legislation and rules, Acts relevant to geomatics (e.g. Promotion of Access to Information Act, Spatial Data Infrastructure Act) and the role of international associations and societies in geomatics. Presenters: Serena Coetzee and Sanet Eksteen.

[Enterprise GIS with FOSS](#) (Le Vendome, Paarl, from Aug 12, 2013 08:00 AM to Aug 16, 2013 04:30 PM)

Taking place 12 to 16 August 2013 Learn how to set up and run a full enterprise GIS with Free and Open Source Software. Cover the full stack: server platform, spatial database, web map servers, map tiling and caching, OGC web services and web map clients. Software includes OpenGeo Suite (PostGIS, GeoServer, GeoWebcache, GeoExt, OpenLayers), Quantum GIS (desktop, server and web client).

[Focus on QGIS](#) (Le Vendome, Paarl, from Aug 19, 2013 08:00 AM to Aug 21, 2013 04:30 PM)

This is an introductory-level course. So if you are new to GIS, new to FOSS GIS or are experienced in other GIS software and want to find out how to do your work in Quantum GIS, this course is for you. CPD: 1 point (category 1b)

[Introduction to PostGIS](#) (Le Vendome, Paarl, from Aug 22, 2013 08:00 AM to Aug 23, 2013 04:30 PM)

Geospatial Data in PostGIS PostGIS is a spatial database that is more than just a spatial data store. With PostGIS, users, web map servers, and other applications can all run off the same database.

## Funding Opportunities, Awards, Support

### [International Social Science Council \(ISSC\) - World Social Science Fellows](#)

In collaboration with several partners, the ISSC will support up to 30 early-career social and other scientists to participate in an interdisciplinary seminar on decision making under uncertainty, scheduled for December 2013 in New Zealand. The seminar in English will focus on how people interpret and respond to risks. The program will cover travel and subsistence costs of the participants.

To be eligible to apply, you have to be:

- A post-doctoral researcher with a maximum of five years research experience following a PhD (candidates with more research experience can also be considered, if they explain why they should be eligible); or
- An early career researcher without a PhD but with an equivalent level of research experience and output;
- Under 40 years of age (candidates over the age of 40 can also be considered, if they explain why they should be eligible)

To apply for selection as a World Social Science Fellow, please submit the following, in English:



- A Curriculum Vitae of no more than 2 pages, including information about education, research projects and networks, awards and prizes and other pertinent experiences. Please highlight relevant experience you have in interdisciplinary research projects. In addition to the 2 page CV, add a list of your most important publications.
- A statement (one page maximum) outlining how your work (potentially) fits in/contributes to the the RIA-IRDR conceptual framework for response to natural hazards.
- An overview (one page maximum) of key influences on your scientific work. Which texts or bodies of literature have you used as the basis for your research? If there is a particular publication that has had an important impact on your work, please list it as well.
- Agreement from your home institution about your participation in the seminar, including a short outline of how you will share knowledge you have gained at the seminar with your colleagues/students after you return

The seminar will be held in English. Please indicate if this is a problem for you. Applications can be submitted in one file (preferably PDF) to [fellows@worldsocialscience.org](mailto:fellows@worldsocialscience.org). Deadline for submission of applications: 15 July 2013, 00.00hrs GMT. Successful applicants will be informed by early September 2013. Please download the [call for applications](#) for more information.

### [TWAS-icipe Fellowship Programme for Postgraduate Research](#)

For young scientists from developing countries (other than Kenya) who wish to pursue all or part (SANDWICH or FULL-TIME) of their research leading towards a PhD in the natural sciences at International Centre of Insect Physiology and Ecology ([icipe](#)), Nairobi, Kenya, especially focusing on integrated control methodologies for crop and livestock insect pests and other related arthropods, and insect vectors of tropical diseases. Up to 3 years. Deadline: 15 September 2013.

### [TWAS-icipe Fellowships for Visiting Scholars in Kenya](#)

For scientists from developing countries (other than Kenya) who wish to pursue advanced research in the natural sciences, especially focusing on integrated control methodologies for crop and livestock insect pests and other related arthropods, and insect vectors of tropical diseases.

### [OWSD Postgraduate Training Fellowships at Centres of Excellence in the South for Women Scientists in Sub-Saharan Africa or Least Developed Countries \(LDC\)](#)

The Organization for Women in Science for the Developing World (OWSD) [formerly the Third World Organization for Women in Science (TWOWS)] has a fellowship programme for female students from Sub-Saharan Africa or Least Developed Countries (LDCs) who wish to pursue postgraduate training in a field of the natural sciences leading to a doctorate degree at a centre of excellence in the South outside their own country. Deadline: 31 July, Age limit 40 years.

### [TWAS - Fellowships for Research and Advanced Training](#)

For young scientists in developing countries to spend time at a research institution in a developing country other than their own. The purpose of the programme is to enhance the research capacity of promising scientists, especially those at the beginning of their research career, helping them to foster linkages for further collaboration. The fellowship includes travel support and a contribution towards subsistence costs. Living expenses are borne by local sources. Min. 3 to max. 12 months. Deadline: 1 October 2013.

### [International Elephant Foundation - Elephant Conservation and Research 2014](#)

The International Elephant Foundation makes grants for conservation and research of elephants. Eligibility extends to organizations and individuals internationally -- including students, scientists, and institutions. The current call for applications has three categories: (i) African elephant conservation *in situ*; (ii) Asian elephant conservation *in situ*; and (iii) *Ex situ* elephant conservation and research. The Foundation prefers grant requests of less than US\$10 thousand. The application deadline in all categories is 16 August 2013.

### [International Tropical Timber Organization - Fellowships Second Cycle 2013](#)

ITTO administers the Freezailah Fellowship Fund to promote human resource development, and to strengthen professional expertise in tropical forestry and related disciplines. Twice a year, the program makes fellowship grants for participation in international conferences, training courses, and study tours. Funding can also be used to prepare manuals and monographs, and for post-graduate study. The maximum grant is US\$10 thousand. Eligibility to apply is restricted to nationals of ITTO's member countries. Grants are





awarded mainly to nationals of developing countries. The closing date for the Autumn Cycle of applications is 23 August 2013.

### [UNESCO - Keizo Obuchi Fellowships 2013](#)

The government of Japan offers 20 post-graduate fellowships per year to candidates from developing countries, especially the least-developed countries, who undertake research on specified topics. They include environment - with emphasis on water sciences, water issues, climate change, and engineering capacity building. Priority is for women candidates, candidates from least-developed countries, and African researchers. Support is up to US\$10 thousand. The deadline for applications is 30 August 2013.

### [New England Biolabs Foundation - Community Conservation](#)

The Foundation makes grants to grassroots and charitable organizations to support conservation of biological diversity; ecosystem services; community food security; and marine environment. The geographical scope focuses on selected countries of the Gulf of Honduras; the Andean region; and West Africa (in addition to Papua New Guinea, Tanzania, Nicaragua, and El Salvador). Maximum grant size is US\$10 thousand for international grants. Local grants are US\$1 thousand to US\$5 thousand. The deadlines for letters of inquiry are 25 February 2013 and 15 July 2013.

### [New Zealand Aid Program - Scholarships 2014](#)

New Zealand's government provides a variety of opportunities for training and university study through the New Zealand Aid Program, Ministry of Foreign Affairs and Trade. Eligible countries/regions include many in the Pacific; East and Southeast Asia; Sub-Saharan Africa; and Latin America. The priorities for support often include agriculture, renewable energy, fisheries, disaster risk management, and other areas related to natural resources and environment. Application deadlines are specific to each country/regional program. Many deadlines are in April through August 2013.

### [Organization for Women in Science for the Developing World \(OWSD\) - Postgraduate Fellowships 2013](#)

OWSD supports female scientists in Sub-Saharan Africa and Least Developed Countries (LDCs) with doctoral fellowships in the natural sciences. The fellowships are for the pursuit of a doctoral degree at a host institution in a developing country, but not in the applicant's home country. Applicants should be qualified young women science graduates (generally below 40 years of age), who have an M.Sc. degree or outstanding B.Sc. in the natural sciences. The application deadline is 31 July 2013.

### [Rare and The Nature Conservancy - Inviting Solutions for Adapting to Climate Change](#)

Rare and The Nature Conservancy jointly sponsor a "Solution Search" for programs and projects that feature biodiversity and ecosystem services as means for adapting to climate change. The contest invites contributions from communities, NGOs, academic institutions, and other organizations and individuals worldwide. Prizes are US\$20 thousand for each of two winning entries, and US\$5 thousand for each of two other submissions. Entries can be self-submitted or nominated by others. The closing date is 19 July 2013.

### [Save Our Species -- Grants for the Conservation of Threatened Species, 3rd Call for Proposals](#)

SOS makes grants for projects that focus on endangered and critically endangered species. Priorities in the current round of funding are threatened cycads and conifers; threatened sharks and rays; and threatened vertebrates in Central and Western Africa. Grants are to civil society organizations and to international NGOs that work closely with national stakeholders, local communities, and governments. Most grants will be US\$50 thousand to US\$150 thousand for projects of one or two years. The next deadline for proposals is 15 July 2013.

### [Scientists Without Borders - Data on Dairy Production in the Developing World](#)

Scientists Without Borders, in collaboration with partner organizations, invites ideas that significantly improve the data about smallholder dairy production and consumption in the developing world. The emphasis is Sub-Saharan Africa and South Asia. The challenge is open worldwide. Up to US\$7,500 will be awarded for the best ideas and approaches. The closing date is 11 July 2013.

### [World Bank - Robert S. McNamara Fellowships 2013](#)

The Robert S. McNamara Fellowships support young researchers in developing countries for visiting fellowships of 5-10 months outside their home countries. The support is for individuals who are preparing



their doctoral theses in development-related topics, and who currently work in academic or research institutions. Applicants should be less than 45 years old, and must be nationals and residents of countries eligible to borrow from the World Bank. The maximum grant is US\$25 thousand. The closing date for applications (English, French, or Spanish) is 31 July 2013.

## Employment Opportunities

### **[ILRI vacancy: Research Analyst, Index Based Livestock Insurance \(closing, 12 July 2013\)](#)**

This position would be part of the team developing, piloting, assessing the impact of, and scaling-up index-based livestock insurance (IBLI) products. Two comprehensive pilots have already been launched in Marsabit district of Northern Kenya and Borena Zone in Southern Ethiopia (see [www.ilri.org/ibli](http://www.ilri.org/ibli)). The candidate will support team scientists with data analysis and writing to exploit the rich existing panel data and contribute to writing scientific papers. The IBLI project conducts two large annual household surveys in Northern Kenya and Southern Ethiopia and several other specialized modules throughout the year. It also utilizes a suite of remotely sensed data. This position also involves coordinating and supporting the implementation of these surveys and will be expected to contribute to survey and research as well as overseeing data cleaning and storage.

#### Key responsibilities

- Provide research and analytical support to project scientists and contribute to research papers
- Write research reports summarizing and analysing data
- Contribute to the IBLI research for development agenda (research design and strategy, survey instruments, sampling frame, survey implementation strategy, enumerator training, data collection and analysis).
- Oversee management of project data: data cleaning, data inventory and storage, data analysis.
- Writing and updating survey data codebooks that fully describe the research and survey design, data collection methods, cleaning and inventory process.
- Contribute to communication and dissemination of research findings, which should include participation in meetings and workshops, giving periodic presentations to participating institutions, and communicating to policy makers through web and popular media.

#### Requirements:-

- A Master's degree in Economics, Development Economics, Agricultural Economics, Statistics or other relevant discipline.
- Minimum 2 years of post-Master's experience in quantitative and qualitative household-level socio-economic data collection and analysis; experience must involve field work and survey implementation as well as data analysis and report writing.
- Ability to clean, manage, and analyze household-level socio-economic panel data sets with statistical software including Stata. Experience in SQL is added advantage.
- Experience in managing or playing a leading role in research programs involving field survey implementation and empirical analysis.
- Ability to design questionnaires and implementing surveys using computer assisted personal interviewing software such as surveybe.
- Experience in presenting and publishing research outputs.
- Ability to work independently and in interdisciplinary and cross-cultural teams.
- Ability to communicate and coordinate with multidisciplinary teams, enumerators, commercial partners, and local stakeholders.

Applicants should send a cover letter and CV combined as one document addressed to the Human Resources Director, explaining their interest in the position, what they can bring to the job and the names and addresses (including telephone and email) of three referees who are knowledgeable about the candidate's professional qualifications and work experience. Applications should be submitted online to the Human Resources Director at our recruitment portal: <http://ilri.simplicant.com/job/board> on or before 12 July 2013. The position title and reference number REF: RA/IBLI/06/13 should be marked on the cover letter.

### **[New York-based Head of United Nations Relations](#)**

The Stakeholder Forum is recruiting for a New York-based Head of United Nations Relations. The purpose of this role is to act as the focal point for Stakeholder Forum and its work in New York and at the UN Headquarters, including liaising with UN Missions and governments, UN staff and stakeholders.

This role is vital in ensuring strong and active relationships with key actors in international sustainable development, leading engagement with various UN processes agreed at Rio+20, including the Sustainable



Development Goals (SDGs), and the post-2015 Development Agenda. This position is crucial to the success of the Stakeholder Forum future work, and requires the highest calibre individual possible. [Click here to view the full job description](#). To apply for the position, please send your CV and cover letter to [jobs@stakeholderforum.org](mailto:jobs@stakeholderforum.org). The application deadline is 18:00 on 24 July 2013.

## Other

### [Video survey assesses East Africa's coral reef fish](#)



Researchers are analyzing data on the coral reef and fish communities of the East African coastline as part of a comprehensive effort to provide the region's first ever baseline for future conservation work. Scientists from a research expedition called the East African Marine Transect conducted a four-month study from November 2012 to March 2013 along the coastline from southern Mozambique to northern Kenya.

Divers collected the data using stereo video cameras, which have two lenses via which to capture images, mimicking human vision. This allows the size and location of fish to be measured more accurately than conventional video, and species can be identified back in the lab. Lead researcher Caine Delacy, a marine biologist from the University of Western Australia, says the team is now analysing the data collected. Once completed, Caine says, "it will provide

the much-needed baseline data on the abundance, diversity and size structures of coral reef fishes, and the broad geographical range of the sampling will allow assessment of the latitudinal changes across the region". The data will also be compared with historical information to identify changes in the abundance, diversity and distribution of fish, determine areas that have been most severely affected by overfishing and climate change, and to assess the effectiveness of current and historical management regimes. Caine says that while there have been calls to develop large continental-scale networks of marine protected areas, understanding the dynamics of large-scale communities has been largely ignored. Most conservation and management strategies are based on small-scale datasets. "The most pressing impacts, such as climate change, operate at larger scales," he says, adding data representative of entire regions - like that of his project - is necessary.

The research project will also shed more light on the effects of management within marine protected areas, fisheries management strategies along the coast of Mozambique, Tanzania and Kenya. The data will be useful to scientific, conservation, management and education communities throughout East Africa, and will go a long way to improving management and conservation strategies [as well as help inform] policymaking processes, says Caine. Valentine Ochanda, an environmental planner and head of the Department of Environment and Health Sciences at the Technical University of Kenya, says the mapping of the coral reefs will help in planning and managing their resources.

"With [accurate and up-to-date] information at hand, these areas can be protected from activities that degrade the environment, for instance blast fishing, which is causing massive degradation of these ecosystems and affecting availability of fish. The information will also guide the fishing industry on the fishing zones within these protected areas, which are important habitats for marine organisms," she says. Ochanda adds that the trans-boundary nature of coral reefs can be a recipe for disaster, as countries have different environmental and fish management regulations, with some areas protected in one country while being degraded by an immediate neighbour. *This article produced by SciDev.Net's Sub-Saharan Africa news desk.*

### [Land Matrix partnership expands global observatory on land acquisition](#)



12 June 2013: In an effort to create an open dataset to track large-scale land acquisition deals from negotiation to implementation, the Land Matrix partnership has launched the second phase of its Global Observatory.

First launched in 2012, the Observatory is a tool to promote transparency and open data collection. The current revision is in direct response to comments that have been sought out over the past year from stakeholders. In particular, the revisions relate to the total estimates of the number of land acquisitions and associated land area. The database now differentiates between intended, concluded and failed deals. It also displays the current status of each deal and links information directly to sources.

The Land Matrix partnership represents the work of numerous international organizations and donors, including the International Land Coalition. [[ILC Press Release](#)] [[Land Matrix Global Observatory](#)]





## Conferences, Events

Items newly added to this listing of events since the last SDI-Africa issue are marked **\*NEW\***

Date	Location	Event
<b>July 2013</b>		
3-5 July 2013	Denmark	<a href="#">From effective to intelligent agriculture and forestry</a>
6-9 July 2013	San Diego, USA	<a href="#">ESRI Survey Summit - The Esri Annual Conference</a>
7-11 July 2013	Catalonia, Spain	<a href="#">9th European Conference on Precision Agriculture (ECPA)</a>
8-12 July 2013	San Diego, USA	<a href="#">ESRI International User Conference</a>
14-19 July 2014 <b>*NEW*</b>	Nairobi, Kenya	<a href="#">7th African Association of Women in Geosciences (AAWG) Conference</a> Theme: Earth Sciences and Climate Change: Challenges to Development in Africa
21-26 July 2013	Melbourne, Victoria, Australia	<a href="#">IGARSS 2013</a> Deadline for abstracts/proposals: 10th January 2013 Check the <a href="#">event website</a> for more details.
<b>August 2013</b>		
13-14 August, 2013	Cape Town, South Africa	<a href="#">Africa Geospatial Forum</a>
24-30 August 2013 <b>*NEW*</b>	Arlington, Virginia, USA	<a href="#">2nd Symposium on Advances in Geospatial Technologies for Health</a>
25-30 August 2013	Dresden Germany	<b>26th International Cartographic Conference - From Pole to Pole</b>
26-31 August 2013	Busan, Korea	<a href="#">XXVII IUSSP International Population Conference</a>
25-30 August 2013	Hong Kong, S.A.R. China	<a href="#">59th ISI World Statistics Congress0</a> E-mail: <a href="mailto:isi@cbs.nl">isi@cbs.nl</a>
26-29 August 2013	Sarawak, Malaysia	<a href="#">8th International Symposium on Digital Earth 2013</a>
27-31 August 2013	Paris, France	<a href="#">IAG International Conference on Geomorphology</a>
<b>September 2013</b>		
17-18 September 2013 <b>*NEW*</b>	Kenyatta University, Kenya	<a href="#">ESRI East Africa Education User Conference</a>
17-22 September 2013	Nottingham, U.K	<a href="#">FOSS4G 2013 Conference</a>
23-25 September 2013	Technical University of Lodz, Poland	<a href="#">2nd International Conference on Informatics &amp; Applications (ICIA2013)</a> Abstract deadline:5 August 2013. Email: <a href="mailto:icia@sdiwc.net">icia@sdiwc.net</a>
24-26 September 2014	Rotterdam, Netherlands	<a href="#">Deltas in Times of Climate Change II</a> <a href="#">Read more, Conference flyer</a>
29 September-2 October 2013	Noordwijkerhout, Netherlands	<a href="#">First International Conference on Global Food Security</a>
<b>October 2013</b>		
15-18 October 2013	Arusha, Tanzania	<a href="#">Africa Climate Conference 2013 (ACC-2013)</a>
16-18 October 2013 <b>*NEW*</b>	Jinja Nile Resort, Uganda	<a href="#">8th Esri Eastern Africa User Conference</a>
23-25 October 2013 <b>*NEW*</b>	Munich, Germany	<a href="#">Esri Europe, Middle East, and Africa User Conference (EMEAUC)</a>



<b>23-25 October 2013</b> <b>* NEW *</b>	Beijing, China	<a href="#">United Nations International Conference on Space-based Technologies for Disaster Management</a> - "Disaster risk identification and response" Submit application online until <u>10 August 2013</u> . Contact Mr. Shirish Ravan at <a href="mailto:shirish.ravan@unoosa.org">shirish.ravan@unoosa.org</a> and phone: (+86) (10) 6353 3527
<b>23-25 October 2013</b>	Rio de Janeiro, Brazil	<a href="#">Sixth International Conference on Agricultural Statistics- ICAS-VI</a> , Abstract deadline: 15 December 2012 website: <a href="http://www.fao.org/economic/ess/ess-events/ess-icas/en/">www.fao.org/economic/ess/ess-events/ess-icas/en/</a>
<b>November 2013</b>		
<b>4-8 November 2013</b>	Adis-Ababa, Ethiopia	<a href="#">GSDI 14 World Conference and AfricaGIS 2013 Conference</a> Please consult the <a href="#">conference</a> web site on a regular basis.
<b>18 November 2013</b>	Africa	African Statistics Day - Organized by the UN Commission for Africa and the African Centre for Statistics.
<b>December 2013</b>		
<b>28-31 December 2013</b>	CRRAO AIMSCS, Hyderabad	<a href="#">Statistics 2013: Socio-Economic and Sustainable Challenges and Solutions</a>
<b>2014</b>		
<b>8-14 June 2014</b>	Jeju ICC, Korea	<a href="#">20th World Congress of Soil Science (WCSS)</a>
<b>2015</b>	Durban, South Africa	<a href="#">14th World Forestry Congress for SA</a>
<b>1-31 August 2016</b>	Cape Town, South Africa	<a href="#">35th International Geological Congress.</a>

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