



# ZEF

# news

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## Editorial

**D**evelopment research is important. It helps to solve development problems and thus to alleviate poverty. Yet: science-based solutions – regardless of how good they are – do not automatically find their way into development practice. "Implementation-oriented research" is therefore the magic word in the science world. But what challenges does this research approach have to overcome?

First of all, we have to collaborate with scientists from developing countries and with the potential users of the research results when we develop research questions. For this approach, partnerships based on mutual trust and extended networks are required. In addition to this, demand-driven research more likely leads to the implementation of results than research for which there is no immediate demand.

Implementation-oriented research must therefore be based on structures promoting the utilization of research results. This requires research-based transdisciplinary expertise which is able to produce scientific knowledge for specific user groups and develop implementation strategies.

Implementation-oriented research transcends the work of specialist researchers and is a research area of its own. This fact must be taken into account when research funds are allocated. Implementation-oriented research should be followed by impact analysis. But, this is a separate issue. ZEF is working on it.

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## Exploring the underrated potential of dryland afforestation for climate change mitigation

ZEF project supported by the Robert Bosch Foundation investigates the potential of afforestation projects in Central Asian drylands

**T**he importance of carbon sequestration via afforestation as a climate change mitigation strategy has been formally recognized by the world community through the Clean Development Mechanism (CDM) of the Kyoto Protocol. CDM allows industrial countries to meet emission limitation targets by supporting this approach to carbon bio-sequestration in developing countries. Carbon credits for such forestry



Water deficits in Central Asia are projected to increase in the future.

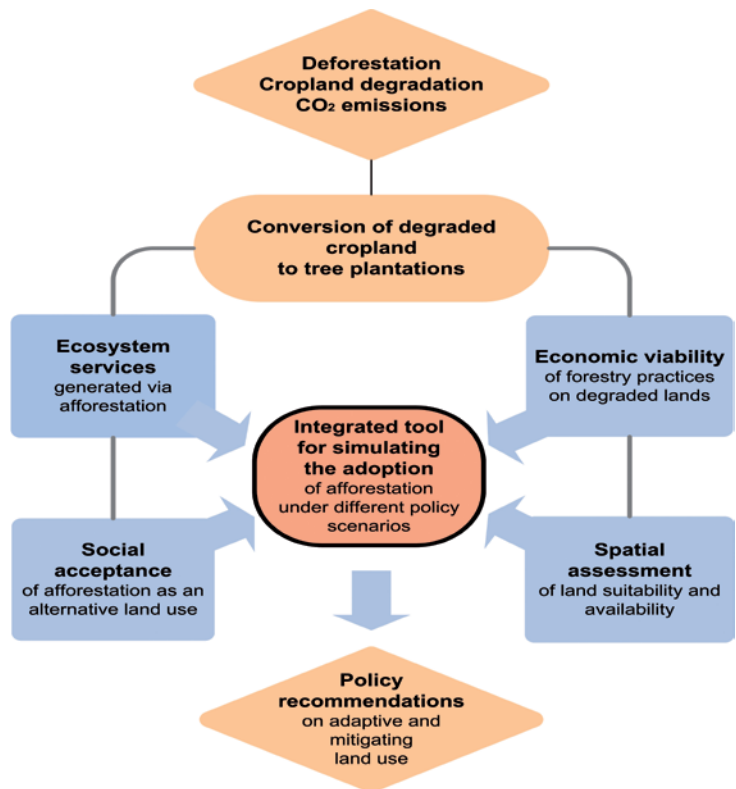
projects primarily target unproductive areas with little alternative land use value. As such, the global effort to reduce atmospheric CO<sub>2</sub> concentrations is working to simultaneously help meet local interests in combating land degradation and improving rural livelihoods.

Due to their presumed lower carbon uptake rates, dryland forestry projects have been underrepresented on the CDM agenda and in published research on global climate change compared to projects in humid regions. While typical dryland forests are clearly not as "carbon

dense" as humid forests, much more needs to be considered to fully understand their role for climate change mitigation and adaptation. Besides defining the biophysical potential of dryland afforestation more precisely, decision makers must better understand how and why decisions to use dryland are made in order to assess the likelihood of the adoption of forestry schemes compliant with CDM rules. Predicting these decisions under varying social and economic constraints and incentives requires a modeling tool that can integrate inputs from natural and socio-economic sciences. The development of such a tool is the primary objective of a ZEF project launched in 2009 with the support of the Robert Bosch Foundation. The project aims to identify the environmental, institutional, economic, and informational conditions under which forestry projects are likely to be realized based on information gathered from ongoing field work in irrigated drylands in Central Asia.

Policy researchers have increasingly acknowledged the potential of agent-based modeling (ABM) as a platform for merging different disciplinary insights when considering complex human interactions and decision processes. This modeling approach represents interacting human actors as virtual computerized agents situated in a simulated replication of their real environment. The ZEF project chose to use the ABM approach to merge natural processes such as forest growth and carbon sequestration with the socio-economic decisions of spatially embedded actors, due to ABM's high capacity to combine such complex processes. Data required for the

"Opportunities for climate change mitigation and adaptation through afforestation of degraded lands in Central Asia" – project framework for the period 2009–2014.



model development is being derived from field trials and farm surveys in the downstream area of the Amu Darya River in Central Asia. In this region, irrigated drylands are susceptible to increasing water scarcity (predicted to be aggravated by climate change) and to cropland degradation due to soil salinization.



Salt-affected dryland abandoned from cropping.

### Cropland degradation – converting a curse into an opportunity

Between 33% and 96% of irrigated land in the Central Asian countries of Kazakhstan, Turkmenistan and Uzbekistan is now saline with the most highly-affected areas being withdrawn from agricultural production. Reclamation of highly saline land via leaching requires large water inputs and maintenance of costly drainage systems. Water deficits in Central Asia, which, according to the World Bank estimates, are projected to increase by over 500% between 2005 and 2050, could render such technical solutions uneconomical for unproductive croplands. Thus other adaptations have to be sought. One adaptive option is to convert abandoned and low-yielding cropland to high-carbon stock systems of salt-tolerant tree species. In addition to carbon sequestration, a judicious choice of species for such schemes enhances





Afforestation in Uzbekistan – the first year on salty ground – over 2,500 trees were planted on experimental plots established on marginalized cropland.

other environmental services such as biological drainage of the elevated groundwater table, improvement of soil nutrient stocks, biodiversity, and amenities (shade, shelter for livestock, bee foraging, scenic beauty), contributing to overall ecosystem health. Another benefit of this approach could be cash flows from tradable non-timber products such as fuelwood, fodder, fruits. Such revenue might even cover farmer investments in this land use option before benefits associated with timber production or, in a CDM project, with carbon offsets become significant.

The general perception is that forestry is too water-demanding an option for arid regions. However, long-term ZEF research in Uzbekistan has shown that the region's shallow groundwater table can reduce the irrigation requirement of tree plantations to between 3% and 30% of that required for common crops still planted in marginal areas. Nevertheless, spatial targeting is essential

to determine the appropriate scale of forestry interventions that would not cause drastic reductions in water tables, to locate sites where afforestation is feasible, and to help select appropriate tree species and planting techniques. Understanding the spatial distribution of the potential costs and benefits also improves financial projections and eventually enables more efficient environmental policy interventions.

#### Assessing risks of the new land use

Converting degraded cropland to tree plantations is a rather innovative land use. Notwithstanding the potential ecological and economic benefits of afforestation, little is known about how stakeholders involved in land use would react to CDM schemes, and which policy conditions could foster participatory afforestation. Some critical policy and farm level constraints that need to be understood prior to project implementation may include land tenure and farm business security, financial, farm schedule and political constraints, and reduced land use flexibility after tree planting. A structured understanding of such constraints and key motivations framing individual inclinations towards project participation is needed to identify policies that would best trigger the participation. CDM forestry projects not only require individual high levels of participation but also a collaborative effort to increase the project cost effectiveness. Collaborative decisions can be formalized and modeled using socio-behavioral modeling approaches such as behavioral game theory, combined with social indicators that support the design of policies enhancing the collaboration. The project aims to use the behavioral game theory in ABM to study collaborative afforestation efforts – a novel yet promising approach.

Ability to handle a wide site of complex relationships which are difficult to oversee otherwise is the strength of ABM. With agents endowed with interdependent and autonomous decision-making mechanisms linked to their economic, political and environmental setting and policy incentives, this model aims to provide a holistic proactive assessment of the impact of policy packages on dryland forest establishment and maintenance under CDM, thereby giving recommendations for spatially targeted and efficient policy interventions.



#### Asia Khamzina and Julia Schindler

Asia Khamzina is a Junior Professor at the Agricultural Faculty of Bonn University and a Senior Researcher at ZEF's Department of Ecology and Natural Resources Management. The research project is supported by Robert Bosch Foundation. Julia Schindler is a Senior Researcher at ZEF.

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# ZEF project in South Africa shows options for improving water use efficiency in the region

Based on models and scenarios developed and run for the Middle Olifants sub-basin in South Africa, ZEF economists conclude that increasing water scarcity will lead to conflicts between water user sectors and will therefore require appropriate allocation mechanisms and a more economic approach to water management.

**T**he problem of water scarcity is going to escalate worldwide in the foreseeable future owing to population increase, the fast development of cities, and the growing water needs of agriculture, industry and households. This is especially the case in countries like South Africa, where current water demand already exceeds available water. This situation is calling for an improved management of the resource and the optimization of its use.



ZEF analyzes the competing uses of water in the Middle Olifants sub-basin.

## Maximizing economic return

The project on Integrated Water Resources Management (IWRM) in South Africa aims at optimizing water use in the Middle Olifants sub-basin. It wants to generate a maximum economic return from water with the support of modeling. The exercise is based on the interaction of a hydrological Water Resources Model (WRM) and the Water Allocation Model (WAM). The latter was developed at ZEF. WAM analyzes the competing uses of water in the Middle Olifants for the major water-user sectors of irrigation, mining and domestic use, while taking into account the water needs for environmental flows as well as for basic human needs. The WRM computes the water balance available for use, considering a number of hydrological parameters.

Predictions of the Intergovernmental Panel on Climate Change (IPCC) in 2009 say that Southern Africa will be affected by climate change in terms of an average reduction in rainfall and consequently a runoff reduction. We ran our model simulations based on the worst case scenario of a 10% annual reduction in runoff, targeting a maximum economic return. Model results show that under these conditions there will be an enormous cutback in the economic return on water from irrigation (in absolute amounts), an even higher percentage reduction from mining, while domestic water will remain relatively stable.

## Model and scenario results

Generally, the model and scenario results indicate that to maximize economic return, water should gradually be diverted from irrigation to other uses, primarily to mining. This adds weight to the sense of urgency on the part of the government to cut back water for agriculture in order to meet the sociopolitical objectives of equity and tackle rising water scarcity in the future.

## Recommendations

The scenario results confirm that water transfer from irrigation to other sectors is inevitable. Naturally, this poses a challenge for irrigation in the future, which is to produce more food with less water.

With increasing water scarcity, conflicts between water user sectors will require more appropriate allocation mechanisms and a more economic approach to water management on the side of institutions and politics. Alternative water allocation mechanisms (inter- and intra-regional) can serve as instruments to compensate water scarcity.

## Daniel Tsegai

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# Viewpoint

## "If people are trained in Africa they tend to stay"

Interview with Dr. Adobea Owusu, coordinator of the Excellence Development Studies Program in Ghana on the benefits of strong international academic partnerships.



Adobea Owusu is coordinator of the Excellence Development Studies Program in Accra – which is led by ZEF and the Institute of Statistical, Social and Economic Research at the University of Ghana (ISSER) and funded by the German Academic Exchange Service (DAAD). Before, she did her MPH in Health Services Research and received a PhD in Medical Sociology, both from the University of North Texas in the USA (1996–2002). After finishing her studies, she returned to Ghana and started working as an Educator for the Ghanaian Ministry of Health and as a Consultant on HIV/AIDS for USAID. In 2004, she became a Research Fellow at ISSER and in 2009 she took over the position of coordinator of the ZEF/ISSER Development Studies Program ([www.issser.org](http://www.issser.org)).

### What are the benefits of the Excellence Program for institutes in Africa such as ISSER?

The benefits of strong partnerships with institutes such as ZEF and other universities abroad are multilayered: First of all, the exchange of teaching staff and senior researchers is important for our students. The Program also gives our students the opportunity to travel abroad and use the excellent research facilities there, visit conferences and get exposure. This applies to senior researchers too. Also, I see an institutional benefit, since the Program also gives a boost to our faculty development. Last but not least: External funding is a key benefit. ISSER is a semi-autonomous institute, and the Ghanaian state pays for staff salaries only. Just like ZEF, we have to raise our own funds for running and expanding our research program. Initially, we planned to set up our own PhD program at ISSER, but we had no funds. So the DAAD initiative and ZEF proposal came just at the right time.

### What role do institutes such as ISSER play in the public debate in Ghana and West Africa?

Well, our institute has become a renowned national think tank over the years and organizes a whole range of successful outreach activities. One of our mission goals is "Knowledge for development" and we take this very seriously. First of all we publish an annual "State of the Ghanaian economy" report, which is certainly being noted by policy makers and the general public in the country. We also organize seminars for a general audience and

policy makers on urgent issues. Last year, we organized a seminar series in every region of Ghana on land issues – to stimulate the public discourse. ISSER wants to bring people together, and our regular public lectures tackle hot topics like "What are the implications of recent oil finds in Ghana?" Moreover, our scientists are often asked by the media for expert statements and interviews.

### Is ISSER also involved in international development programs concerning the country?

Oh yes, we are involved in a number of major consultancy activities. ISSER provides statistics and has written chapters on Ghana for the annual "Human Development Report", published by the United Nations Development Programme (UNDP). We also write monitoring and evaluation reports for the US Millennium Challenge Account (initiated by former US President George Bush). In addition, individual scientists from ISSER are asked to provide consultancies. I myself, for example, am a lead consultant for Ghana for the African Development Bank and UNDP for their training program for country experts. They are being trained as advocates for monitoring and evaluating the MDGs in their countries.

### What do you consider the challenges and chances of African academic education?

The university system in Africa and especially in Ghana is expanding. The number of students has increased considerably over the last years. This is a positive trend, of course, but at the same time there is a lack of qualified teachers. A lot of African students doing their PhD studies abroad never return to their home regions, so we are still facing the phenomenon of brain drain. On the other hand, if people are trained in Africa, like at ISSER with the DAAD Excellence Program, they tend to stay. Jobs and professional commitments make them stay. African states still spend too little of their national budgets on education. So learning and teaching facilities, as well as resources, are poor in Africa. Access to literature and the internet remains a problem. Once people have studied abroad, it is difficult for them to adapt again to these kinds of academic hardships.

Dr. Owusu, we thank you for this interview.



# Participatory forest management in the Kakamega Forest in Kenya

The Biodiversity Monitoring Transect Analysis in Africa project in East Africa (BIOTA East) is a long-term project funded by the German Ministry of Education and Research (BMBF) and conducted by ZEF. Its overall goal is to develop innovative conservation instruments for the preservation of the Kakamega Forest in Kenya.

This region is characterized by severe poverty and has one of the highest population densities in Africa, leading to destructive forest use and degradation. Project research focuses on participatory forest management, auctioning of forest user rights, live fences as an alternative to on-farm sources of firewood, as well as payments for ecosystem services through reduced emissions from deforestation and degradation (REDD) and carbon sequestration. In addition, outcomes are being fed into a multi-agent modeling exercise, simulating dynamic decision-making under different scenarios.



Local communities require more involvement in forest management.

The research done so far in the BIOTA East project clearly indicates that local communities around Kakamega Forest (the project's main research area) in Western Kenya support the conservation of the forest. Paradoxically, the forest is being continuously degraded by these same communities.

Based on ZEF's participatory research approach involving local stakeholders, staff of the BIOTA East project organized a workshop for local stakeholders in Kakamega in July 2010. Among the participants were representatives of community forest associations, professional firewood

extractors, representatives of the Kenyan Forest Service, the Kenyan Wildlife Service, the Ministry of Agriculture, the National Environmental Management Authority, the Church, the Kenyan Forest Research Institute and the Kenyan Environmental Education Program.

The objective of this workshop was to identify the problems that lead to forest degradation, find solutions to address these, and agree on a common strategy for the way forward. The core methodological element of the workshop was to leave the discussion entirely up to the stakeholders with ZEF staff not participating actively and playing an observational role only.

The workshop participants identified problems concerning forest conservation which were prioritized and grouped into four main areas. A working group was constituted for each one. At least one representative of each stakeholder party was involved in each working group to make sure that all groups had the possibility to express their views. The results of the working groups were then presented to the whole audience and discussed further. Recommendations were worked out in a last step.

The participants identified the following problems as most urgent: forest administrative issues, especially monitoring and evaluation, conservation incentives and benefit sharing, alternative sources of livelihood (capacity building, community empowerment), and human-wildlife conflicts.

The main message was that the local communities require more options for active involvement in the forest management plans. Moreover, they would like to see an improvement in working relations between the forest management authorities and the communities, the creation of a liaison office to coordinate all activities in Kakamega Forest and adjacent communities, and the provision of alternative sources of income for communities. The participatory approach of the workshop made a direct interaction between community representatives and stakeholders possible – this was a new experience for the participants and was highly appreciated. And so was its outcome.



**Christine Ladenburger and Tobias Wünsch**

Christine Ladenburger is a Junior Researcher and Tobias Wünsch a Senior Researcher at ZEF's Department of Economic and Technological Change.

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# Social impact of dam building projects in Ethiopia

Climate change also has its impact on West and East Africa, where an increase in extreme weather conditions, weather variability and an extension of the dry seasons over the last decade can be observed. One of the adaptation strategies of the local population is building water reservoirs, which can provide water independently of rain availability. ZEF research in Ethiopia investigates the social and economic implications of, among others, dam building projects, for the local population.



Building terraces is a climate change adaptation strategy of the local population in Ethiopia.

**R**e-thinking Water Storage for Climate Change Adaptation in Sub-Saharan Africa is a project ZEF started in April 2008 with the support of BMBF. The overall project goal is to improve the situation of the rural populations in Ethiopia and Ghana affected by climate change. This is to be achieved by extending water storage options, improving investment strategies and enhancing institutional support. The ZEF project team has done research so far in the basin of the Blue Nile in Ethiopia.

Two months of fieldwork were conducted in the Abay river basin, investigating the social, economic and political impacts of water storage projects involving large and small dams, terraces, wells and ponds. The studies dealt with topics such as distributional conflicts over land and water in dam projects, gender relations, well construction and micro-irrigation in the regional states of Amhara and Oromiya.

Social anthropological research was conducted in the water catchment area of the river Koga, where a dam was built in 2001. Channels for irrigation will be completed in the next few years. One of the studies examined how the livelihoods of the around 400 farmers in the Koga catchment area, who were resettled in the context of the dam construction project, have changed. They had to be

resettled because their houses and fields were located in the area of the reservoir. A second field research study in Koga collected data about how organizations and institutions for managing irrigation systems had been set up.

The Koga dam project serves as a pilot project in the country. With its planned 7,000 ha of irrigation area and many potential users, it is going to be the country's first self-administered dam project. The project will be re-financed via water usage charges, which implies that the farmers will earn money to finance technical staff and the investment costs for the dam and canals retroactively. This undertaking, however, seems to be futile before it has even started.

At the moment a team of experts from the Ethiopian government is supervising the construction of the irrigation canals, the process of land redistribution as well as compensation payments to the 400 resettled households moving to the nearby town of Merawi. However, this is not sufficient, since the farmers have no experience with canal construction and irrigation agriculture.

Because of the delay in land distribution processes and the construction of irrigation canals, many of the resettled households could not cultivate their land for several years and had to sell their cattle, since no grassland was available. Moreover, they received insufficient compensation payments to secure their livelihoods in the meantime.

The settlers' social support networks changed while they were living in town. In particular, relations with solidary townspeople and neighbors from the old villages, rural Orthodox Church communities and religious associations are of crucial importance. Social integration in the city of Merawi is particularly successful in those cases where newcomers try to solve their problems together with city dwellers, such as when organizing security in residential areas.



**Weyni Tesfai,  
Sina Marx and  
Irit Eguavoen**

Weyni Tesfai and Sina Marx are students at the University of

Cologne. They conducted the field study on the Koga dam, supervised by Irit Eguavoen (Senior Researcher at ZEF's Department of Political and Cultural Change and coordinator of the project Re-thinking Water Storage for Climate Change Adaptation in Sub-Saharan Africa).

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# Facts & news

## Partnership agreement between ZEF and the University of Addis Ababa

ZEF started a cooperation with the University of Addis Ababa (AAU) to develop and implement the first PhD Program for Environmental Planning and Biodiversity Conservation in Ethiopia. The interdisciplinary PhD program at AAU started in October 2010 and aims to improve the academic capacities in Ethiopia in the field of environmental planning with a focus on biodiversity. The program is sponsored by the German Academic Exchange Service (DAAD) and the Ministry of Education of the Federal Democratic Republic of Ethiopia.

## Former ZEF research region in Ethiopia was designated UNESCO biosphere reserve

The Ethiopian region of Yayu, a former research region of one of ZEF's trans-disciplinary research projects, was designated as a UNESCO biosphere reserve in Paris, June 2010. The proposal for nominating Yayu as a UNESCO MAB biosphere was prepared and submitted by the "Environment and Coffee Forest Forum", an NGO which has been initiated and supported by ZEF's long-term trans-disciplinary research project, "Conservation and use of wild *Coffea arabica* in the montane rainforests of Ethiopia".

## Nobel Prize Laureate at ZEF



Yunus with students at ZEF.

Professor Muhammad Yunus visited ZEF on November 6, 2010. He discussed with around 100 students from all over the world about how to do social business. The

Bangladeshi economist Muhammad Yunus is the Nobel Peace Prize Laureate of 2006.

## Capacity Development in West Africa

ZEF's project "Sustainable Development of Research Capacity in West Africa based on the GLOWA Volta Project" (SDRC-GVP) in Burkina Faso and Ghana has organized several trainings and workshops over the past months. There were trainings on 'GIS & Remote Sensing for effective resource management in Africa', training workshops on 'the use of M<sup>3</sup>WATER in Water Allocation and Investment Policies in the Volta Basin' and consultative meetings on 'using the GLOWA Volta Geoportal for data sharing'. In addition, a media and communication skills training for scientists and stakeholders was organized in Accra.

## ZEF to become an international campus of the "Alternative Nobel Prize"

ZEF is going to be an official campus of the Right Livelihood Award, also known as the Alternative Nobel Prize. This was agreed upon at a conference in Bonn on the occasion of the 30th anniversary of the Prize in September 2010. Partners of this agreement are ZEF, the University of Bonn, the Right Livelihood College (RLC) and the German Academic Exchange Service (DAAD). There are three further RLC sites world wide in Malaysia, Sweden and Ethiopia.



Participants of the RLC conference at ZEF.

## ZEF alumna wins this year's GDN award

Joy Kiiru, ZEF alumna from Kenya, won this year's Medal for Research on Development in the category "Innovative Sources of Development Finances" for her contribution on "Impact of microfinance on rural poor households' income and vulnerability to poverty". The prize was awarded by the Global Development Network (GDN) at its 12<sup>th</sup> Annual Global Development Conference taking place in Bogotá, Colombia, from January 13–15, 2011.

ZEF Junior Researcher **Tapiwa Nyasulu** was selected to join the DAAD African Good Governance Network (AGGN). The program offers seminars and personal skills training to its fellows and aims at promoting highly educated African academics to promote the process of democratization in their home countries.

**Peter Mollinga**, a former ZEF Senior Researcher, was appointed Professor of Development Studies at the School of Oriental and African Studies (SOAS), University of London, as of September 1, 2010 ([www.soas.ac.uk/staff/staff59646.php](http://www.soas.ac.uk/staff/staff59646.php)). In his new position he will continue to work on interdisciplinarity, the politics of water as well as agrarian change, also in collaboration with ZEF.

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## Covering climate change in West Africa: Whose business is it?

Climate change in West Africa is an issue affecting all people in the region. However, only few are concerned with it. Although West African scientists have gathered and processed lots of data and information on the topic, it is difficult for them to communicate their outcome. In this article, scientists from West Africa call on their media representatives to make climate change an issue of public concern in the region.

Climate change is not an easy phenomenon to explain to the general audience. Especially for media practitioners in developing countries, it is often difficult to acquire the necessary knowledge and expertise to be able to cover the topic adequately. In our opinion, the media in Ghana are not treating the issue of climate change and its regional impacts with the seriousness that it requires. For a start, there is little media reportage on climate change. The little coverage shows that climate change is not well understood by most journalists, especially the ones in the local communities. A survey conducted during a climate change sensitization workshop organized by the Ministry of Environment Science and Technology, indicated that over 50 Ghanaian media personnel had very little knowledge of issues of climate change. There is therefore a need to empower journalists so they can ask the right people the right questions.

### Climate change – a topic for journalists

Climate change is a topical issue for many scientists in West Africa but not yet for journalists. The topical issues for journalists include: politics, sport (especially football), religion and entertainment. These issues are covered daily and widely through morning shows, discussion and interview programs.

However, climate change is only covered occasionally when the media is invited to the opening ceremonies of climate change workshops and conferences. This is not enough as it leaves the scientist alone to handle the technical aspects. The media has to do more by joining scientists and politicians in setting the agenda on climate change and its regional impacts and making it an issue the public wants to learn about.

At present, climate change seems not to be of daily concern to the ordinary Ghanaian, whose main interest is still to obtain enough food and appropriate shelter. But climate change and its impact will affect people's lives sooner or later. Farmers in particular are already being affected by it, notably by a delay in the onset of the rainy season. However, they don't connect these changes to the phenomenon of climate change and often fail to adapt accordingly.

Since climate change is a developmental issue comparable to water, it has to be everybody's business – including that of the media. If the issue is put in the right context, people will realize that current phenomena such as the increased occurrence of drought, the shortening of the growing season, and the increase in soil erosion are related to climate change. Consequently, adaptation and mitigation strategies such as using short duration crop varieties, maintaining good ground cover, and planting fast growing tree species will become of public interest too. Once this interest is generated, the public will demand to know more, thus creating a need which must be covered by the media.

The local radio stations (FM) currently play a key role in the livelihoods of people in Ghana and most West African countries. They therefore can and should play



Climate change and its impact will affect people's lives in West Africa sooner or later.

an important role in addressing climate change issues through simple but regular programs. In this way, media staff could become proactive agents in addressing the very important issue of climate change affecting the livelihoods and survival of ordinary people and the future generation.

### The role of local scientists

Scientists in Ghana and most likely also in other West African countries have generated enormous amounts of data and information on climate change scenarios. Understanding, interpreting and communicating this data and its possible implications require knowledge and experience. Journalists therefore need the "translation" skills of scientists to be able to communicate research results and findings to the general public.



Wilson Agyare (2<sup>nd</sup> from right) at the Global Media Forum 2010.

Scientists are mostly good at communicating their work to colleagues in scientific publications, but have difficulty in making the public understand what they are doing. To be able to make the public aware of climate change, scientists therefore need journalists to "translate" the results of their scientific research.

There has been some effort in this respect so far, but there are also constraints on both sides. Whereas journalists tend to exaggerate, misinterpret or sensationalize scientific findings, scientists obviously need to work on improving their communication skills. A significant challenge is how scientists can better communicate and disseminate information by explaining the complexities of climate change and the issues of uncertainty and probability to non-scientists in a simple way without losing their scientific credibility. On the other hand, journalists face problems when seeking access to information on climate change or to climate-change experts.

We suggest that scientists could share their findings with journalists by explicitly encoding their knowledge in a shared knowledge repository for common use. Journalists have to be more investigative in order to disseminate the scientists' results. They must be inquisitive, request data, information, and explanations on climate change by covering the phenomenon in popular talk shows and in feature articles where scientists have the opportunity to provide the explanations needed on prevailing issues. It is time the media started asking scientists the right questions.

Thus, the phenomenon of climate change presents an opportunity for a paradigm shift to a 'two-way' interactive relationship between scientists and media representatives.

This article reflects the views of the authors based on their participation in the Workshop "Covering Climate Change in West Africa – An exchange between journalists and scientists" at the Deutsche Welle Global Media Forum in Bonn, June 2010.

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## ZEF welcomes new batch of doctoral students



The new batch of doctoral students from 13 countries (seen here with Program Coordinator Günther Manske (2<sup>nd</sup> from right) and Assistant Rosemarie Zabel (right)) started the doctoral studies program on October 1, 2010. The course program in the first year consists of a set of block courses, given by ZEF Professors and Senior Researchers, as well as by Professors of the University of Bonn and guest Professors from Germany and Europe. The courses provide students with interdisciplinary skills and disciplinary knowledge as well as with tools for their development-related field research.



# Project updates

## ZEF starts new project to address extreme poverty and marginality

The poorest are left behind. This is evident at a global scale, as income poverty declines but hunger – an indication of extreme poverty – increases. ZEF received a grant from the Bill & Melinda Gates Foundation to study the root causes of extreme poverty and develop new approaches for addressing the problem.

The project MARGIP – *Marginality Reduction for Enhanced Investments for and with the Poorest* – focuses on marginality in developing countries. By approaching the persistent problems of extreme poverty through the lens of marginality, features and causes of extreme poverty are put up front, rather than as a secondary step to define potential investment actions.

The project initially focuses on rural areas in Ethiopia and Bangladesh since marginality is most prevalent there and often relates to agricultural conditions in small farms.

ZEF Director Joachim von Braun points out, "Marginality signals both, development challenges and opportunities." When development investors understand marginality better, poverty reducing investments will be more successful. The project is designed as a planning project to prepare for a wider research and action program on marginality in developing countries. "We will synthesize the state of knowledge, build an alliance of scientists and social entrepreneurs, develop and test the methods, identify the data required to investigate the nature of

marginality and tools which help selecting adequate policies which strengthen or build risk prevention, risk management and coping strategies," says Franz Gatzweiler, the project director.

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## Crossroads Asia: Conflict – Migration – Development

ZEF is going to be a major partner in the *Crossroads Asia* competence network which will be funded by the German Federal Ministry of Education and Research (BMBF) from 2011 to 2014. *Crossroads Asia* embraces the area from eastern Iran to western China and from the Aral Sea to northern India. *Crossroads Asia* is understood as a multiple entwined space of action, constituted by the cultural and social border-transgressing interactions of its inhabitants. *Crossroads Asia* is hereby following a novel, "post-area studies" approach.

The project works on the initial assumption that this region cannot be understood when using a state-centric approach – considering the overlapping violent conflicts such as those in Afghanistan, Kashmir or the Ferghana valley and the intensive migration movements within this region and beyond. Instead, the project hypothesis is that we have to follow the flows and networks of its people to better understand the social dynamics of the region. This is why mobility has been chosen as the overarching perspective of this project. Thus the "lens" of *mobility* puts the focal aspects of conflict, migration and development into a causal relationship.

The *Crossroads Asia* competence network consists of seven German universities and research institutes. Two institutes of the University of Bonn are involved in the network: The Institute of Oriental and Asian Studies and ZEF, which will host the network's project office. The competence network will generate individual scientific studies under the umbrella of *Crossroads Studies*.

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## Second research phase for WISDOM

The WISDOM Project (Water related Information System for the Sustainable Development of the Mekong Delta, Vietnam) was extended for another three years. The second phase will last until September 2013 and was officially launched in Ho Chi Minh City on November 12, 2010.

The first phase of the project started in April 2007. WISDOM is a multidisciplinary project with 19 partners in Germany and Vietnam. ZEF provides knowledge on the institutional framework and water resources management practices and contributes social science research data to the information system on the Mekong Delta.

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Children in the Wakhan Corridor, Afghanistan.





# About jungle and rubber: Field research in Indonesia

Interview with Grace Villamor, a ZEF PhD student from the Philippines. Grace conducts her doctoral research on land use change and the trade offs of ecosystem services in a rubber agro-forest in Indonesia.



Grace during her field research.

## How did you get interested in the issue of land use change in Indonesia in the first place?

I chose Indonesia since it's a disaster prone area, no 1. Carbon emitter (through deforestation and degradation) and it has an enormous diversity. These challenges and complexities made me interested. I also had the advantage that I had already established my network in the country and had the opportunity to discuss my research agenda with them.

## Why is jungle rubber so important and what is it being used for in your study region?

Jungle rubber is an agro-forestry system resembling forests. It was introduced by the Dutch colonialists in the early 20<sup>th</sup> century. Jungle rubber adapted amazingly well to the climate and soil conditions in the areas of Sumatra and Kalimantan, where it has become today's dominant farming practice. By now jungle rubber is the main source of income for the local population. Moreover, Indonesia is regularly among the top three of the world's rubber latex producing countries. 40 to 70% of the Indonesian rubber production comes from Sumatra, where I conducted my field research.

I wanted to study the role of jungle rubber in Indonesia because of the science and policy myths that have been evolving around the topic in the country. Now that climate change is becoming an issue in Indonesia it is being discussed that people should leave the forests – apparently, because the forest can mitigate climate change only by itself.

## Why is jungle rubber being replaced by oil palm plantations?

Jungle rubber is under pressure to be replaced by oil palm plantations because of the potential higher income

it could generate for farmers. It is expected to become the economic engine of the province and is, as such, supported by the government.

## What does that mean for the local people and their livelihoods?

The villages I am working in are poor villages, so providing a higher income would improve their standard of living considerably. However, it won't be easy, since there would be a lot of trade-offs, particularly from an environmental and social point of view.

Socially speaking, converting jungle rubber to oil palm plantations would require additional labor power, which means hiring people from outside. Since working in the rubber jungle is mainly a family-business, hiring people from other ethnic groups with different cultural backgrounds would cause conflicts and tensions and have an impact on the lifestyle of the villagers. The villages have strict social norms, and introducing oil palm production and the immigration of laborers would certainly change their culture.

## What were the most remarkable experiences you had during your field research?

Working with the villagers is the most remarkable experience I had. Although most of them are busy farmers, who work from 6 in the morning until 5 in the evening on the fields, they paid much attention to my work. Whenever I requested a group discussion, they would come and share the information with me. One example of their positive response to me is when we did a focus group discussion and participatory mapping during the evening: it took us until midnight to finish, but they stayed.

Interview by Alma van der Veen

You can read the complete text about Grace Villamor's field research at [www.zef.de/1556.html](http://www.zef.de/1556.html).

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