

In focus: water & agriculture

Lead article: ZEF'S SOCIAL SCIENCE RESEARCH IN VIETNAM, p. 2; **Research:** WATSAN, p. 4; ZEF'S RESEARCH ON INTEGRATED WATER RESOURCES MANAGEMENT IN SOUTH AFRICA, p. 5 HIGHER EDUCATION IN SOUTHEAST ASIA, SMALLHOLDER FARMERS IN KENYA, p. 6; BUSHFIRES IN GHANA, p. 7; FOREST AND LAND IN EAST AFRICA; WINE PRODUCTION IN GEORGIA, p. 8; **Doctoral theses @ ZEF**, p. 9; **Viewpoint:** INTERVIEW WITH PROF. CHRISTIAN BORGEMEISTER; **Facts & news**, p. 10; **Doctoral field research:** INSTITUTIONAL ETHNOGRAPHY IN KYRGYZSTAN, p. 12;



Editorial: Changing flows - changing livelihoods

The Mekong is the longest river in Southeast Asia, flowing through southern China, Cambodia, and Vietnam into the South China Sea. In the past, the flow of the Mekong was related solely to the rainfall pattern. This is changing with numerous dams that have been or will be constructed. Like any interventions in the natural flow of rivers this will have major consequences for downstream countries - especially for the Mekong Delta in Vietnam: It can exacerbate or ease both floods and droughts and impact fisheries and agriculture.

Significant changes in flow patterns to the delta are already causing problems for agricultural production and rural livelihoods, as research in the WISDOM Project shows. The dams in China, those currently under construction as well as the proposed ten dams along the river will have a total reservoir storage capacity of about 40 billion m³. They will trap a large portion of the sediment that the Mekong would otherwise transport to the delta. These sediments contain nutrients that are essential for the fertility of the delta and vital for rice cultivation, which will decline considerably. Dams directly benefit the

investors and countries that own the projects, while the inhabitants of the Mekong Delta and other downstream countries suffer severe negative impacts.

The Mekong is not a unique case, but can be seen as an example for other (trans-boundary) river systems. ZEF's interdisciplinary research approach looks beyond the purely engineering aspects of water resources management and includes environmental and social considerations and research. Both WISDOM and the new DELIGHT project at ZEF view riverine catchment areas as socio-ecological systems of high diversity and complexity that require multi-dimensional government intervention and community-based action.



Solvay Gerke

Solvay Gerke
Director of ZEF's Department of
Political and Cultural Change



Six years of WISDOM: ZEF's social science research on water resources in the Mekong Delta in Vietnam

'WISDOM' stands for "Water-related Information System for the Sustainable Development of the Mekong Delta, Vietnam", a BMBF-funded project set up in 2007 and finalized in 2013. ZEF was one of two social science partners in the project's research consortium and endeavored to do justice to the double meaning of the project's title.

Background

Water has always played a major role in people's livelihoods and in agro-ecology in the Mekong Delta of Vietnam, the project's study region. However, many technical and other interventions led to significant changes, both in the landscape and the so-called 'unique river water civilization'. More recently, the Mekong Delta has experienced tremendous agro-economic growth, demographic change, rapid urbanization and industrialization – which are increasingly leading to competing water demands as well as water pollution.

The project's water information system was set up as a knowledge platform to address these challenges in a comprehensive way. Its task was the collection, development and exchange of water-related data. This way, it was able to serve as a planning device for the different Vietnamese agencies in charge of water management.

Research setting

The Indochina Wars in the 1950s were followed by a closure to the West. Vietnam became inaccessible to researchers for many years. Today, the communist one-party state remains skeptic of critical social science research and continues to supervise and control research agendas and fieldwork activities. Building strong partnerships with Vietnamese research institutes and organizing long-term stays in the Delta proved to be the right strategies for dealing with this difficult research environment. These strategies also paid off in terms of gaining in-depth insights into the socio-political and cultural context of water management.

WISDOM Master class in 2009.



Research approach and strategy

One of the first contributions ZEF made to the project was to provide an original analysis of how water policy and planning processes actually work in this centralist socialist system. In contrast to dominant discourses on flood control and disaster risk reduction, we found that the population in the Mekong Delta perceives flooding as 'beautiful' and that it constitutes a crucial resource in everyday rural life. Another strand of innovative research focused on knowledge management within the water sector. Understanding what information and data are shared with whom and why (not) also had implications for the design of the information system. ZEF put these results into practice by conducting knowledge management trainings for and in collaboration with local partner institutes. Also unique to date are the comprehensive studies on the legal framework and respective (lack of) law enforcement in the water sector. These studies are highly recognized among Vietnamese and international academia as well as development practitioners.

Working on the basis of these research findings, the second phase of the project focused on the sensitive issue of water quality and health as well as water pollution in relation to local industry, small-scale enterprises and aquaculture development. Further subjects of research

were the contemporary changes in the relationship between state and farmers, and the recent emergence of water user groups. While keeping the delta-scale in mind, all of the studies concentrated on Can Tho City – one of the 13 provinces of the Mekong Delta – thus providing for multiple synergies in the respective sub-research projects.

Research "output"

During the six years of project funding, ZEF produced 11 PhD theses, two Master theses, a whole range of ZEF working papers, research reports and other academic articles and books. All the theses have been published in English and made available to the Vietnamese partners and library systems. English articles have been translated and published in Vietnamese journals and as a comprehensive reader on 'Water as a Strategic Resource'. Besides academic exchange, ZEF put much effort into disseminating research results to the wider Vietnamese public and project stakeholders. For instance, the bi-lingual Social Science Briefs on the Mekong Delta were used as feedback mechanisms with selected findings of the research written in hands-on, non-scientific language.

Follow-up

These joint publication projects and workshops facilitated the development of a dense network involving Vietnamese stakeholders and other Vietnam scholars. Project staff and former WISDOM PhD students were able to draw on and even expand this network while starting new research initiatives, e.g. on Vietnamese civil society or on food culture in Vietnam. Furthermore, with effect from 2013, ZEF has been responsible for the social science component of the

Older and wiser after six years of WISDOM research: Master class 2013.



DELIGHT project, where the WISDOM information system is being adapted to improve water resources management in the Yellow River Delta in China (www.delight.eoc.dlr.de). Another research initiative focusing on the whole Mekong Basin is currently envisaged.

The research was funded by the German Federal Ministry of Education and Research (BMBF).

Gabi Waibel and Judith Ehlert

Both authors were senior researchers working for the WISDOM project until October 2013.

Contact: gwaibel@uni-bonn.de Website: www.wisdom.caf.dlr.de



WATSAN: What's on? Research on the nexus of water, sanitation, and agriculture

The goals of research within the so-called WATSAN project are to identify trade-offs, synergies, and thresholds in the nexus of water quality and quantity, sanitation and hygiene, as well as agriculture. The project also investigates implications for investment priorities and better health and nutrition outcome. Furthermore, it aims to strengthen the capacity of households and communities to monitor and manage their own environment with regard to water, agriculture and health. The project will be carried out in Ethiopia, Ghana, India, and Bangladesh. These countries have been selected on the basis of features relevant to this research: drinking water, sanitation services, and hygiene conditions are seriously deficient, and health and nutrition situations particularly adverse.



ZEF investigates the strong correlation between water, sanitation, hygiene, nutrition, and agriculture.

Background and relevance

There is a strong correlation between water, sanitation, hygiene, and nutrition. Poor environmental health as well as poor water and sanitation are notoriously known as the key cause of diarrhea, tropical enteropathy, and intestinal worms. Diarrhea is the second leading cause of death among children under-five. Intestinal worms infect around 2 billion people across the globe and around 4.5 billion

people are at risk. The WHO/UNICEF Joint Monitoring Program for Water and Sanitation 2013 reports that in 2011, 768 million people lacked access to improved drinking water, while the sanitation coverage in 2011 was 64%, far below the MDG sanitation target of 75%. The report further documents that 15% of the global population practiced open defecation. Water and sanitation challenges include the populations who have no access to drinking water and basic sanitation – a situation exacerbated by population growth, rapid urbanization and climate change.

Research objectives

The researchers explore how to invest in water, sanitation, and hygiene in the most effective way. A review of the impact of the “WASH” (Water, sanitation and hygiene) intervention undertaken by the International Initiative for Impact Evaluation documents that hygiene practices involving hand-washing with soap and the usage of toilets reduce diarrhea prevalence by 37% and 34%, respectively. Improved water quantity and quality and improved sanitation and hygiene enhance health and nutrition outcome. However, these areas overlap with irrigation agriculture which has an additional impact on health and nutrition outcome and influences health in various ways: Water harvesting techniques, irrigation canals, ponds, tanks and/or dams are among the contributing factors that impair human health. Irrigation water can create suitable conditions for the propagations of water and vector-borne diseases such as malaria.

Research approaches

It is crucial to take an integrated perspective from different scientific disciplines when addressing the issues of water and sanitation and their links to other sectors, particularly agriculture. The WATSAN project will therefore involve scientists from a broad range of relevant disciplines (ecology, hydrology, agronomy, economy, sociology, and public health). The project compiles panel household data from various sources such as the Demographic and Health Surveys and other national surveys. These data will be combined with original data collections in the communities.

Project partners include the Ethiopian Economic Association (EEA), Ethiopia; Institute of Statistical, Social and Economic Research (ISSER), Ghana; Public Health Foundation of India (PHFI) through Indian Institute of Public Health Gandhinagar (IIPHG), India; and BRAC in Bangladesh.

The project is funded by the Bill and Melinda Gates Foundation.



Evita Pangaribowo
ZEF senior researcher
evita.pangaribowo@uni-bonn.de

Continued: ZEF's research on Integrated Water Resources Management in South Africa

Water allocation in South Africa is currently undergoing many changes. These policy changes aim at: more equity in distribution among the different users; improved sustainability and the enhanced integration of local stakeholders in water management practices. During the apartheid regime water was allocated on the basis of riparian principles, that linked the volume of water allocated to land-ownership. This situation led to large discrepancies in access to water for productive purposes. Population and economic growth have led to an increase in water demand in many sectors (agriculture, household, services, industry etc.), stressed many catchments and worsened water quality in South Africa.

Starting point for ZEF research

In such a context, it is necessary to investigate conditions, means and strategies that can improve water allocation and alleviate water quality deterioration. This is precisely the starting point of the Integrated Water Resources Management: Middle Olifants South Africa (IWRM – MOSA, Phase II) project at ZEF. The project in the Olifants River Basin, one of the most water-scarce basins in South Africa, investigates potential policy instruments and institutional settings which might contribute to improving water allocation and standardizing water quality.

Research objectives

ZEF's research tackles the following three areas: Determining the water value-flow in the Olifants while including the question of both scarcity and quality in the water management approach. Considering water quality in an IWRM is a novelty in this project, since existing integrated approaches usually focus on water quantity only. Research questions include: how does the water flow influence water tariff schemes? Can virtual water trade be considered as an alternative to overcoming water scarcity in the Olifants? What are the costs and benefits associated with water treatments (end-of-pipe and from the pollution source)? The second research area investigates the linkages between institutions and water governance, for example by studying how the current institutions could stimulate community-based water management in the Olifants region. Both farmers and mines surrounding the basin will be taken into account. Finally, the project will assess the impacts of different water policies (i.e. water market, compulsory licensing etc.) on farming activities and provide an estimation of the transaction costs associated with policy implementation.

Research approach

This project adopts an interdisciplinary research approach by combining a hydro-economic model with a number of

micro and macroeconomic-oriented modeling tools. The hydro-economic model makes it possible to combine the region's hydrological characteristics with socio-economic information depicting the characteristics of households, farmers and mines. In addition, surveys will be conducted. The data collected will serve to test different economic hypotheses related to improving water allocation.



There are large discrepancies in access to water in South Africa.

Activities so far

The project started in July 2012 and will run until May 2015. A first workshop took place in Pretoria, South Africa on November 14-15, 2012. Different South African and German institutions were represented and the workshop led to fruitful cooperative commitments. The second workshop was organized in Berching Germany, where the German project partners planned the work to be performed in 2013.

The project is financed by the German Federal Ministry of Education and Research (BMBF) and involves German as well as South African academic and governmental institutions. IWRM - MOSA (phase II) is the second phase of IWRM (phase I), also financed by the German Federal Ministry of Education and Research between 2006 and 2010.



Djiby Thiam
ZEF senior researcher
dthiam@uni-bonn.de

The role of higher education in mitigating conflicts: The case of Southeast Asia

ZEF has spent many years training future academics and policy makers in all regions of the world but we have never systematically looked at how this contributes to the bigger issue of building up higher education in the places we work. The pilot project "Contested Knowledge", which began in May 2012, started therefore evaluating more broadly the theme of developing higher education. In the first phase, the project focused on countries mainly in Southeast Asia where the system of higher education has been impacted by violent conflict and is still recovering or 'rebuilding'. In this, the project takes an optimistic outlook, understanding the potential of higher education to contribute to not only to training of the labor force, but also to supporting peace and complementing political growth and cultural exchange.

Background

Compared to basic and secondary education, which are considered human rights, countries need to critically assess why or how to prioritize their limited resources to higher education. This view is also mirrored by aid givers: a few donor countries, such as Germany and France, have consistently supported higher education in conflict countries while most (including the USA and the United Kingdom) have channeled most of their aid marked for

education to primary education. However, through efforts spearheaded by UNESCO over the past decade, the 'soft benefits' of higher education are increasingly being recognized, many of which directly support peace building, tolerance raising, and intercultural dialogue.

Initial research

These 'soft benefits' of higher education were investigated through a comparison of universities and institutes of higher education in the conflict areas of Burma/Myanmar, Southern Thailand and Cambodia. We have identified three aspects that play a role in leveraging higher education for conflict mitigation and political awareness:

1. Campus atmosphere: not only the physical layout, but the presence of student social life, extracurricular activities, and potential for open and critical political dialogue;
2. Higher education administration: the hierarchy of the political administration is often reproduced in university spaces, which can influence university access, ethnic and political content, and inclusiveness;
3. International and regional integration: the rapid rise in student mobility as well as staff exchange offers an opportunity for intercultural dialogue and passive international diplomacy.

Future of the project

ZEF is gearing up for a more comprehensive future project, including a cohort of PhD students, to conduct a cross-region comparison of efforts to re-envision and reconstruct systems of higher education that support a culture of academic excellence and political and cultural dialogue.



Hart Feuer
ZEF senior researcher, hfeuer@uni-bonn.de

Supplying which markets? Smallholder farmers in Kenya stuck between options

The decline in supplies of vegetables from smallholder farmers to the international markets is worrisome. This is especially the case in Africa, where agricultural smallholder production is crucial to rural livelihoods. The trend impacts negatively on the income and employment of smallholders, particularly women, who are the prime producers and labor suppliers for the vegetable markets.

This research examines to what extent smallholders in rural Kenya participate in vegetable production for international markets (a so-called "high-value supply chain"). The research identifies the major drivers out of (and into) these chains and the implications on livelihoods.

It does so by analyzing survey data collected from over 300 households in five selected districts of rural Kenya with commercial vegetable production. Results show that smallholder farmers are indeed exiting from high-value vegetable chains: About 36% of the farmers whose agricultural products contributed to Kenya's export trade in 2005 had exited by 2010. Overall, 20% of those involved in commercial vegetable production in 2005 had dropped out by 2010. Causes include climate risks and high costs of inputs, such as seeds, fertilizers and labor, which doubled during this period. In addition, vegetable prices stagnated and became erratic due to price volatility in the international markets. Furthermore, market requirements

imposed by high-income countries pose a challenge to resource-constrained smallholders, as this often means changing production and marketing practices in addition to investing in "lumpy" facilities that create higher production costs.

This calls for alternative strategies to cope with evolving challenges that threaten the livelihoods of the rural poor. Policy interventions are required to improve physical (such as storage and transport facilities) and institutional infrastructure (such as extension services) to link smallholders to the less demanding domestic and regional markets, and to provide them with subsidized seeds and fertilizers as well as low-cost rural credit.

There is also a need to increase climate risk awareness and promote adaptation technologies among farmers. In addition, gender considerations should be incorporated in designing market value chains in order to ensure that income and benefits are distributed equitably within households. These kinds of measures could have a positive impact on the welfare of rural households.

The research is funded by BMZ / DAAD.

Beatrice Wambui Muriithi
ZEF junior researcher, muriithi@uni-bonn.de



Bushfires in northern Ghana: Checks and balances

About 45-60% of the total dry land cover in the northern region of Ghana (representing around a third of the country's total land cover) is burned every year during the dry season between November and February. These annual burns have evolved over the years and become part of local people's lives. Burns provide goods and services such as land clearance for agriculture, hunting, and pasture for local livestock at relatively low cost. But the burns also lead to losses of plant nutrients and thus pose a serious problem for agriculture, which is characterized by subsistence farming with a low use of fertilizers.

This research aimed at (i) quantifying nutrient losses resulting from the annual fires as well as nutrient acquisition through atmospheric deposition which may compensate for the losses, and (ii) drawing conclusions to support policy-makers in regulating the region's burning culture. The researchers conducted field measurements, applied statistical analyses, and used Geographical Information Systems as well as remote sensing techniques to analyze the relevant processes, their temporal dynamics and the balance of nutrient losses versus gains. They then scaled-up the results for Northern Ghana for a ten-year period (2001-2010).

The nutrient balances analyzed confirm the problem with burning: The losses of Nitrogen and Phosphorus - both essential nutrients for plant growth - during the burning phase are much higher than the quantities imported into the entire country in the form of inorganic fertilizers. Furthermore, the losses during burning are not completely compensated by gains through deposition, which means that the nutrient balances are negative. A negative Nitrogen balance is not a major cause for concern, because integration of leguminous crop species in traditional cropping systems supports biological fixation of atmospheric Nitrogen and replenishes Nitrogen stocks in the soil. A negative Phosphorus balance, however, poses



Seasonal burns provide goods and services but also lead to losses of plant nutrients and therewith pose a problem for agriculture in northern Ghana.

a serious challenge to sustainable food production in the region: soils are inherently low in Phosphorus available to plants and most farmers in the region cannot afford to apply synthetic fertilizers containing Phosphorus. Analyses revealed that high moisture in tissues in the early-burn season impedes the spreading of burns. Comparatively low moisture in tissues during the late-burn season make late burns vulnerable to higher losses of Phosphorus.

It is difficult to impose strict fire prevention mechanisms as the bushfires are a traditional part of land use strategies and culture in the region. A compromise could be a regulation promoting early burns. These findings could be applied to other Savanna regions, which make up around 80% of the global areas burned annually.

The research was funded by BMZ/DAAD.

Joseph Kugbe

After completing his doctoral thesis at ZEF successfully in October 2012, the author has been working as a lecturer at the University for Development Studies in Tamale, northern Region, Ghana. Contact: jkugbe@uni-bonn.de



Forest and land in East Africa: the ForLand project

Forests are an important economic factor and ecological basis for sustainable development. However, deforestation is a common phenomenon in many parts of the world – caused by different processes such as institutional failures.

An avalanche of degradation processes affect soil, water and biodiversity as well as agriculture, the basis for livelihoods and the engine for development in most African countries. Governments have embarked on decentralization programs in order to manage the forestry resources of Ethiopia, Uganda, Kenya and Tanzania in a sustainable way. So far, these have produced mixed results for people's livelihoods and forestry resources. The process of decentralization itself turned out to be a major learning experience.

In their attempt to shift rights and responsibilities for forestry resources from the government to local communities, national efforts towards decentralization and land reforms too often overlooked local institutional structures,

traditional property rights and social capital. This leads to conflicts, collective action failure and adverse incentives for sustainable natural resource management. These failures often occurred as a result of restructuring institutions without understanding the relationships between forestry resources and the communities which have been managing and conserving them.

The aim of the International Forestry Resources and Institutions (IFRI) research network is to overcome this knowledge gap. IFRI is one of the most successful social-ecological systems research programs in the world, with partner research organizations in 14 countries and more than 40 affiliated researchers. Focusing on how and with what outcomes local populations manage their forests and related resources, network members have conducted research with more than 250 forest-dependent communities in sub-Saharan Africa, Latin America, and South and Southeast Asia. The goal of the ForLand project is to link collaborative research centers in the region, train junior researchers and support the policy-science dialogue. The vision of this pilot project is to bring scientific excellence to social and ecological systems in the region and strengthen science-policy dialogue.

The project is funded by the International Office of the German Ministry for Education and Research (BMBF).



Franz Gatzweiler

ZEF senior researcher, project coordinator of ForLandD. Contact: fgatz@uni-bonn.de

Wine production in post-Soviet Georgia: Combining tradition and rural development

A recent research project initiated at ZEF, "Epistemic Cultures and Innovation Diffusion in post-Soviet Caucasus and Central Asia", investigates the role of knowledge in the socio-economic and political development of rural areas in these regions.

Georgia has suffered both politically and economically since its independence in the 1990s. The country has not been able to fully reach its development objectives in the areas of market liberalization, standard of living and energy security. This research analyzes the loss and recovery of traditional and modern knowledge regarding wine, tea and fruit production in post-Soviet Georgia. In this article we focus on Georgian wine-making which has a century-long tradition and thus plays a vital role in maintaining various community traditions. Wine has been of prime economic importance and has the potential to boost the Georgian agricultural economy – for example by becoming a main export product.

Georgian wine is associated with unique landscapes and a distinct cuisine. It comes from old grape varieties unknown in the West and is produced using special techniques. Moreover, Soviet science and local traditions have formed a solid knowledge base. Georgian wine is mainly produced from 525 described endemic grape varieties, which are of high quality and well-adapted to local climatic and soil conditions.

Georgian wine-making technology is based on the use of kvevri, clay vessels which are buried up to their neck and sealed. Kvevri wine is characterized by its stability, high potential for aging, natural brilliance, distinctive flavor and aroma, and high tannin content. The value of the kvevri method is being increasingly recognized in Europe and exports are taking off.

Following significant neglect over the last decades, Georgia has rediscovered agriculture as represented by wine production. It provides an excellent opportunity to drive growth and raise a significant part of rural population from poverty.



Anastasiya Shtaltovna

The author conducted her PhD at ZEF. After graduating, she has been involved as a senior researcher in this research project, which is funded by the Federal Ministry for Education and Research (BMBF). Contact: shtaltov@uni-bonn.de

Doctoral @ ZEF

theses

A magic tree? *Jatropha* scrutinized as alternative energy source in Burkina Faso

With prices for limited sources of fossil energy rising, energy from biomass sources has become an interesting alternative. As the price of (imported) fossil fuels is prohibitively high for people living in rural areas in many West African countries, there is widespread use of traditional biomass sources such as fuel wood and charcoal for cooking and preparing beverages like beer brewed from sorghum. However, high population growth and increasing need for energy are leading to the overuse of wood resources, which is resulting in deforestation of vast land areas and severe soil degradation.

Jatropha: pros and cons

In this context, the *Jatropha* tree has shifted into the focus of worldwide attention in recent years. This low-water demanding tree is promoted as the most promising energy crop for dry regions. It is claimed that it can be grown on nutrient-poor soils and still produce considerable amounts of oily seeds, which can be used as a source of energy. Moreover, *Jatropha* can even contribute to restoring these soils. Unfortunately, many of these assertions are not grounded scientifically and cultivating *Jatropha* proves to be more complicated in practice than thought.

Theory and practice

This has been shown by a doctoral study conducted at ZEF assessing *Jatropha* cultivation systems in Burkina Faso. The results indicate very low seed yields from the *Jatropha* trees in general, even though most farmers grow *Jatropha* on their more fertile soils, anticipating higher incomes. It also appears that cultivating *Jatropha* is very labor-intensive. An area larger than four soccer fields (four hectares) would have to be planted with *Jatropha* in order to produce the amount of energy that a six-person household requires for cooking. The researchers realized that cultivating *Jatropha* means competing with food crops for scarce resources such as labor and land. In the end, the farmers are even losing income with *Jatropha*: Current low market prices mean that the income generated by selling *Jatropha* seeds does not compensate for the losses in food production.

The experiment to cultivate *Jatropha* on marginal soils – abandoned from agricultural production – failed completely. Only traditionally grown *Jatropha* trees, often used as living fences around agricultural fields, proved to be compatible with existing agricultural systems. Living fences require little space and, moreover, provide some protection from soil erosion and crops from browsing animals. Additionally, the oil from the seeds can be used for decentralized energy supply.



Cultivating energy crops faces major practical challenges.

Recommendations

To become a competitive source of energy, *Jatropha* cultivation systems have to be intensified in a sustainable way. This includes developing improved planting material, optimizing management regimes and offering adequate training to farmers. Overall, the case of *Jatropha* production in Burkina Faso shows that the cultivation of energy crops can contribute to a better energy supply in rural areas while additionally providing ecosystem services. Trans-disciplinary approaches – developed together with the local population and thus best-adapted to local conditions and needs – are the most promising method for the successful implementation of innovative actions.

The research is funded by the Dreyer Foundation.



Sophia Baumert and Jan Henning Sommer

ZEF junior and ZEF senior researcher

Contact: sbaumert@uni-bonn.de and hsommer@uni-bonn.de

Viewpoint

"Interdisciplinary research sounds easy, but it is very difficult" - Interview with Christian Borgemeister, ZEF's new Director for Ecology and Natural Resources Management



You are the new Director of ZEF's Department of Ecology and Natural Resources Management as of October this year. You are an agricultural engineer by training, you specialized in entomology and were Director of the International Centre of Insect Physiology and Ecology (icipe), with headquarters in Nairobi, Kenya, from 2005-2013. So what brings you to an interdisciplinary institute working on development issues in Bonn?

Well, I am leaving an international, development-oriented, interdisciplinary research center in Kenya to join a like-minded center in Bonn. From a thematic point of view, I don't think that there are such massive differences between *icipe* and ZEF. We strived to conduct interdisciplinary research and especially over the last three, four years we ventured quite significantly into social science. *icipe* traditionally focussed on natural science. But for various reasons, among others the need to be far more active in terms of cost-benefit-analysis and impact assessment studies we started to embrace a lot more social science. That brought in a disciplinary brick to *icipe* that we hadn't had in the past. So, in terms of the interdisciplinary nature of the two centers, *icipe* and ZEF, I think we are on the same line.

What are your personal "lessons learnt" from interdisciplinary research experience?

It sounds easy, it is very difficult. Many people claim to do it, few actually do it. If you really want to do it in an intelligent way that generates impact, it's a lot more difficult than you initially think. There are language barriers,

differences in approaches. For example, a quantitative approach is the religion in my field. I learnt this on my first day in science. Discussing with colleagues who have a more qualitative approach to research is challenging, sometimes interesting, sometimes extremely frustrating. But I think if you do it right the rewards are quite significant. It is really worth the effort, especially if you want to translate your research findings into something meaningful for your target beneficiaries. And that is what we are asked to do in our field of research.

ZEF's research even aims to be "trans-disciplinary" in making research findings relevant for development processes. Do you have experience in bridging the gap between research and practice?

I think so. The push-and-pull-technology is probably one of the best-known technologies *icipe* developed. Around 65,000 farmers in the Lake Victoria region are practicing this intercropping system, and *icipe* is adding an average 15,000 to 20,000 farmers a year. Another example: *icipe* is one of the few institutes that deals with etymologies, the science of insect diseases in Africa. We collected a lot of data and did a lot of meaningful things, scientifically speaking. However, we didn't translate this into something tangible for growers. Four years ago, we established a very fruitful business relationship with a private, Africa-based pesticide producer that has taken up some of *icipe*'s inventions and turned them into products.

In 2011 you received the international "Plant Protection Award of Distinction" for your work on the role of plant protection strategies in promoting global food security. Why did you choose this specific research angle?

For the last 25 years, I have been working on means to reduce losses that are caused by insect pests primarily in crops – thus contributing to research on food security. Thirty-five percent of the cereals stored in Africa are lost, for example. If this third could be preserved, and I am only talking about post-harvest losses, that would be a phenomenal contribution in terms of food security at absolutely zero environmental costs. The discussion

about the future world population of seven billion and the need to boost food production is very often based on productivity. I believe that an intelligent approach to preserving what is already growing in the field and what is already kept in the store is a very environmentally-friendly contribution to food security.

What do you consider the main challenges in higher education in the African countries you worked in?

Gender issues. Too few girls pick natural sciences. This is something that has to start very early. Girls have to be encouraged to engage in natural science at primary school level, especially in Africa. Another issue is that the quality of university education in Africa is very heterogeneous. There are a couple of universities that have improved a lot, like Makerere in Uganda. We need more Makereres, more flagship universities in sub-Saharan. There has to be a paradigm shift away from pure teaching to research. The vice-chancellors of the universities can introduce some simple measures such as rewarding science lecturers who are interested in research. There are some examples, like universities in Rwanda and Ethiopia that are remodeling their education system. More countries need to follow soon.

What is your top priority in issues to be dealt with at ZEF?

Food security and loss prevention, which I mentioned before, and the inter-linkages between agriculture and health are among the topics I would like to pursue at ZEF. Agriculture production systems influence the health status of people, predominately in the tropics. Significant parts of Africa are getting drier, at the same time you have a phenomenal increase in population and food demand. Changes in agricultural landscape architectures can have an impact, for example due to irrigation. Only three percent of the agricultural area in sub-Saharan Africa is irrigated. However, irrigation agriculture can have a tremendous effect on diseases, especially in Africa. As a result, you can have a boost in productivity and at the same time a very sick population. Doing it right would ensure that you obtain the boost, but don't risk the health of the farming population.

The interview was conducted by Alma van der Veen

Facts & news

Batch 2013 introduces itself

ZEF's doctoral studies program has welcomed the latest batch of doctoral students. Thirty-three young-and-upcoming scientists from 19 different countries are ready for the interdisciplinary and intercultural learning experience that ZEF offers its students.



Poverty reduction and sustainable growth

An international conference on 'Agricultural Technology Innovations for Poverty Reduction and Sustainable Productivity Growth – Tapping the Opportunities and Overcoming Constraints' will be organized at ZEF on November 7-8, 2013.

Contact: Franz Gatzweiler, fgatz@uni-bonn.de.
See www.zef.de

BiomassWeb: A new research initiative to improve food security in Africa

With an inception workshop in Accra, October 8-10, 2013, ZEF officially started its new research project on "Improving food security in Africa through increased system productivity of biomass-based value webs" ("BiomassWeb").

Contact: Detlef Virchow, d.virchow@uni-bonn.de
See www.zef.de



Stay in touch with ZEF

[facebook.com/zefunibonn](https://www.facebook.com/zefunibonn)

twitter.com/zefbonn

[youtube.com/zefbonn](https://www.youtube.com/zefbonn)

you can subscribe to our e-newsletter by sending an email to: presse.zef@uni-bonn.de



Watch the full interview on our youtube channel:
<http://www.youtube.com/zefbonn>

'Institutional ethnography' applied to development organizations in Kyrgyzstan

Interview with Elena Kim, junior researcher in ZEF's Department of Political and Cultural Change.

What exactly is your doctoral research about?

I analyze how the issue of gender is institutionally produced and reproduced within international development cooperation. For this, I collected empirical data in two international cooperation projects, in Kyrgyzstan and Uzbekistan. My approach was to learn about on-the-ground experiences of the targeted project beneficiaries. I discovered that some groups of local women fail to participate and/or benefit from the improvements offered by projects. I then explored how these failures can be explained. The final product of this investigation is an analytic institutional map consisting of interconnected institutional discourses, organizations, activities, actors, and institutional texts that explain these women's experiences.

Where are your research sites located and why did you choose to conduct your research there?

I grew up in Kyrgyzstan and had worked at one of the universities before I started my doctoral studies at ZEF. We conducted an exploratory study among foreign-funded women's organizations in Kyrgyzstan. By the time we finished the study, I realized that some important questions remained unanswered. These unfinished issues are at the heart of my doctoral research, which I started at ZEF in 2010.

You are using an analytic framework called institutional ethnography. What is so special about this and why do you use it in your research?

Institutional ethnography is a method of inquiry developed by Dorothy Smith, the founder of the theory called "social organization of knowledge". It is an innovative sociology of knowledge approach which is often called "sociology for people". This approach relies on people's experience as the point of entry into exploring local settings of their everyday lives and highlights how they are connected to the extended arenas of an institution. I learnt about this new perspective and framed my doctoral study accordingly.

You mentioned that women fail to benefit from development projects – in contradiction to most development goals. How can this be explained?

Often, there is a disjuncture between the inclusive goals and the actual situation. In Kyrgyzstan, I studied a development organization that works to reduce gender violence. However, the organization also has to conform

to pressure from the Kyrgyz government. This pressure is related to the government's international obligations to report on human rights progress and the rule of law. The organization is obliged to change the original work that it does with women victims to fulfill the government's requirements. However, changes to the way it operates have a negative effect on the women concerned, because their needs and the needs of the government do not coincide and the latter is given preference over the former. The project in Kyrgyzstan shows that the concrete project implementation serves the national government's interests of fulfilling international obligations without solving, and sometimes even exacerbating, the problems of violence in the lives of women beneficiaries.

What would your advice be for addressing these shortcomings and avoid them in future projects?

The development of any project's activities and policies must be informed by what people actually do, how they do it, and how they understand their work. Efforts to improve people's lives must begin by understanding the standpoint of these people. The approach I recommend is based on learning from people themselves. This knowledge must be the point of entry into how projects can effectively address local problems. Knowledge generated in other ways will necessarily fail to capture the actual needs, concerns and interests of particular people and will continue to promote the goals of the institution rather than those whose lives are directly affected.

The interview was conducted by Andreas Rütger.

Imprint

Publisher: Center for Development Research (ZEF)
University of Bonn | Walter-Flex-Straße 3 | 53113
Bonn | Germany | phone: +49 (0)228 / 73 6124 |
fax: +49 (0)228 / 73 18 89 | e-mail: presse.zef@uni-
bonn.de | www.zef.de
ISSN: 1438-0943

Editors: Irit Eguavoen, Franz Gatzweiler, Bernhard
Tischbein and Alma van der Veen (resp.) Lynn Ben-
stead (language editing)

Layout: Sebastian Eckert and Andreas Rütger

Photos: ZEF, Coverphoto by Sven Genschick

Printers: Paffenholtz, Bornheim

Number of copies: 1,100.

ZEF news is published in English twice a year and can be ordered free of charge at presse.zef@uni-bonn.de

