



Zentrum für Entwicklungsforschung  
Center for Development Research  
University of Bonn

# Annual Report 2009/2010

Cover Photo:

taken by ZEF student Asghar Tahmasebi during field research for his PhD thesis on 'Adaptation strategies of Shahsevan pastoral nomads for coping with resource variability and droughts in Northwest Iran'.

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For an overview of ZEF’s staff and its departments please have a look at [www.zef.de/staff1.html](http://www.zef.de/staff1.html).





# Introduction

by ZEF's Directors

This annual report covers mid 2009 until mid 2010 – a successful and exciting year for ZEF. As you will note ZEF is continuously broadening and consolidating its research and outreach programs.

In the past year ZEF's research outcome and institutional setting have been evaluated again by an external committee of renowned scientists. The assessment has been very positive. We are glad to see that our research strategy pursued over the years has borne fruit and enabled many young and senior researchers to contribute to ZEF's overall goal – to conduct highly relevant development research for the developing world that promises positive change. The management and the International Advisory Board of ZEF will follow up on a set of recommendations by the external review for further strengthening ZEF.

Through our long-term engagement in regions such as West and East Africa and Central Asia we have not only developed regional and interdisciplinary expertise but also built human, academic and institutional capacity

on the spot. Based on this, professional and academic networks, local non-governmental organizations and regional follow-up projects have evolved successfully. We are happy to note that ZEF is listed highly in the international Think Tank rankings by now.

We have strengthened our outreach activities in Germany and internationally, engaging in public debates on key issues related to ZEF's research themes and on development policy.

We would like to express our gratitude to all our donors who have made these achievements possible: the German Federal Ministry of Education and Research (BMBF), the German Federal Ministry for Economic Cooperation and Development (BMZ), the German Technical Cooperation (GTZ), the German Academic Exchange Service (DAAD), the Robert Bosch Foundation as well as the Volkswagen Foundation, and to new donors, such as the Bill and Melinda Gates Foundation, as well as the many organizations and governments which support our doctoral students financially.



Joachim von Braun



Solvay Gerke



Paul L.G. Vlek

# 2

Lead article

## Addressing marginality – needs for innovative research initiatives

by Joachim von Braun, Solvay Gerke and Paul Vlek

While poverty has declined in the past decades, the poorest are being left behind. This is for instance revealed by a much slower decline of hunger than of income poverty indicators. At the same time a range of covariate risks (e.g. weather shocks; food price and other economic shocks) to which the poorest are exposed are increasing and idiosyncratic risks, such as health shocks, remain very high for the poorest. A broader concept to address these issues is needed – a concept of marginality – and ZEF is set to address this with inter-disciplinary research that facilitates actions.

Marginality describes people and communities in situations affected by circumstances and in places at the edge of economic, ecological, social and political systems. Most of the extremely poor are marginalized, but not all marginalized are extremely poor. The marginalized poor are trapped in poverty. They are marginalized by system internal and external factors which prevent the unleashing of their capabilities.

The concept of marginality gives emphasis to relationships, processes and systems whereas poverty usually only describes the status of income, education or other assets relative to cut-off points. Frequently, root

causes for poverty such as vulnerability and exclusion are linked to phenomena of marginality. Marginalized people in poverty are prevented from living up to their potentials, which is socially unfair and economically inefficient. Marginality is most prevalent in rural areas and often relates to agricultural conditions in small farms, whereas in urban areas marginality often relates to a lack of employment. However, education, health, and institutional factors, as well as discrimination against women, the disabled or members of ethnic groups are relevant in rural as well as urban areas.

Marginality signals both, development challenges and opportunities. Understanding the multi-dimensional and complex nature of marginality requires a systems approach because social, economic, and ecological systems are dynamic, and interact and change over time. With its strength in interdisciplinary research ZEF is well positioned to pursue research on the many facets of this issue. In addition, describing marginality requires a participatory approach because, what is perceived by actors outside the system may be perceived differently by actors who are part of the system. The approach promises to lead to positive change in the lives

of the poorest by de-marginalizing them and thereby unlocking their social and economic potentials. This will be achieved by a better understanding of the nature and dynamics of marginality, by better designing and targeting development investments, strengthening risk management, creating new partnerships and tapping social venture capital. When development investors understand marginality better, poverty-reducing investments will be more successful.



The marginalized are prevented from living up to their potentials.

Marginality research needs to address extreme poverty by

1. assessing, analyzing, and mapping the different dimensions, complexities and dynamics of the marginality syndrome in developing countries and thereby enable identification and location of priority actions, and
2. supporting selection of effective policies and development interventions by development investors

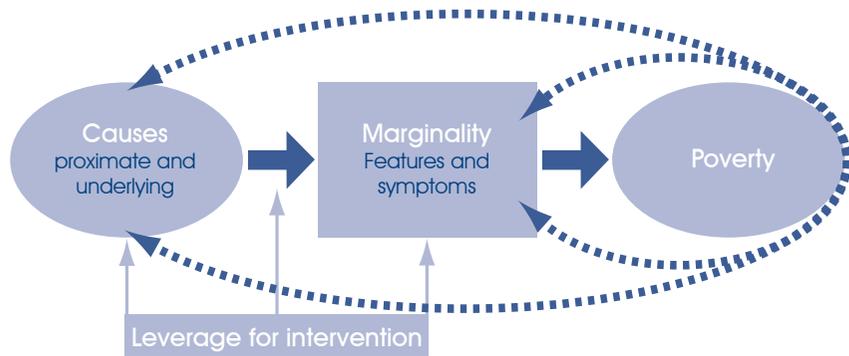
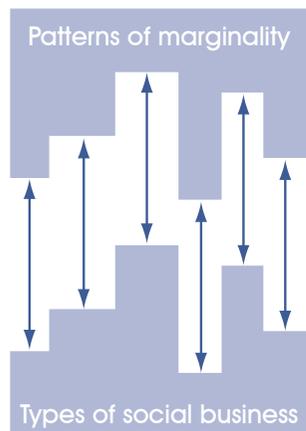


Figure 1: Causes of marginality and leverage points for intervention

3. finding means of empowering marginalized poor people in decision-making, and
4. testing investment options for overcoming marginality of the poorest by relating to promising interventions and actions and by identifying social business opportunities that can work on a larger scale.

Figure 2: Matching social investments to patterns of marginality



The analytical framework of ZEF for such a research endeavor (Fig.1) is results-oriented. A focus on causalities is to be the basis for potential actions that will change marginality. Potential interventions to overcome marginality need to target either the causes of marginality, the link (causal chain) between causal factors and marginality or

Potential investment options are technological, institutional or financial in nature and must respond to the specific features, capacities and capabilities of the marginalized communities, which depend on their endowments (Fig. 2). The target beneficiaries of the research are:

1. marginalized communities, groups and people
2. social entrepreneurs and venture capital investors
3. decision makers in development organizations.

To sum up, research needs to answer the following questions:

- A. What is the state of marginality among the poorest, globally, and in single countries?
- B. On which scale (micro-macro) shall marginality models be built to make best use of the available data and reflect perceptions of marginalized people of specific aspects regarding their livelihoods, in order to assess investment options?
- C. What policy and program options are to consider

directly the marginality features or symptoms.

One of the features of marginality, however, is that it is not particularly investment friendly. Therefore, different incentives need to be tailor-made, to match and strengthen the existing endowments of communities in order to improve their adaptation capacities, self-governance and thereby address the de-marginalization of the community.

for effectively reducing marginality at scale (e.g. rural services, local governance; anti-discrimination; technology; access to assets, etc.) and on what basis can policy and program choices be made?

Action to accelerate reduction of marginality must include technical and institutional elements:

1. Focusing on inclusive growth. A different pattern of growth that includes the poorest and hungry from the beginning, is needed.
2. Improving access to assets and markets. Appropriate property rights are needed to address constraints in access by the poorest. Millions of small farmers need improved access to value chains, and many poor households access to non-farm rural employment.
3. Phasing in social protection more quickly and comprehensively. Policies that encourage "pro-poor" growth need to be re-balanced with social protection policies that reach the extreme poor.
4. Accelerating investments in health and nutrition programs, particularly for children and women in extreme poverty.
5. Including the excluded. The above-mentioned actions all require an effective state that is responsive to the needs of the poorest and the socially excluded. Actions to empower women are also particularly important to ensure their full participation.

This large agenda can of course not be addressed by ZEF alone. ZEF reaches out to its partners to form a larger research and action initiative and network to tackle the marginality research problems in coming years. This research has recently been initiated at ZEF with support by a grant from the Bill and Melinda Gates Foundation.

# 3 Selection of ZEF's crosscutting research

## ZEF's research strategy

The goal of ZEF's core research program is to produce and disseminate sound development research that will help reduce poverty and enhance sustainable development; to improve development policymaking and support collaborative research with scholars in developing nations; to use doctoral studies to build greater capacity for improved policy analysis and policymaking in developed and developing countries; and to disseminate its research results beyond the research community through policy dialogue and advice, workshops, seminars, and a variety of other strategies.

For many development issues it is necessary to cross intra- and inter-scientific boundaries. One way of dealing with this challenge is to adopt a trans-disciplinary approach.

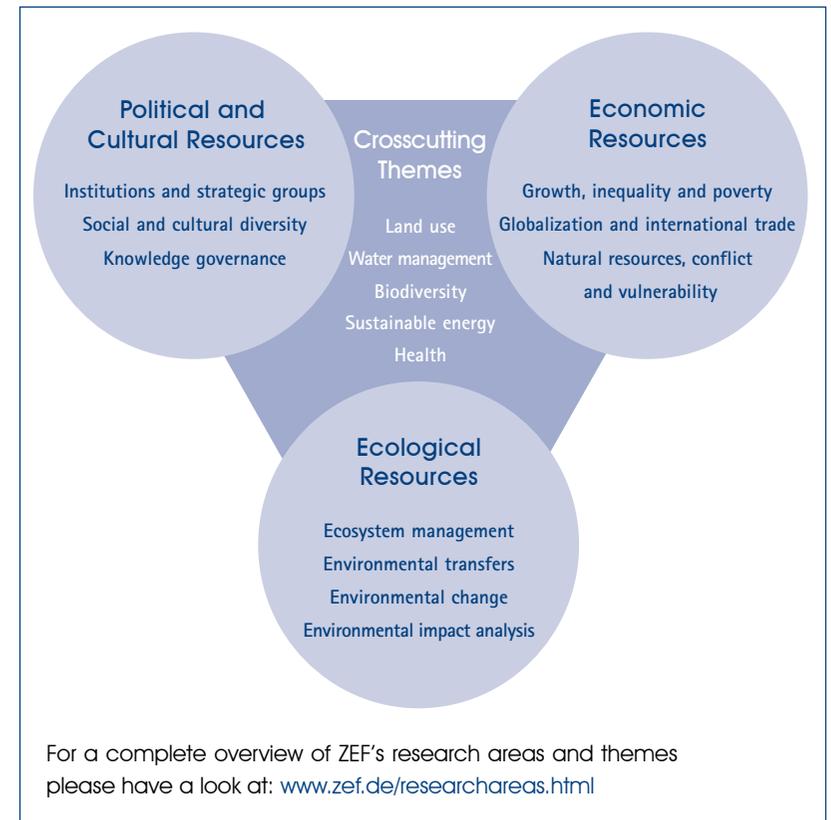
Trans-disciplinarity in development research takes a perspective that goes beyond specific disciplines and bridges the gaps between science, politics and practice. The trans-disciplinary approach consists of the following key elements:

- Bridging between scientific disciplines
- Bridging between research and policy
- Bridging between research and practice.

## ZEF's Research Program: Global Environmental Change and Human Development

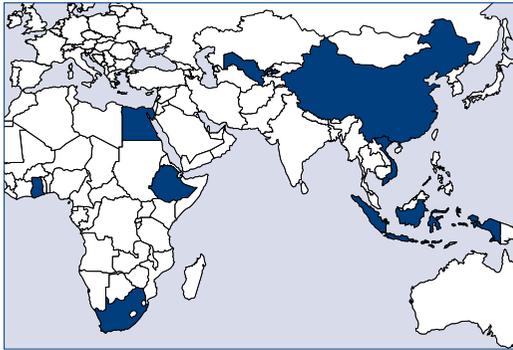
Global environmental change is likely to be the most significant of all the factors connecting economic and political development, natural and social sciences, as well as human health. Dealing with global environmental change is not a technical issue alone. A thorough understanding of global environmental change phenomena and its drivers will be of little consequence if ways are not found to have local communities and policymakers act to mitigate or adapt their behavior. ZEF's crosscutting research aims at establishing this link.

In the crosscutting research activities, the various disciplines jointly analyze global environmental change issues and seek entry points to mitigate or cope with these phenomena in the course of pursuing sustainable development.



Crosscutting research requires disciplinary strength. Conversely, disciplinary research will be inspired by the analytical challenges emerging from trans-disciplinary projects.

In this Annual Report, we will report on a selection of cross-cutting and disciplinary themes pursued at ZEF.



Access to water which is sufficient in quantity and quality for domestic, agricultural, economic, ecological and cultural requirements is a *sine qua non* for development in any meaningful sense of the word. Apart from its essential role in supporting healthy, productive and dignified living conditions, water is the factor that determines agricultural productivity in many of the world's most densely populated regions, that directly influences the energy sector via hydropower generation and power demand for pumping; and that protects and promotes ecosystem health and biodiversity. Trans-disciplinary research on water in its physical, ecological, socio-economic, political, and legal contexts is thus integral to ZEF's research agenda. The broad objective of ZEF's research agenda on water management is to arrive at integrated approaches, in partnership and collaboration with actors in the "problem sheds" that are the subject of our investigations.

### Modeling for and with local stakeholders

ZEF's research work has highlighted the importance of modeling environmental change and societal response as

co-evolutionary processes. However, modeling is not an end in itself and must be of utility to the stakeholder, be it the farmer, the landowner, or the mayor of a village. Especially since decentralization of government is progressing in many developing countries. Therefore, interaction with all relevant stakeholder groups is required during the model development. Models that do not take local knowledge, local governance, local ecosystem expertise, and local interests into account are likely to be of little relevance. Interaction with local actors not only leads to better scientific results, but helps to understand in which way the knowledge exchange with different types of stakeholders has to be organized in order to cater to their knowledge needs and capacities. Trans-disciplinary research of long-term ZEF projects aims at creating innovative approaches towards the sustainable use and management of terrestrial resources to better serve human-environment systems.

### Improving water use efficiency in South Africa

Owing to the fast development of cities, population increase and the growing water needs of agriculture, industry and households, global water scarcity is going to aggravate in the foreseeable future. This is especially true for countries like South Africa, where current water demand already exceeds available water supply. This situation requires an improved management and optimized use of the resource.

The IWRM project in the Middle Olifants river basin in South Africa aims at optimizing water use to generate a maximum of economic return from water. The project's scientists developed and combined a hydrological Water Resources Model (WRM) and a Water Allocation Model (WAM). The latter was developed at ZEF. WAM analyzes the competing uses of water in the Middle Olifants for



ZEF analyzes the competing uses of water in the Middle Olifants basin in South Africa.

the major water user sectors – irrigation, mining and domestic use – while simultaneously considering the water needs for environmental flows and basic human needs. The WRM computes water balance available for use taking into account a number of hydrological parameters.

#### Main project partners:

Germany: Institute for Environmental Engineering and Management (IEEM), University of Witten/Herdecke gGmbH

South Africa: Department of Water Affairs and Forestry (DWAF); Water Research Commission (WRC) and University of Limpopo

Contact: Daniel Tsegai (dtsegai@uni-bonn.de)

Homepage: [www.iwrm-southafrica.de](http://www.iwrm-southafrica.de)

### Research on water use and management in Uzbekistan

In the long-term trans-disciplinary ZEF/UNESCO project in Khorezm, Uzbekistan, a wide range of implementation-oriented research has been conducted on water management and use. Junior and senior researchers

from Uzbekistan, Germany and other countries have developed – in close cooperation with local farmers and stakeholders – several science-based methods, techniques and tools to improve agricultural production while taking into account environmental aspects.

Furthermore, technologies such as remote sensing and Geographic Information Systems (GIS) have been adapted in the project for use under local circumstances. These technologies can, for example, contribute to monitoring and improving irrigation water distribution and land use in irrigation systems. An easy-to-use GIS-based tool, which was developed in the project, can improve the speed of groundwater data processing and visualization. This supports the analysis and understanding of the causes of shallow groundwater tables and soil salinity, a major concern facing agriculture in the region.

#### Main project partners:

United Nations Educational, Scientific and Cultural Organization (UNESCO); International Maize and Wheat Improvement Center (CIMMYT), Mexico; Tashkent Institute for Irrigation and Mechanization (TIIM), Uzbekistan; Irrigation Institute Tashkent (SANIIRI); Uzbek Cotton Research Institute, Tashkent

Contact: Ahmad Manschadi (manschadi@uni-bonn.de), John Lamers (j.lamers@zef.uzpak.uz)

Homepage: [www.zef.de/khorezm.0.html](http://www.zef.de/khorezm.0.html)

### Water related information on the Mekong Delta in Vietnam

ZEF is a key research partner in the so-called WISDOM project (Water Related Information System for the Sustainable Development of the Mekong Delta) in Vietnam. In this context, ZEF provides knowledge on the institutional framework and water resources management practices and contributes social science



ZEF provides knowledge on water resources management practices in the Mekong Delta.

research data to the information system on the Mekong Delta. Junior and senior researchers in the project conducted several studies, for example one on the legal framework, a case study on wastewater management in Can Tho City, as well as a comprehensive overview of the transition of state management in the water sector of Vietnam.

As the assessment of wastewater management practices in Can Tho City shows, legal pluralism (uneven application of laws and different legislations) and institutional diversity in local (water) governance occurs. Finally, the interface of local state management and non-state actors appeared as a dynamic and so far under-researched dimension of the institutional set up of water resources management.

#### Main project partners:

German Aerospace Center (DLR), United Nations University – Institute for Environment and Human Security (UNU-EHS) (both in Germany); Can Tho University (CTU) and Southern Institute for Sustainable Development (SISD) (both in Vietnam)

Contact: Gabi Waibel (gwaibel@uni-bonn.de)

Homepage: [www.wisdom.caf.dlr.de](http://www.wisdom.caf.dlr.de)

“Waiting for the water to come – poverty reduction in times of global climate change” is the title of a report published by ZEF in association with CARE Germany-Luxemburg. It was launched in December 2009 on the occasion of the international climate summit in Copenhagen. The main messages of the study were that climate change and poverty reduction are inseparable, and that poor people in developing countries are particularly affected by climate change and vulnerable to its impacts. The ZEF/CARE study provides an overview of the anticipated consequences of climate change and their effects, including case studies on particular countries.

“New worlds of water” was the title of one of ZEF’s Water Lectures, held by Margret Catley-Carlson (former Chair and now Patron of the Global Water Partnership) at ZEF on June 7, 2010. In her well-attended lecture she talked about the correlations between water and security, climate implications, and agriculture as well as on new approaches and technologies and the imperative for policy change. The Water Lecture series is a joint series organized by ZEF, the UN-Water Decade Programme on Capacity Development (UNW-DPC), the United Nations University Institute for Environment and Human Security (UNU-EHS), and the Global Water System Project (GWSP).

#### Doctoral Research on Water:

Doctoral research on water management and use is currently being carried out in China, Egypt, Ethiopia, Ghana, Indonesia, South Africa, and Vietnam.

## Biodiversity and its conservation



As noted in the United Nations Convention on Biological Diversity (CBD), biodiversity "...is the fruit of billions of years of evolution, shaped by natural processes and, increasingly, by the influence of humans. It forms the web of life of which we are an integral part and upon which we so fully depend." The short time scale of human society has come into collision with the long time scale of biological diversity. Protecting and using biodiversity should therefore go hand-in-hand in sustainable development. Economic as well as political and societal developments are required to reduce the dependency and pressure on biodiversity, but this can often only be achieved by the sustainable use of biodiversity, be it through the judicious exploitation of its resources (e.g. logging), the use of its functions (e.g. water and soil retention), or the protection of its state (e.g. wildlife and nature protection).

### Doctoral Research

Doctoral research on biodiversity is currently being carried out in Ethiopia and the Philippines.

Making the conservation of biodiversity a successful and sustainable process requires effective management plans and an adequate allocation of financial resources. Of equal importance are incentives for local people to facilitate the implementation of conservation concepts on the spot. Effective incentives are, for example, payments for environmental services, participation in decision-making, access to infrastructure and development, information (e.g. by certification) or investment security with appropriately designed property rights. ZEF's research on biodiversity therefore aims to analyze, in different ecological and socio-political settings, the need for innovative incentives at the level of local resource managers, national-level institutions and organizations as well as international alliances and partnerships.

### From knowledge to action

ZEF therefore works on biodiversity conservation and management concepts that equally consider ecological, economic, and cultural factors. Simultaneously, ZEF is searching for innovative approaches to implement its research findings in practice. A passable way is the establishment of research-driven NGOs on the ground, which bridge the gap between the scientific community and local stakeholders, integrate newly generated knowledge into existing biodiversity conservation and management concepts and, all in all, make research sustainable.

### Sustainable research on biodiversity in Ethiopia leads to nomination as biosphere reserve

An example for the long-term impact of ZEF's research approach is the designation of the Ethiopian region of Yayu as a UNESCO biosphere reserve in Paris, June 2010. Yayu is a former research area of one of ZEF's trans-



ZEF's research focuses on biodiversity and biomass.

disciplinary research projects, the "Conservation and use of wild *Coffea arabica* in the montane rainforests of Ethiopia" (CoCE). The area where UNESCO's newly established Yayu Coffee Forest Biosphere Reserve is situated plays a key role in the conservation of natural and cultural landscapes. The biosphere reserve is internationally recognized as part of the "Eastern Afromontane Biodiversity Hotspot", is an important bird area and includes one of the last remaining montane rainforest fragments with wild *Coffea arabica* populations in the world.

More than 500 sites in 109 countries are part of the World Network of Biosphere Reserves (WNBR) of the UN Educational, Scientific and Cultural Organization (UNESCO), which oversees the network through its Man

and the Biosphere (MAB) Programme. This is the first time that biosphere reserves in Ethiopia are joining the United Nations network that was created in an attempt to halt the loss of biodiversity and promote sustainable development.

The proposal for nominating Yayu as a UNESCO MAB biosphere reserve was prepared and submitted by an Ethiopian NGO called the "Environment and Coffee Forest Forum" (ECFF). This NGO has been initiated and supported by ZEF's CoCE project. One of the prerequisites for the nomination as a biosphere reserve was the development of forest management guidelines. In the case of Yayu, these were based on research findings of the CoCE project. By developing local capacity in the form of an NGO, ZEF's project contributed to empowering a local initiative to enhance sustainable development in its

home country, therewith securing a biodiversity heritage of global importance.

### Participatory biodiversity research in East Africa

The Biodiversity Monitoring Transect Analysis in Africa project in East Africa (BIOTA East) aims to develop innovative conservation instruments for the preservation of the Kakamega Forest in Kenya. The 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 source 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.

Another example of ZEF's participatory research approach involving local stakeholders was a workshop for local stakeholders organized by the BIOTA East project staff in Kakamega in July 2010. Among the participants were professional firewood extractors, representatives of community forest associations, of KFS (Kenyan Forest Service), KWS (Kenyan Wildlife Service), the Ministry of Agriculture, NEMA

(National Environmental Management Authority), the church, KEFRI (Kenyan Forest Research Institute) and KEEP (Kenyan Environmental Education Program).

The main message was that the local communities require more options of 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 income sources for communities. The participatory approach of the workshop was new to the participants but highly appreciated – and so was its outcome.

#### Main project partners:

Kenyan Forest Service, Kenyatta University, German BIOTA subprojects E01, E02, E03, E14a, E14b, E14c

Contact: Tobias Wünscher (tobias.wuenscher@uni-bonn.de)

Homepage: [www.biota-africa.org](http://www.biota-africa.org)

### The Economics of Ecosystems and Biodiversity (TEEB)

ZEF researchers participated in writing the TEEB Chapter on the socio-cultural context of ecosystems and biodiversity valuation. The entire report was launched at the tenth meeting of the Conference of the Parties (COP 10), held in Nagoya, Aichi Prefecture, Japan, from October 18 to 29, 2010.



Reduced emissions from deforestation and degradation (REDD) is part of ZEF's research on biodiversity.

## Land use and degradation



The Millennium Ecosystem Assessment of 2005 reports on an increasingly serious degradation of natural resources and the ecosystems that depend on them, threatening ecosystem goods and the services they provide. Land degradation in a context of continued population growth has had far-reaching social consequences in some parts of the world, and consequences for food security worldwide.

Understanding land degradation and its drivers is not only a major challenge for science, but also a prerequisite for designing policies and actions to alter the course of events or temper their effects.

Proper land management requires a policy environment that supports sustainable changes in land use, e.g. reliable tenure and property rights on land and water. These should provide incentives for farmers to invest in improving the productivity of land and water, thus allowing them to continue living off the land without destroying it. It is at this point that trans-disciplinarity becomes a "must".

ZEF projects seek to increase the understanding of degradation processes as well as their ecological, social

and economic causes and consequences. This allows us to develop management options that avoid or reverse them. Most cases of land degradation have their origin in historical trajectories of political and economic drivers and processes. Understanding this path dependency of land-use change is needed for policy formulation to counteract the process of degradation and to foster resiliency. A major aim is to design institutions that steer this process to societies' advantage. The prevailing cultural, economic, social as well as political conditions will be considered as they provide the boundaries within which natural resource management can take place and technical innovations be introduced.

Neither purely ecological studies nor pure administrative measures, such as land reform programs aiming at more equitable and secure land ownership, have led to sustainable and efficient land management.

It is the judicious integration of these measures and the right mix of approaches that will make the difference.

ZEF has gained first-hand experience with these problems in its research projects in South America, Central Asia, and sub-Saharan Africa. Evidence from these projects points out that the drivers of land degradation are both bio-physical and socio-economic in nature. Sound policies for mitigation or adaptation to land degradation are often lacking. Such measures, which should internalize the external costs caused by degradation, need to be adapted locally. In sub-Saharan Africa, combating land degradation means empowering the people by adapted land management technologies, land tenure and knowledge generation for better resource use. In the transition economies of Central Asia, it also entails carefully introducing market-oriented agricultural production schemes.



Landscape analysis guides sustainable change in land use.

## Natural conditions in Uzbekistan – a human challenge

Decades of intensive irrigation for cultivating cotton, the “white gold”, have resulted in the Aral Sea crisis, and in an accelerated land degradation of the irrigated croplands. This human-induced land degradation threatens both the ecological sustainability and economic viability of farming and, as a result, the livelihoods of rural households in the 500,000 km<sup>2</sup> of irrigated lowlands in Uzbekistan, Turkmenistan, and Kazakhstan.

Climate change may reduce water availability in the future therewith threatening agriculture, livelihood sustainability, food security and rural development in the region. Deteriorating soil fertility, decreasing biodiversity, reduced crop yields, lower incomes as well as increased production risks are consequences that rural families increasingly face if production technologies are not adapted.

Khorezm, a region in northwest Uzbekistan with about 70% of its 1.5 million inhabitants depending on irrigated agriculture, is exemplary for these problems. Therefore, ZEF has set up a long-term trans-disciplinary project there in cooperation with UNESCO, working on concepts and innovative solutions for an improved management of natural resources.

### Experimenting on a landscape segment

The project was allotted 75 ha of land by the *Hokimiyat* (local government) of Khorezm. On this landscape segment, the project can further develop the groundwork, collect necessary data and test research results for assessing the long-term ecological impact of improved water use efficiency and decreased soil salinization. The final goal is to optimize on-farm operational procedures and increase land and water use efficiency as well as economic and ecological returns.

### Afforestation

About 15–20% of Khorezm's irrigated land is classified as having low or no suitability for crop cultivation and is therefore partly abandoned from cropping. ZEF research has shown that afforestation with salt-tolerant multipurpose tree species could convert much of these marginal lands into areas suitable for multi-use systems, increasing their economic, social and ecological productivity.

### Models and technologies facilitating land use decision making

The Farm-Level Economic-Ecological Optimization Model (FLEOM) was developed by the ZEF/UNESCO project to fit the local circumstances, so it can be used as a model for scenario analyses to support decisions on developing agriculture and rural areas. The model can also be used on-farm level, since it integrates a wide variety of components such as soil typology, soil salinity, ground water level and availability of inputs, as well as input and output prices. FLEOM is based on a range of biophysical and socio-economic data and studies collected and carried out in the project. The model constitutes a suitable farm-level support system on crop and resource management with the flexibility to add new crops, simulate changes as well as future developments.

The project has done intensive research on improving methods to measure and monitor soil salinity. It has experimented with electromagnetic induction meters, with a GIS-based tool to measure and monitor salinity and groundwater tables fast and accurately. The project has also worked with satellite images, made by remote sensing technologies providing region-wide information on land use and its temporal dynamics.



ZEF has conducted research on land use in West Africa for many years.

## Creating competence for climate change and land use in West Africa

The German Federal Ministry of Education and Research (BMBF) has initiated long-term research partnerships with West and South Africa. Based on its long-term research involvement in the region, two regional “Centers of Competence” are currently being set up. ZEF takes the lead in establishing one of these Centers, “WASCAL”, the West African Science Service Center on Climate Change and Adapted Land Use. The overall goal is to enable African scientists, politicians and practitioners to meet the challenges of climate change and land use facing their continent – with their own expertise. Therefore, many Africa based partner institutes, ministries and organizations are involved in this novel and promising approach of integrating research with capacity building and effective science policy.

ZEF's long-term engagement and expertise in the region clearly pays off and enables it to contribute and operate at a larger scale. Setting up such an extensive regional network in West Africa is only possible because



Climate change in Central Asia may increase water stress: a challenge for policy.

ZEF can build on achievements of previous research cooperation within the region. One of them is the ZEF-led and BMBF-funded GLOWA project in Ghana and Burkina Faso dealing with climate change and water management. ZEF can accordingly rely on contacts, experience and dozens of African doctoral students who have been educated at ZEF and now work as our collaborators at universities and with organizations in the region.

Partner countries are 10 West African states (Benin, Burkina Faso, Gambia, Ghana, Ivory Coast, Mali, Niger, Nigeria, Senegal and Togo). The second regional science center is being established in Southern Africa. The experiences gained will be shared as the projects progress.

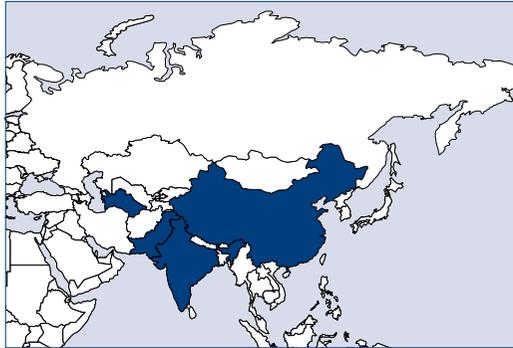
The goals to be achieved in the initial phase (lasting roughly 1.5 years) are: Constructing the framework of a regional Competence Center in Ouagadougou, Burkina Faso, where data will be collected, recorded and analyzed and the regional research program will be coordinated. Secondly, African and German scientists will design a joint research program on climate change and land use to be managed by the Competence Center. The third pillar of WASCAL consists of building a network of seven Graduate Research Programs with different focus themes related to climate change. This is going to be a joint endeavor of West African universities and their German counterparts. The WASCAL headquarter is due to be located in Accra.

## Cooperation with IFPRI on combating degradation

In 2010, ZEF and the International Food Policy Research Institute (IFPRI) have initiated a joint research program in support of the United Nations Convention to Combat Desertification (UNCCD) agenda to combat degradation and desertification. Regionally disaggregated research on and mapping of degradation and its analysis are to be integrated in international and national priority settings. At the moment, ZEF and IFPRI conduct a global Economic assessment of Desertification, Land Degradation and Drought (E-DLDD), as part of an initiative of the German Federal Ministry for Economic Cooperation and Development (BMZ) in support of the UNCCD (United Nations Convention to Combat Desertification) agenda. The research approach is centered around the concept of the "costs of action vs. inaction".

### Doctoral research

Doctoral research on land use and degradation is being carried out in Burkina Faso, Cambodia, Ethiopia, Ghana, India, Kenya, Pakistan, Uzbekistan, and Vietnam.



ZEF has long-term experience in health related research, including research on health policy, such as community health insurance in developing countries and health expenditure planning. It is the aim of ZEF to scale up this research in the future.

A ZEF research project has been initiated recently on "Water Resources Institutions and Human Health in a Peri-Urban Region in Surat City, India". The research will be supported by the German Research Association DFG and focus on the role of public health care schemes to improve human health. Research questions include understanding the inter-linkages between global environmental change and public health, and the role of the public sector as well as regional institutions in public health research.

ZEF co-hosted a panel on "Human health in urban and peri-urban South Asia" at the 21<sup>st</sup> European Conference on Modern South Asian Studies (ECMSAS) taking place in Bonn in July 2010.

### Doctoral research

Ongoing doctoral research is being carried out in China, Pakistan and Turkmenistan.



ZEF's research includes the role of public health schemes to improve human welfare.

## Sustainable energy



Research on sustainable energy is a new item on ZEF's trans-disciplinary agenda. This extension is largely in recognition of lessons learned in the cross-cutting projects, which have shown that the need for energy is often met at the expense of conserving land, water, as well as biodiversity. A sound sustainable energy policy is thus a key element of any strategy for sustainable development. Without it, the environmental damage caused by energy consumption will affect the productivity of agriculture and industry, human health, and education.

The main challenge is to provide sustainable and affordable energy to the poor. An enormous number of decentralized energy supply systems must be installed and operated to improve the living conditions of people in rural areas. The most sensible solution to decentralize energy supply is often to rely on locally produced

### Doctoral research

Ongoing doctoral research on sustainable energy is being carried out in Bangladesh, Brazil, Burkina Faso, Costa Rica, Ghana, Malaysia, Mexico, Nicaragua and Uzbekistan.

renewable resources that are efficiently transformed by using modern technologies and know-how.

Exploring the underrated potential of dryland afforestation for climate change mitigation in Uzbekistan

In 2009 ZEF launched the project "Opportunities for climate change mitigation and adaptation through afforestation of degraded lands in Central Asia" with the support of the Robert Bosch Foundation. The project aims to identify the environmental, institutional, economic, and informational conditions under which forestry projects can be realized in the irrigated drylands in Central Asia.

The 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 carbon bio-sequestration approach in developing countries. Carbon credits for such forestry projects primarily target unproductive lands with little alternative land use value. As such, the global effort to reduce atmospheric CO<sub>2</sub> concentrations aims at simultaneously meeting local interests in combating land degradation and improving rural livelihoods.

Due to their presumably lower carbon uptake rates, dryland forestry projects have been underrepresented on the CDM agenda and in published research on global climate change compared to those 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 more



A way to decentralize energy supply is to rely on locally produced renewable resources.

precisely defining the biophysical potential of dryland afforestation, decision makers must better understand how and why dryland use decisions are made to assess the likelihood of 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. Developing such a tool is the primary objective of this ZEF project.

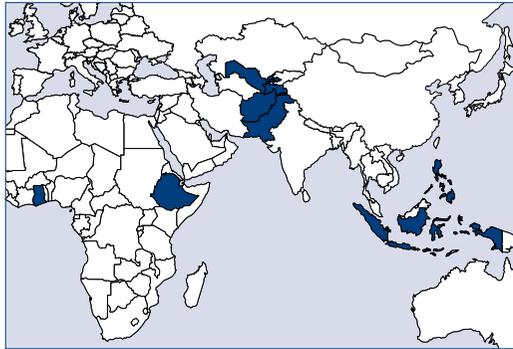
### Main Cooperation Partners

ZEF/UNESCO project and Urgench State University, both based in Khorezm, Uzbekistan; Remote Sensing Unit, University of Wuerzburg, Germany

Contact: Asia Khamzina ([asia.khamzina@uni-bonn.de](mailto:asia.khamzina@uni-bonn.de))

Homepage: [www.zef.de/1631.html](http://www.zef.de/1631.html)

## Governance



An integral part of ZEF's research deals with the role natural resources such as water, land or biodiversity play in development processes. Recognizing the growing importance to govern these resources ZEF developed a high profile in institutional as well actor-oriented research in the field of resource governance.

Moreover, the topic is also addressed in depth in the context of weak or absent statehood by the project "Local Governance and Fragile Statehood in the Amu Darya Region", funded by the Volkswagen Foundation (2005–2011). The project covers the border region between Afghanistan, Tajikistan and Uzbekistan. Resource governance has to be disentangled from the defunct state-centric perspective in such a context. By linking the concept of 'social order' – one result of studying local politics in the region during the project – to resource governance, ZEF intends to give an empirically grounded theoretical input in the discussions on governance in such contexts.

### Main project partners:

University of Termez, Uzbekistan; German Agro Action (DWHH), Germany

Contact: Conrad Schetter (c.schetter@uni-bonn.de)

Homepage: [www.zef.de/amudarya.0.html](http://www.zef.de/amudarya.0.html)

### Doctoral research

Ongoing doctoral research on governance (and conflict) is being carried out in East Africa, Ghana, Indonesia, Pakistan, the Philippines, Tajikistan, and Uzbekistan.



ZEF's research on governance reaches out to the border region between Afghanistan, Tajikistan and Uzbekistan.

# 4 Capacity development

Capacity building for the developing world is a major part and goal of ZEF's research agenda and activities. In the first place, ZEF has institutionalized its capacity building efforts through its international doctoral studies program.

## ZEF's international doctoral program

ZEF's international and interdisciplinary doctoral program, founded in 1999, is unique in Germany and Europe in terms of its interdisciplinary set up, internationality (students from more than 80 countries), and size (around 120 students present, with an intake of 20–30 students per year).

### Program set-up and target group

The program aims at educating highly qualified scientific staff, advisers, and managers for both the private and the public sector in a development-oriented context. It offers a broad and interdisciplinary approach to development research, in addition to a sound training in theories and methods of selected disciplines. Practice-oriented field research is to be carried out in developing countries or development-related institutions. The main target group consists of young scientists from all over

the world with an outstanding master's or equivalent degree in economics, political science, agricultural and resource economics, engineering degrees, geography, mathematics, natural science or agriculture. Interest in interdisciplinary research is a prerequisite.

### Degree

After completing the graduate program at ZEF the students obtain a doctoral degree, granted by the respective university faculty with whom ZEF cooperates.

### Time frame

The complete study period is limited to three years. In the first six to 12 months the students participate in a course program at ZEF and work with their supervisors on their research plan. Subsequently, the students travel abroad to carry out their field research – taking one to two years. After doing their field research the students return to ZEF and a final period of six to 12 months for writing their doctoral theses completes the program.

### Donors

The main donors of the Doctoral Program are the German Federal Ministry for Economic Cooperation and Development (BMZ) via the German Academic Exchange Service (DAAD) and the German Technical Cooperation (GTZ), the German Federal Ministry of Education and Research (BMBF), State Funds of North Rhine-Westphalia, Robert Bosch Foundation and the Volkswagen Foundation, as well as many funders of stipends including governments of students' countries.



Nobel Prize laureate Professor Muhammed Yunus discusses with students at ZEF in November 2010.

## Application requirements

The main selection criteria for ZEF's Graduate School are:

- academic qualification (an excellent master or equivalent degree: G.P.A. higher than 3.0 in the American system, or a grade higher than 2.0 in the German system or equivalent);
- relevant work experience;
- excellence of the research proposal.

English is the spoken and written language of the entire doctoral program. Foreign students can attend a two month German language course prior to the start of the program. The language course starts on August 1 and ZEF's doctoral program on October 1, annually. The application deadline for DAAD scholarships for the doctoral courses starting in the subsequent year is August 30. Applicants for other scholarship schemes or candidates with funds of their own can submit their applications at any time.

To apply for ZEF's international doctoral studies program you have to:

- register online at [www.zef.de](http://www.zef.de)
- submit all required application documents.

### Contact

Center for Development Research (ZEF)  
Günther Manske (Coordinator Doctoral Program)  
Walter-Flex-Str. 3  
D-53113 Bonn  
Germany  
E-mail: [docp.zef@uni-bonn.de](mailto:docp.zef@uni-bonn.de)  
Phone: +49 (0)228 - 731794  
Fax: +49 (0)228 - 731889



ZEF's doctoral program offers a broad and interdisciplinary approach to development research and an intensive tutoring.

The following ZEF students have received their doctoral degree in 2009–2010:

Name	Family Name	Country of origin	Title of Research Proposal/Dissertation	PhD degree from (Faculty, University)
Usman Khalid	Awan	Pakistan	Combining Remote Sensing (RS), GIS and Hydrological Models for the management of land and water resources on a regional basis	Faculty of Agriculture, University of Bonn
Aibek	Baibagysh uulu	Kyrgyzstan	Policy options for economic growth of remote village in Kyrgyzstan: an analysis with village CGE model	Faculty of Agriculture, University of Bonn
Daniel Alberto	Callo Concha	Peru	An approach to environmental services assessment: functional biodiversity in tropical agroforestry systems (the case of Tomé-Açú, Northern Brazil)	Faculty of Agriculture, University of Bonn
Flávia	da Fonseca Feitosa	Brazil	Urban segregation as a complex system: an agent-based simulation approach	Faculty of Mathematics and Natural Science, University of Bonn
Andrea Cristina	Dörr	Brazil	Economic analysis of certification in the Brazilian Fruit Chain	School of Economics and Management, University of Hannover
Charles Takoyoh	Eyong	Cameroon	The dilemma of integrated conservation and development in the Korup National Park, Cameroon	Faculty of Arts, University of Bonn
Jennifer	Hauck	Germany	"Managing social-ecological systems for resilience: fisheries in the small reservoirs of Northern Ghana Fisheries in Small Reservoirs of Northern Ghana"	Faculty of Mathematics and Natural Science, University of Bonn
Zewdie	Jotte Tulu	Ethiopia	Institutions, incentives and conflicts in coffee forest conservation and use: the case of Yayo Coffee Forest in Ilu Abba Bora Zone, Southwest Ethiopia	Faculty of Agriculture, University of Bonn
Raymond Abudu	Kasei	Ghana	Modelling impacts of climate change on water resources in the Volta Basin, West Africa	Faculty of Mathematics and Natural Science, University of Bonn
Malte	Kaßner	Germany	Strange Bedfellows? Dominant parties and democracies. The influence of the type of dominant party on democracy - a comparison between South Africa and Malaysia	Department of Cultural and Social Sciences, University of Koblenz-Landau
Kirsten	Kienzler	Germany	Improving the nitrogen use efficiency and crop quality in the Khorezm region, Uzbekistan	Faculty of Agriculture, University of Bonn
Job Kihara	Maguta	Kenya	Conservation tillage in Kenya: the biophysical processes affecting its effectiveness	Faculty of Agriculture, University of Bonn

Name	Family Name	Country of origin	Title of Research Proposal/Dissertation	PhD degree from (Faculty, University)
Adelina Maria	Mensah	Ghana	The influence of land-use activities on nutrient inputs into upland catchment streams, Ghana	Faculty of Mathematics and Natural Science, University of Bonn
Neeraj	Mishra	India	A watershed in watershed governance: democracy and (de)politization of development projects in India	Faculty of Arts, University of Bonn
Edward	Nketiah-Amponsah	Ghana	Economic Analysis of under-five morbidity, mortality and health seeking behaviour - evidence from Ghana	Faculty of Agriculture, University Bonn
Philine	Oft	Germany	Can resilience be built through micro-finance tools? A case-study of coping and adaptation strategies to climate-related shocks in Piura, Peru.	Faculty of Mathematics and Natural Science, University of Bonn
Devesh	Rustagi	India	Behavioral heterogeneity and human cooperation: experimental evidence from commons management in Ethiopia	Swiss Federal Institute of Technology Zurich (ETH)
Julia	Schindler	Germany	A Multi-agent system for simulating land-use and land-cover change in the Atankwidi Catchment of Upper East Ghana	Faculty of Mathematics and Natural Science, University of Bonn
Aseffa	Seyoum Wedajoo	Ethiopia	Microeconomics of wild genetic resources conservation in Southwest Ethiopia: forest zoning and economic incentives for conservation	Humboldt University Berlin
Xiaomeng	Shen	China	Flood risk perception and communication within risk management in different cultural contexts - a comparative case study between Wuhan, China, and Cologne, Germany	Faculty of Agriculture, University of Bonn
Chian-Woei	Shyu	Taiwan	Assessing implementation and socio-economic benefits of renewable energy policy in the remote rural areas of Western China	Faculty of Arts, University of Bonn
Sofyan	Syahnur	Indonesia	The impact of price changes on the poor in Nanggroe Aceh Darussalam, Indonesia: a case study on oil prices	Faculty of Agriculture, University of Bonn
Ly	Thim	Cambodia	Dynamics of planning process in the lower Mekong Basin. A management analysis for the Se San Sub-basin	Faculty of Arts, University of Bonn
William	Tsuma	Kenya	Actors, alliances and power in negotiations: unequal distribution of mining benefits in Tarkwa's gold mining area of Western Ghana	Faculty of Arts, University of Bonn
Alexander	Tupitsa	Uzbekistan	Photogrammetric techniques for the functional assessment of tree and forest resources in Khorezm, Uzbekistan	Faculty of Agriculture, University of Bonn
Tobias	Wünscher	Germany	Spatial targeting of payments for environmental services in Costa Rica: a site selection tool for increasing conservation benefits	Faculty of Agriculture, University of Bonn

## Capacity development in Africa

ZEF's long-term involvement in research on and in West Africa has brought the region dozens of well-educated young academic professionals working for regional universities, research institutions and international organizations. These networks form the basis for further intra-regional and international follow-up projects in West Africa.

### Sustainable Development of Research Capacity in West Africa based on the GLOWA Volta Project

The Sustainable Development of Research Capacity (SDRC) in West Africa is an 18 month project (June 2009–November 2010), funded by the German Ministry of Education and Research (BMBF). The SDRC project largely builds on the results and models developed in the framework of the GLOWA Volta project, which was a long-term, trans-disciplinary research project led and carried out in the Volta basin by ZEF until 2009.

Contact: Jens Liebe (jliebe@uni-bonn.de)  
Homepage: [www.zef.de/1635.html](http://www.zef.de/1635.html)

### The Program for Development Studies at the University of Ghana in Legon

The new Ghanaian-German Centre for Development Studies and Health Research in Accra was officially inaugurated in June 2009. The Program for Development Studies was set up jointly by ZEF and the Institute for Statistical and Economic Research (ISSER) at the



ZEF has built up extensive research networks in West Africa.

University of Ghana. The Centers of Excellence in Development Studies in Africa were initiated in 2008 by the German Academic Exchange Service (DAAD), which selected seven proposals out of 70 applications.

#### Main goals

The program offers a three year doctoral course in development studies. In addition, it provides expertise and funds to raise staff capacities and enhance the scientific infrastructure (library and computer lab) at the Ghanaian partner institute ISSER. The program aims at developing academic networks between the partner institutes as well as with other, especially international partners. Another objective is to design collaborative research projects that will broaden the scope of activities and therewith guarantee the future sustainability of the program. Two batches of students have started since 2009.

Contact: Wolfram Laube (wlaube@uni-bonn.de)  
Homepage: [www.zef.de/index.php?id=1446](http://www.zef.de/index.php?id=1446)

### New Capacity Development Partnership between ZEF and Addis Ababa University

ZEF signed a partnership agreement in December 2009 with the University of Addis Ababa in order to conjointly develop and implement a Doctoral Program for Environmental Planning and Biodiversity Conservation at the University of Addis Ababa, Ethiopia.

The initiative is funded by the German Academic Exchange Service (DAAD) and the Ethiopian Federal Ministry of Education.

Contact: Till Stellmacher (t.stellmacher@uni-bonn.de)  
Homepage: [www.zef.de/1629.html](http://www.zef.de/1629.html)



Doctoral students of the Development Studies Program in Ghana visiting ZEF.

## Capacity development in Central Asia

### Sustainable research to improve natural resources management in Uzbekistan

It is part of ZEF's philosophy to set up human and institutional capacities in the regions where it is running its research projects. Thus, the ZEF/UNESCO project in Uzbekistan has also generated an enormous impulse to its local partners and the region in terms of educating academic staff and establishing well-equipped modern research facilities on the spot.

### Academic capacity building in Uzbekistan

Human capacity building is the bedrock of the ZEF/UNESCO project and is therefore integrated into all levels of project activities. Since its start in 2002, 48 PhD students have conducted or are still conducting their research within the framework of the project. By December 2009, 20 doctoral students had graduated, including seven women from Uzbekistan. In total more than 70 MSc theses and numerous BSc theses have been

completed since the onset of the program. In addition, the promotion of two professorships in Uzbekistan has been facilitated. Six post-docs and additional program staff members teach at the University in Urgench (Khorezm).

### Consolidating partnerships for research and education

The project has been building long-lasting partnerships with key regional (research) institutes such as the State University of Urgench (UrDu), the Tashkent Institute of Irrigation and Melioration (TIIM) and the Irrigation Institute in Tashkent (SANIIRI), the Forestry Institute, the Uzbekistan Cotton Growing Research Institute, and the Scientific-Information Centre of the Interstate Coordination Water Commission.

### Establishing structures for the future: KRASS

In November 2008 a group of alumni of the ZEF/UNESCO project established a local NGO, the Khorezm Rural Advisory Support Service (KRASS). KRASS has submitted various project proposals – mostly in cooperation with a private initiative of local agricultural experts and other institutions in Uzbekistan. In this way, it has been successful in acquiring considerable funds.

### Follow-the-innovation: participatory research leads to strengthening regional capacities

Based on ZEF's strategy for participatory research, the ZEF/UNESCO project introduced the "Follow The Innovation" (FTI) approach in Uzbekistan. This approach enables implementing, improving and adapting innovations identified

by the target groups and stakeholders with support of the project. The FTI group has been following and consolidating successfully innovation processes such as: the improvement of irrigation water management in a Water User Association, the introduction of laser guided land leveling in agriculture, the implementation of a technique (EM38) for rapid soil salinity assessment and the afforestation of marginal land with a group of selected farmers. In all these areas, the novel FTI-method proved successful in terms of supporting local farmers with actually implementing research outcome and strengthening local stakeholders and institutions in performing their roles effectively.

### High-level recognition of implementation-oriented and sustainable research

The scientific and practical relevance of ZEF/UNESCO project's research outcome is recognized highly by now on the part of policy-makers and scientists in the region. The project even aroused the interest of the permanent Parliamentary Committee on Agrarian and Water Issues of Uzbekistan, which invited the project to present and discuss selected innovations resulting from the project's research. On May 21, 2010, ZEF/UNESCO project staff members presented the project's research work to the Committee. The meeting was also attended by representatives of the national Farmers' Association (represented by the Ministry for Agriculture and Water Resources), around 20 Members of Parliament, 20 scientists from national research and educational institutions, as well as 25 farmers.

Contact: Ahmad Manschadi (manschadi@uni-bonn.de)  
Homepage: [www.zef.de/khorezm.0.html](http://www.zef.de/khorezm.0.html)

"Follow the Innovation" (FTI) Workshop in Urgench, November 2009.



# 5 Selected output

## Selected events and awards

The **Water Lecture series** is a monthly lectures series taking place at ZEF. It is a joint initiative organized by ZEF, the UN-Water Decade Programme on Capacity Development (UNW-DPC), the United Nations University Institute for Environment and Human Security (UNU-EHS), and the Global Water System Project (GWSP).

**Conrad Schetter**, ZEF Senior Researcher, held a public lecture at Bonn University on December 2<sup>nd</sup>, 2009, to complete his "Habilitation" procedure. His talk was titled "The Taliban – Lifestyle between tribalism, Islamism and globalization".

High-ranking Uzbek delegation at ZEF.



**Elinor Ostrom**, Nobel Prize laureate in Economics of 2009, visited ZEF in January 2010 to discuss research ideas.

May 7, 2010: **Shenggen Fan** (Director General of the International Food Policy Research Institute (IFPRI)) gave a **ZEF Public Lecture** on "The Role of Emerging Economies in Global Food Security".

On May 20, 2010 the **Ambassador of the Republic of Uzbekistan**, His Excellency Dilshod Akhatov and his first Secretary, Mr. Mavlon Mamirov, visited ZEF.

On May 28, 2010 around 80 international development experts met in Bonn to discuss the outcome and implications of the study "**Waiting for the water to come? Poverty reduction in times of global climate change**", which was conducted by ZEF in association with CARE Germany-Luxemburg in 2009.

ZEF hosted a well-attended workshop on "Covering Climate Change in West Africa: An exchange between journalists and scientists" with experts from Ghana, Germany and the UK at this year's **Deutsche Welle Global Media Forum (GMF)** in Bonn (June 21–23, 2010).



Panelists in the Global Media Forum workshop of ZEF.

**Faisal Abbas**, a ZEF doctoral student from Pakistan, has been selected by the Volkswagen Foundation as an "Our Common Future Fellow" with the network "Global Young Faculty" in 2010.

**Devesh Rustagi** (ZEF alumnus from India) has won this year's prestigious 1<sup>st</sup> prize of the KfW (German Development Bank) Excellence prize for practice-related development research for his doctoral thesis on "Behavioral Heterogeneity and Human Cooperation".

ZEF Senior Researcher **Peter Mollinga** was appointed Professor of Development Studies at the School of Oriental and African Studies (SOAS) in London as of September 2010.

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.

## ZEF in the picture: Selected media coverage

### Afghanistan

(all interviews with and articles by Conrad Schetter)

- Feigenblatt Demokratie. Am Beispiel des gescheiterten Staatsaufbaus in Afghanistan. Interview with SWR4 radio. September 15, 2010.
- USA: Gewaltiger Rohstoffschatz in Afghanistan. Article in the daily *Der Tagesspiegel*. June 15, 2010.
- Friedens Jirga in Kabul. Interview with Domradio. June 2, 2010.
- Taliban Attacks in Kabul. Interview with Deutsche Welle radio. May 18, 2010.
- Rede von Angela Merkel zu Afghanistan. Interview with Schweizer Radio DRS. Echo der Zeit. April 23, 2010.
- Warum verstehen wir nicht was in Afghanistan los ist? Interview with radio channel Hessischer Rundfunk, HR1, Der Tag. April 7, 2010.
- The perception of the Taliban movement in Pakistan. Deutsche Welle radio. April 7, 2010.
- Tiefgreifende Verunsicherung in der Bundeswehr. Deutschlandradio. February 23, 2010.
- Bundeswehr-Aufstockung. SPD-Zustimmung erwartet. Interview with daily *taz*. January 28, 2010.
- Der Habitus der Überlegenheit. Interview with [www.German-Foreign-Policy.com](http://www.German-Foreign-Policy.com). January, 28, 2010.
- An der Seite der Afghanen. Karzai bleibt Präsident: Reaktionen. Article on [www.sueddeutsche.de](http://www.sueddeutsche.de). November 2, 2009.
- Verspielte Glaubwürdigkeit. Article in the weekly *Die Wochenzeitung* no. 37. September 10, 2009.
- Mit Demokratie hat das wenig zu tun. Interview on [www.tagesschau.de](http://www.tagesschau.de). August 20, 2009.
- 100 Stimmzettel für 200 Dollar. Experten kritisieren Afghanistan-Wahl als undemokratisch. Interview on [www.heute.de](http://www.heute.de). August 20, 2009.



Afghanistan is one of ZEF's media foci.

- Die Zukunft eines Kriegs, der nicht so heißen darf. Interview on [www.zdf.de](http://www.zdf.de). July 2, 2009.
- Fünf Mitarbeiter von Ärzten ohne Grenzen in Afghanistan ermordet. Quote in *Stichtag* WDR2 radio. June 2, 2009.

### Water and Climate Change

- Klimaforscher für Afrika. Deutsche Welle radio. July 15, 2010.
- Die Welt ist auf dem richtigen Weg. WDR radio, Planet Erde Feature. World Water Day 2010. March 22, 2010.
- Entwicklungsforscher: Klimawandel verschärft Armut. [www.epd.de](http://www.epd.de). December 9, 2009.
- Das Glücksspiel der Ärmsten. Klimawandel in Westafrika. *Süddeutsche Zeitung* (daily newspaper), November 17, 2009.

Please have a look at "ZEF in the picture" at [www.zef.de](http://www.zef.de) where you can download a selection of ZEF's media coverage.

### Development Economics

- Kampf ums Korn - Wie das Geschäft mit der Nahrung funktioniert. Interview with Joachim von Braun. *Der Tagesspiegel* (daily newspaper), September 12, 2010.
- Auf Kosten der Ärmsten. Interview with Joachim von Braun in the weekly *Der Spiegel* 34/2010.
- Lebensmittel-Spekulation - Agrarökonom warnt vor Hungerkrise. Interview with Joachim von Braun on [www.spiegel-online.de](http://www.spiegel-online.de), August 21, 2010.
- Forecasting for Agriculture. Interview with Joachim von Braun on tv channel CNBC, August 18, 2010.
- Time to regulate volatile food markets. Article by Joachim von Braun. *Financial Times*, August 9, 2010.
- Strategic body needed to beat food crises. Opinion article by Joachim von Braun. *Nature*, 465, June 3, 2010.
- Global food reserve needed to stabilize prices, researchers say. Joachim von Braun quoted on global food prices. *Business Week* March 28, 2010.
- Weltwirtschaftsforum Davos. Ackerland in Bankerhand. Interview with Joachim von Braun. *manager magazin* (monthly), January 31, 2010.
- Brot allein macht nicht satt. Interview with Joachim von Braun in the weekly *Die ZEIT*. January 7, 2010.

### Miscellaneous

- Das ZEF liegt im Ranking vorne. *General-Anzeiger Bonn* (daily newspaper). March 9, 2010.
- Drei Fragen an ausländische Doktoranden am ZEF. Interviews with ZEF students in the weekly *Die ZEIT*, September 23, 2010.
- Karrieresprungbrett für Doktoranden. *General-Anzeiger Bonn*, September 29, 2009.
- The best from Ghana to South Africa. *The Deutschland magazine*. 04/2009.

## Selected publications

### 2010

Hornidge, A.-K. 2010. An Uncertain Future – Singapore's Search for a New Focal Point of Collective Identity and its Drive towards 'Knowledge Society'. *Asian Journal of Social Sciences*, 38.1.

Lamers, J.P.A., Martius, C., Khamzina, A., Matkarimova, M., Djumaeva, D., and R. Eshchanov. 2010. Green foliage decomposition in tree plantations on degraded, irrigated croplands in Uzbekistan, Central Asia. *Nutrient Cycling in Agroecosystems* 87(2): 249-260.

Le, Quang Bao, Park, S.J. and P.L.G. Vlek. 2010. Land Use Dynamic Simulator (LUDAS): A multi-agent system model for simulating spatio-temporal dynamics of coupled human-landscape system 2. Scenario-based application for impact assessment of land-use policies. *Ecological Informatics*, 5 (3): 203-221. Further Information: [dx.doi.org/10.1016/j.ecoinf.2010.02.001](https://doi.org/10.1016/j.ecoinf.2010.02.001).

Manschadi, A.M., Christopher, J.T., Hammer, G.L., and P. Devoil. 2010. Experimental and modelling studies of drought-adaptive root architectural traits in wheat (*Triticum aestivum* L.). *Plant Biosystems – An International Journal Dealing with all Aspects of Plant Biology* 144(2): 458-462.

Menkhoff, T., Evers, H.-D. and Y. W. Chay. 2010. *Governing and Managing Knowledge in Asia*, 2nd revised edition. World Scientific Publishing, New Jersey, Singapore and London.

Mollinga, P.P., Bhat, A., and V.S. Saravanan (Eds.). 2010. *When Policy Meets Reality. Political Dynamics and the Practice of Integration in Water Resources Management Reform*. LIT Verlag Berlin.

Mondal, M.A.H. and M. Denich. 2010. Assessment of renewable energy resources potential for electricity generation in Bangladesh. *Renewable and Sustainable Energy Reviews*, 14: 2401-2413.

Rustagi, D., Engel, S. and M. Kosfeld. 2010. Conditional Cooperation and Costly Monitoring Explain Success in Forest Commons Management. *Science* 330, 12 November 2010.

Schetter, C. 2010. Von der Entwicklungszusammenarbeit zur humanitären Intervention. Die Kontinuität einer Kultur der Treuhandschaft. In: Thorsten Bonacker et al. (eds.): *Interventionskultur. Zur Soziologie von Interventionengesellschaften*. Wiesbaden: VS Verlag, 31-47.

Schetter, C. 2010. "Ungoverned territories" – Eine konzeptuelle Innovation im "War on Terror". *Geographica Helvetica. Schweizerische Zeitschrift für Geographie*, 3.2010: 181-188.

Vlek, P.L.G., Le, Quang Bao and L. Tamene. 2010. Assessment of Land Degradation, Its Possible Causes and Threat to Food Security in Sub-Saharan Africa. In: Rattan Lal and B.A. Stewart (eds.): *Advances in Soil Science – Food Security and Soil Quality*. CRC Press, Boca Raton, 57-86.

Von Braun, J. 2010. „Land Grabbing“. Ursachen und Konsequenzen internationaler Landakquirierung in Entwicklungsländern. *Zeitschrift für Außen- und Sicherheitspolitik* (2010) 3:299-307.

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For a complete overview of ZEF's publications including scientific articles, books, and discussion papers, please have a look at [www.zef.de/publications.html](http://www.zef.de/publications.html).



## Budget 2010 /Funding partners of ZEF

Indirect Support*)	in Euro	in %
German Academic Exchange Service (DAAD)/ German Federal Ministry for Economic Cooperation and Development (BMZ)	295,000	37.9
German Federal Ministry of Education and Research (BMBF) via United Nations University – Institute for Environment and Human Security (UNU-EHS)	119,925	15.4
German Academic Exchange Service (DAAD) Regional Program/ German Foreign Office (AA)	64,200	8.2
Katholischer Akademischer Ausländer-Dienst (KAAD)	38,600	5.0
Ministry of Higher Education, Malaysia	29,600	3.8
Jack Kent Cooke Foundation	28,000	3.6
Own funds of students	24,600	3.2
Ministry of Education, Indonesia	24,100	3.1
China Scholarship Council	24,000	3.0
IFEU/GTZ, DAAD	21,600	2.8
Lybian Ministry of Higher Education	14,400	1.8
Evangelischer Entwicklungsdienst (EED)	12,645	1.6
Studienstiftung des Deutschen Volkes	12,300	1.6
Ministry of Education, Taiwan	12,000	1.5
Ministry of Agriculture and Rural Development of Vietnam	11,080	1.4
Higher Education Commission Pakistan / German Academic Exchange Service (HEC/DAAD)	10,800	1.4
Friedrich Ebert Foundation (FES)	10,800	1.4
National Council of Research, Science and Technology (Comisión Nacional de Investigación Científica y Tecnológica), Chile / German Academic Exchange Service (CONICYT/DAAD)	9,950	1.3
Open Society Institute and Soros Foundation	7,200	0.9
United Nations University – Institute for Environment and Human Security (UNU-EHS)	3,975	0.5

\*) Scholarships directly funded by the donors.

University of Bonn, Tutor scholarships	2,400	0.3
Evangelisches Studienwerk e.V. Villigst	2,050	0.3
<b>Total</b>	<b>779,225</b>	<b>100</b>

External Funds**)	Projects	in Euro	in %
German Federal Ministry of Education and Research (BMBF) via German Aerospace Center (DLR)	BIOTA East project BIOTA West project	4,632,935	75.5
German Federal Ministry of Education and Research (BMBF) via Forschungszentrum Jülich	International Advanced Study Courses (IPSWaT)		
	International Project Office (IPO), Global Water Systems Project (GWSP)		
	Olifants project, South Africa		
	ZEF/UNESCO project in Uzbekistan		
	WISDOM project, Vietnam		
German Federal Ministry for Economic Cooperation and Development (BMZ) via German Academic Exchange Service (DAAD)	PhD Course at the University of Addis Ababa, Ethiopia	323,057	5.3
German Federal Ministry for Economic Cooperation and Development (BMZ) via German Technical Cooperation (GTZ)	Doctoral Program Re-Thinking Water Storage project in Ghana and Ethiopia SV Bioenergy		
German Federal Ministry for Economic Cooperation and Development (BMZ) via International Water Management Institute (IWMI)	Improving Water Productivity in Crop Livestock Systems		
German Academic Exchange Service (DAAD) / German Foreign Office (AA)	DAAD/ZEF Centre of Excellence, Ghana Scientific side-conference of the 30th Anniversary Conference of the Right Livelihood Award	303,773	5.0
Robert Bosch Stiftung	Junior Professorship	251,456	4.1
Bill and Melinda Gates Foundation	Marginality Reduction for Enhanced Investments for and with the Poorest	218,623	3.6
Volkswagen Foundation (VW)	Project on Local Governance and Fragile Statehood in the Amu Darya Region	146,249	2.4
	The Role of Institutions for Forest Resource and Livelihood Management in East African Forest Landscapes		
International Food Policy Research Institute (IFPRI)	Economics of Desertification, Land Degradation and Drought	100,000	1.6

\*\*) Third-party projects of ZEF. Funds budgeted i.a.w. annual financing plans.

German Research Foundation (DFG)	Water Resources Institutions and Human Health in India	52,289	0.9
International Water Management Institute (IWMI)	Shallow Groundwater project	43,982	0.7
Dreyer Foundation	Doctoral scholarship	33,055	0.5
Kraft Foods Deutschland GmbH	Situation of Children and Adolescents in Ethiopia	19,038	0.3
Diversitas	GWSP Partner Contribution	7,691	0.1
Total		6,132,148	100

Core Funds***)	in Euro	in %
Personnel Costs	1,335,190	80.4
Administrative Costs	290,000	17.5
University Bonus System****)	35,594	2.1
Total	1,660,784	100

Indirect Support & External Funds & Core Funds 8,572,157 Euro

\*\*\*) University of Bonn. State of North Rhine-Westphalia funds for ZEF. \*\*\*\*) Bonus of up to 5% from the University of Bonn for successful third-party fundraising by ZEF.

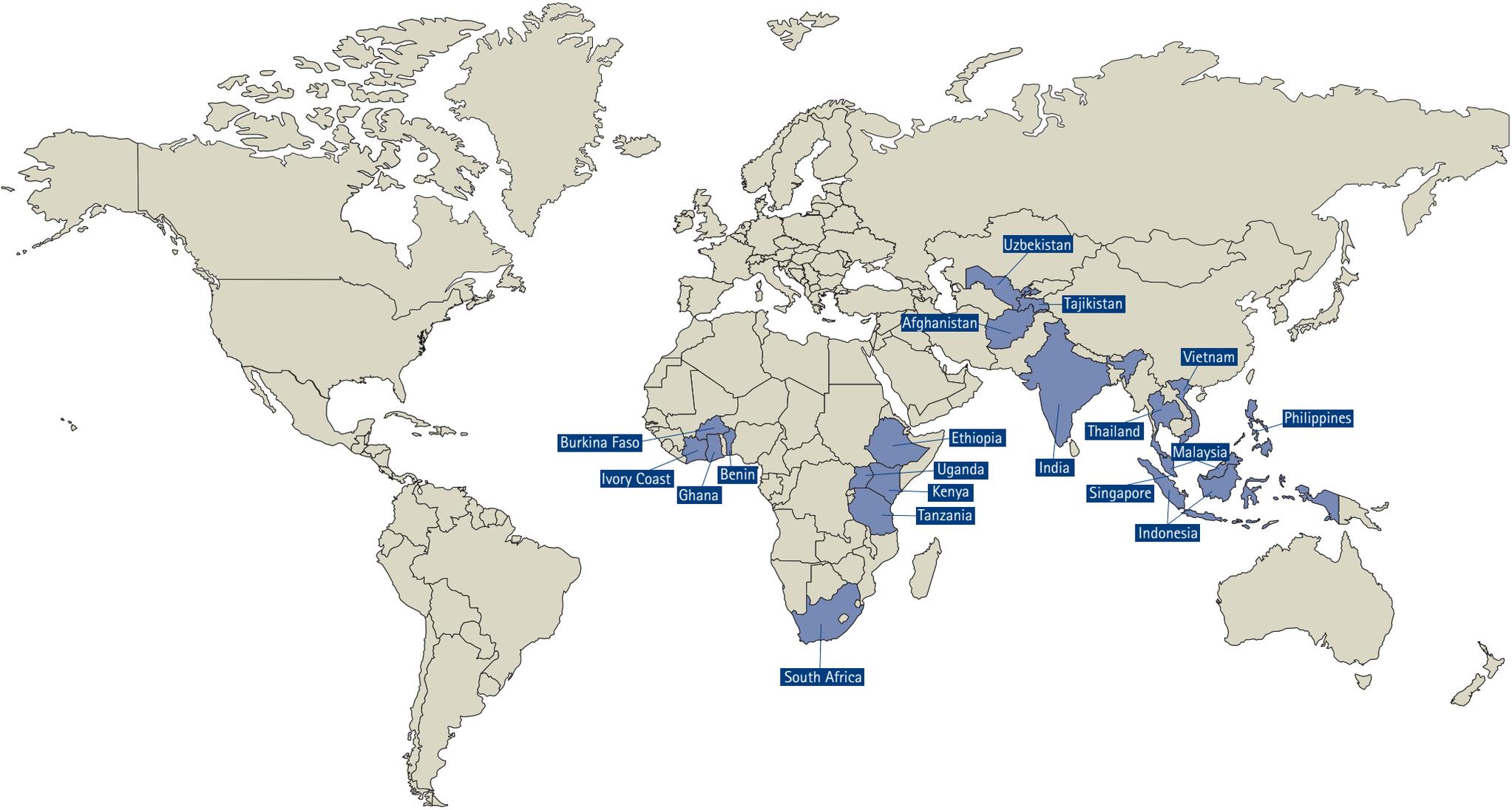
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Board meeting at ZEF, October 2010.

# A global view on ZEF's major trans-disciplinary research projects



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University of Bonn  
Walter-Flex-Str. 3  
D-53113 Bonn  
Germany

**Contact:**

Press and Public Relations  
(Alma van der Veen and Katharina Moraht)  
Phone: # 49 (0) 228 73-1846  
Fax: # 49 (0) 228 73-1889  
E-mail: [presse.zef@uni-bonn.de](mailto:presse.zef@uni-bonn.de)

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