



In focus: Climate change

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Editorial

ZEF has been conducting research on the role of climate in land use in developing countries for years. With the WASCAL program, ZEF is now focusing on the adaptation of land use to climate change in West Africa. Donors and political decision-makers expect results that can help local farmers to ensure food security and livelihood in the region under increasingly hard and changing climate conditions. However, researchers from all disciplines, be they climatologists, hydrologists, agronomists, economists or social scientists have one problem in common: the uncertainty of their conclusions.

Projections on climate change, the water budget of landscapes, crop yield, markets or people's behavior are per se afflicted with uncertainties - known and unknown, of different size and fluctuation.

These uncertainties result, for example, from the varying quality of existing and collected data and the models used for making forecasts. Scientists have to deal with

assessing such uncertainties. An even more difficult question is how to communicate these uncertainties to the users of scientific findings. Users have to learn to cope with these uncertainties and the related risks. ZEF and its partners are working on this problem.



Manfred Denich
Acting director
at ZEF

Tackling climate change in West Africa: WASCAL develops capacities

With climate change being one of the most severe challenges confronting rural Africa in the 21st century, West Africa is facing an urgent need to develop effective adaptation strategies. The West African Science Service Center on Climate Change and Adapted Land Use (WASCAL) is a regional research-focused program designed to help tackle this challenge and thereby enhance the resilience of human and environmental systems to climate change and variability. It does so by strengthening the research infrastructure in West Africa related to climate change and by pooling the expertise of ten West African countries and Germany. Funded by the German Federal Ministry of Education and Research (BMBF), WASCAL is coordinated by ZEF and implemented in a collaborative effort by West African and German partners.

Climate change in West Africa

The high dependence on natural resources and agriculture for generating income and providing livelihoods in West Africa is in clear contrast to the region's limited adaptation capacity to climate change and variability. The main causes are inadequate economic and technological

development, poor infrastructure and weak governance and institutions. Thus, West Africa is extremely vulnerable to climate change. WASCAL aims to support the region's scientists and policy makers through research, capacity development and research implementation. The overall strategy is to identify resilient and adaptive land use systems and to work out measures that can conserve and restore ecosystems.

Approach and structure

WASCAL comprises a Competence Center, a Core Research Program and a Graduate Research Program – all based in West Africa.

I Competence Center

Conceived as a service center to the partner countries and located in Ouagadougou, Burkina Faso, the Competence Center facilities serve as:

- housing for scientific staff, administrative and support personnel and visiting scientists,



- infrastructure for receiving data, data maintenance and access, data interpretation and scenario analyses, and
- a base for carrying out training and outreach activities to stakeholders in the region.

The data collection covers meteorological, hydrological, social and economic data as well as information on biodiversity and land use – using a common sampling frame as far as possible.



A recently installed monitoring station in Burkina Faso

Photos: Gero Steup

II Core Research Program

The analysis of climate change impacts and development of effective adaptation strategies require an interdisciplinary research approach. Only this way we can understand the linkages between global-scale changes and the local dynamics of human-environment interactions. This interdisciplinary approach considers human and ecological systems as coupled social-ecological systems with multi-scale complex interdependencies. It also enables the design of strategies and measures to improve the adaptive capacity of socio-economic and ecological systems in the face of climate change.

III Graduate Research Program

Participation by African scientists in international activities on climate change is rather low. The WASCAL Graduate Research programs therefore aim to engage many regional graduate faculties. These are encouraged to work and act together with a counterpart institution in Germany and within the research environment of WASCAL. The Graduate Research programs are autonomous and based at the WASCAL countries' campuses. They address the following priority research areas in an interdisciplinary way: West African climate system, climate change-water resources, climate change-economics, climate change-land management, climate change-biodiversity, climate change-agriculture, and climate change-human security.

WASCAL and its stakeholders

WASCAL is coordinated at ZEF and cooperates with nine partner universities and research institutions in Germany and over 30 in Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Mali, Niger, Nigeria, Senegal, and Togo. The effectiveness of WASCAL will depend on the extent to which policy- and decision-makers are involved in political, technological, economic and social processes related to climate change adaptation. This will require an effective outreach and communication strategy. The program will therefore address and cooperate with three levels of stakeholders:

1. National decision-making institutions. Here, close cooperation is envisaged to formulate sound policies for climate change adaptation.
2. Regional organizations and river basin authorities.
3. Local communities. They will not only be engaged in the research process, but also in the field days and demonstration activities that are going to be organized to acquaint them with tools for coping with climate change.

Planning and perspectives

The main phase of WASCAL started in October 2012. Intensive preparatory work supported by the BMBF has been conducted by African and German partners since 2010. Field work started in 2011.



Written by WASCAL team members at ZEF

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Improving irrigation management in Punjab: A German-Pakistani initiative

The people living in Punjab, a province in Pakistan, are facing severe challenges concerning water supply for agricultural and therewith food production. Limited and insecure supply of water resources in combination with rising demands will put great pressure on irrigated agriculture in Punjab. This means that improvements are urgently needed in the efficiency and flexibility of water use - especially as irrigation accounts for up to 95% of current water withdrawals in the province. Therefore, ZEF and Pakistani collaboration partners are investigating options for improving the use of irrigation water in Punjab. The research is part of a German-Pakistani collaboration program initiated by the German Academic Exchange Service (DAAD) in 2011.

Tradition meets reality

Agriculture in Punjab is mainly irrigation-based. The traditional irrigation system for one of the largest irrigation areas in the world has functioned quite well over the centuries. However, adjustments are needed in response to environmental change and to an increasing demand for water in the region.

The current management of the complex irrigation schemes in Punjab follows a strict rotation principle ('Warabandi'), which makes water available to farmers in recurring periods with volumes allotted according to farm size.

Basically, the Warabandi system offers advantages to the users in terms of equity, understandability and transparency. However, it lacks the flexibility to react to an increasingly variable environment. Also, its capability to fulfill site-specific requirements is limited. Therefore, ZEF and its research partners have been devising options for a more flexible and demand-oriented irrigation scheduling.

Research approach

The scientists conduct research by (i) linking the information gained from Remote Sensing tools, databases on the irrigation system and complementary field work, (ii) processing the data with the help of Geographical Information Systems (GIS), (iii) applying soil-water-atmosphere-crop models in combination with irrigation scheduling to work out flexible irrigation schemes that can integrate surface and groundwater resources and (iv) cooperating at an early stage with water managers and farmers to assess what flexible schedules are possible.

The advantage of flexible irrigation schedules is that they enable a timely reaction to variable environments (avail-



A distribution canal for irrigation water in Punjab

Photo: Bernhard. Tischbein

able water resources, groundwater level, rainfall, evapotranspiration). Moreover, they enable a close matching of the demand among farmers in terms of time (daily time steps) and site-specific requirements (farm level). The project concept relies strongly on joint learning involving water users, irrigation managers and scientists.

First results

The researchers selected three canal command areas as study schemes, each of which is fed by a distributional canal (with a total range of 20,000 ha). Five students and colleagues from the University of Faisalabad digitized the information on these canal command areas by collecting data on climate, soil, groundwater, cropping patterns and yields. In addition, they employed modern remote sensing techniques to gather information on land use. These data sets were imported in GIS, spatially analyzed, and are currently being used to establish flexible irrigation schedules.

Background

Water resources feeding the irrigation schemes in Punjab are mainly generated in the mountainous regions of trans-boundary basins. This makes downstream water users such as those in Punjab highly dependent on how efficiently water resources are managed in the upstream regions. Furthermore, climate change is expected to affect the availability and variability of water resources. Meanwhile, population growth and industrialization are causing increasing demands.



Usman Khalid Awan, Bernhard Tischbein

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How local farmers cope with regional transition in Central Asia and the Caucasus

What challenges have states in Central Asia and the Caucasus been facing since they achieved independence from the Soviet Union in 1991? All of these countries have been undergoing rapid socio-economic processes of transformation. At the same time, agriculture remains the main source of livelihood for the majority of the populations. Thus, when researchers want to investigate how these countries are coping with the challenges of transition, they have to assess and update existing “stocks” of agricultural knowledge. In addition, envisaged innovations should be adapted to local conditions and needs. This is what ZEF has been doing and is continuing to do in new research initiatives in the region.

ZEF has been conducting interdisciplinary research for many years on the economic, social and ecological challenges facing countries in Central Asia and the Caucasus. Based on this experience, ZEF has now started two new research initiatives in Central Asia and the Caucasus: one deals with agricultural knowledge systems (in Georgia and Tajikistan) and the second with the conversion of knowledge in post-Soviet agriculture (in Tajikistan). Local cooperation partner is the Institute of Philosophical, Political and Legal Sciences of the Academy of Sciences of Tajikistan.

Research questions and ‘windows of opportunity’

On the one hand, new ideas, new ways of doing things and thus innovations have to match the ‘windows of opportunity’, meaning legal, financial and socio-cultural circumstances and the possibilities of actually making sense to local farmers and being adopted. On the other hand, the institutional settings that determine these ‘windows of opportunity’ for innovations have to be adjusted to successfully foster the local development of creativity. This might be in the form of the advancement of local seeds.

Local farmers are the main target and stakeholder group at once in both research initiatives. In Georgia and Tajikistan, ZEF researchers want to assess which local epistemic cultures exist, who the actors are, and what kind of structures of agricultural knowledge and innovation development are present - as well as which local channels can be used to diffuse innovations. One

research question for example is: Where did farmer A learn to improve different fruit tree varieties? Which patterns exist or who has access to what knowledge on making a (better) living?

In the second research endeavor in Tajikistan, the central research question is what kind of ‘windows of opportunity’ for innovation do the local farmers have themselves? The researchers will focus on the inter-



Farmers in Kyrgyzstan loading a donkey

Photo: Joe Hill

linkages and interdependencies of governance processes and knowledge production and sharing. This includes the question of how local governance such as the governance of natural resources (e.g. land and water) enables and constrains the development of local creativity – implying the development of new ideas, mobilization and the adaptation of old ideas and ways of doing things today. One example is the cultivation of seed potatoes, which are produced in a professional way for commercial purposes partly at the instigation of local decision-makers. However, since the quality of these potatoes is fluctuating, farmers have again started to use traditional methods of cultivating seed potatoes.

Activities

Since the projects’ inceptions, several workshops have been organized: one large academic workshop has been conducted in Dushanbe, one stakeholder workshop in Sharituz, Tajikistan, one in Gori, Georgia, as well as two internal process workshops in Bonn. Regionally, the research in Tajikistan concentrates on Pendžikent (Province Sogd) and Šachtuz (Province Chatlon), and in Georgia on Gurjaani (Province Kakheti) and Gori (Province Shida Kartli).

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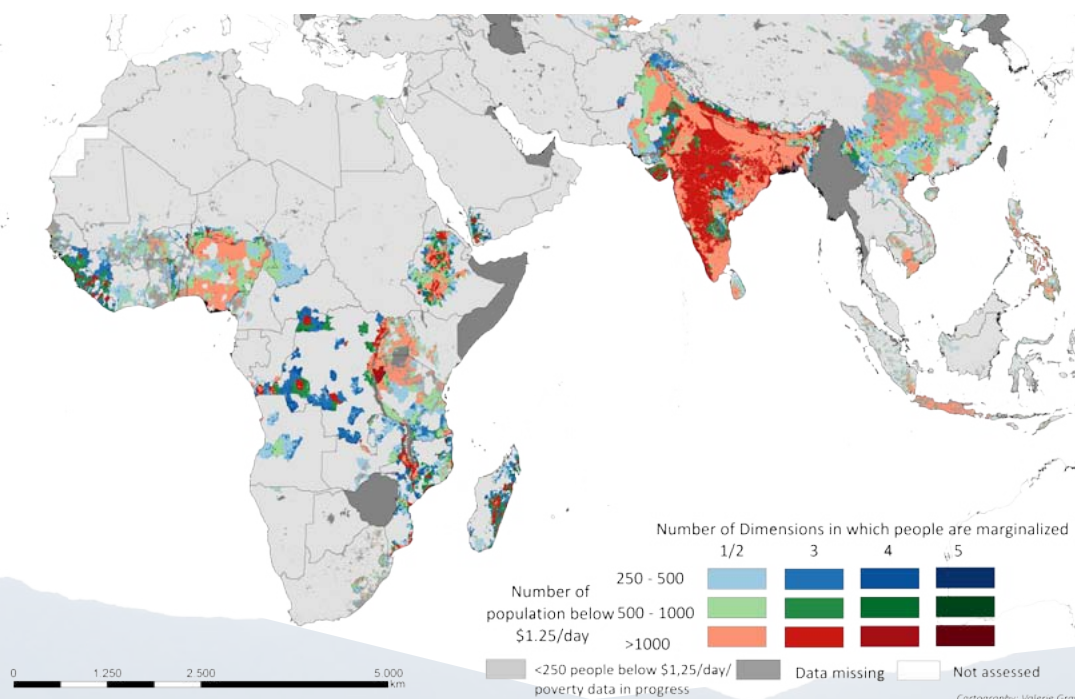
Hungry food producers: How to foster agricultural growth among the marginalized and poorest

ZEF is working to engage the marginalized poor in the rural areas of sub-Saharan Africa and South Asia. ZEF's researchers seek to support agricultural productivity and rural growth by extending the reach of agricultural innovations to all strata of the poor among small farming communities. Such innovations can consist of bundles of new measures, practices or technology products, including both crop technology innovations and non-crop technology as well as institutional innovations. They can play an important role in fostering secondary growth and multiplier effects created by agricultural development.

As a result, the poor are marginalized because they are excluded from the market economy while at the same time being exposed to its external and extractive effects. They have little if any cash expenditures or savings and are excluded from access to agricultural innovations and production means (such as land, seeds, fertilizer or machinery), from banking, credit and insurance systems, from information and formal education, from decision-making and from voicing their own and representing other people's interests.

Mapping the poor

A prerequisite for engaging the marginalized poor is making them visible. ZEF has been mapping areas in Asia and Africa where many poor people live under difficult social, economic and biophysical conditions. To this end, researchers have identified regions where different dimensions of marginality overlap – the marginality hotspots – based on proxies representing different spheres of life. Overlaying these hotspots with poverty densities shows that most marginalized poor are living in India and Bangladesh, as well as in Ethiopia, Southeastern Africa and some parts of West Africa (see map).



Hungry food producers

Bitterly, most of the one billion people suffering from hunger and poverty are those who produce food and live in countries with rapid economic growth. They are small farmers and workers in sub-Saharan Africa and South Asia with little or no assets and exposed to high risks. Often the risks and insecurities that keep the poor in poverty do not have natural causes, but rather result from the interplay of political and economic institutions designed to extract benefits from one section of society to another.

The next step in ZEF's research will be to better understand the needs, strategic options, and constraints of the different strata of the marginalized poor. This assessment – which will be piloted in Bangladesh, India, Ethiopia and Ghana – will then serve to identify innovation bundles that are adjusted to the respective potentials of the poor in each stratum as well as the specific barriers they face.



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Meeting point for “Alternative Nobel Prize” winners, practitioners, and doctoral students: the RLC Campus at ZEF

Since 2011, ZEF has been hosting the first Right Livelihood Campus in Germany. The Right Livelihood College (RLC) is a global capacity-building initiative of universities and the Right Livelihood Award (RLA), which is also referred to as the “Alternative Nobel Prize”. The RLC Campus at ZEF is funded by the German Academic Exchange Service (DAAD) and was inaugurated on May 30, 2011. It collaborates closely with the other RLC Campuses worldwide, particularly those at Addis Ababa University and at the Universiti Sains Malaysia, as well as with a number of research and civil society organizations in Bonn.

Aims

The aims of the RLC Campus Bonn at ZEF are threefold. The general aim is to facilitate practical solutions to problems related to poverty, injustice and environmental degradation in so-called developing and transition countries based on trans-disciplinary research and education – ZEF’s core areas of expertise. Secondly, RLC Bonn aims to promote exchanges and synergies between the work of “Alternative Nobel Prize” laureates, researchers and doctoral students. Thirdly, RLC Bonn aims to educate future decision-makers from so-called developing and transition countries to become outstanding and responsible change-makers.

Strategies and activities

To meet these aims, RLC Bonn is engaging in a variety of activities. It provides 3-year doctoral scholarships for students from developing and transition countries to conduct research that is relevant to the work of the “Alternative Nobel Prize” laureates and to ZEF’s research agenda. The RLC doctoral scholarships are granted annually by the DAAD. The doctoral students are integrated into ZEF’s Doctoral Studies Program. Currently, RLC Bonn has two doctoral students, namely Ms. Lai Wan Teng from Malaysia, who is working on patterns of migrant integration in Penang State, and Ms. Divya Swaminathan from India, who is working on the role of traditional knowledge in multi-stakeholder innovation processes.

In addition, RLC Bonn regularly organizes international workshops, conferences and public events at ZEF and

in Bonn in which “Alternative Nobel Prize” laureates, experts from science and practice and doctoral students from all over the world participate. In September 2012, eleven doctoral students from Asia, Africa and Latin America participated in a workshop at ZEF and engaged in dialogue with two laureates of the “Alternative Nobel Prize”, namely Sulak Sivaraksa from Thailand and Helena Norberg-Hodge from Australia.



Students with laureates meeting at ZEF in Bonn in September 2012

Background information

The Right Livelihood Award was established in 1980 by Jakob von Uexkull, a Swedish journalist, and is awarded annually by the Right Livelihood Foundation. The award ceremony takes place in the Swedish Parliament. The RLA is granted to people and organizations working on practical and exemplary solutions to today’s most urgent challenges in the fields of environmental protection, sustainable development, human rights, health, education, and peace. So far, more than 140 awardees from more than 60 countries have received the Prize. Most winners are from developing countries. The RLC initiative aims to link the work of the RLA laureates to trans-disciplinary research, education, public awareness and civil society engagement worldwide.

For more information see: www.rlc-bonn.de

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Viewpoint

Interview with Jan Börner, new Robert Bosch junior professor at ZEF



“A good setting and long-term planning horizon are necessary conditions for conducting successful research”

Jan Börner is a ZEF-alumnus and started his Robert Bosch junior professorship in Bonn in August 2012. In the coming five years, Börner will conduct research on the sustainable use of tropical rain forests in the Amazonas in Brazil.

a farm. To conduct my master’s thesis, I applied for an internship with the GIZ’s tropical rainforest program in Brazil – unfortunately that did not work out. So I joined a project at ZEF working in Brazil. Otherwise, who knows whether I would have made it to Brazil – where I met my wife after all.

What are the most urgent and pressing problems in the Amazonas region right now?

It completely depends on your perspective. In the past, the Amazonas has mainly been associated in international debates with rapid deforestation and expanding grazing lands for cattle as well as soya plantations. However, deforestation rates in the largest Brazilian part of the Amazonas have been reduced by two thirds since 2004, despite favorable world market prices for the major commodities produced in the region. On the other hand, the majority of the rural population in the Amazonas consists of poor smallholder farmers and a multiplicity of traditional and indigenous population groups. In spite of strong economic growth in Brazil, malnutrition, as well as deficits in the fields of education and public

health are regionally just as urgent issues as in other developing countries, even though the Amazon has a very low population density.

Which issues have you been working on in the past years?

At the Center for International Forestry Research (CIFOR) in Brazil, I did research on incentive-based instruments for the protection of the tropical rain forests such as payments for ecosystem services. Following a small breakthrough in international climate politics achieved in 2007 during the COP 13 in Bali, many experts expect-



Forest after slash-and-burn clearance

Mr. Börner, you wrote your doctoral thesis, which you finished at ZEF in 2005, on the Amazonas in Brazil. Your Robert Bosch junior professorship is also about the sustainable use of tropical rainforests in Brazil. How was your particular interest in the region raised in the first place?

My interest was evoked at an early age. As a young drummer I was fascinated by Latin American music. Then I started reading “The open veins of Latin America” by Eduardo Galeano and became interested in the region’s history. Prior to my university studies, I spent six months in Bolivia and conducted an internship on

ed that such payments would be more effective and equitable than, for example, protected areas or legal measures. However, we now realize that the appropriate framework conditions for these payment services are often not in place.

Could you please tell us something more about the area of your junior professorship and the topics of your research in the coming five years?

My goal is to investigate options for shaping policies to conserve rain forests.

Legal measures could be combined with positive economic incentives as well as integrated protection and development projects (ICDP) – and could thus be socially more acceptable and probably more cost effective. This kind of integration is needed to make conservation achievements, like recently in the Brazilian Amazon, more sustainable in the long term. The recent push towards weakening Brazilian forest law clearly demonstrates that. I really wish to contribute with my research to a better understanding of the drivers of success for implementing environmental programs. To this end, I want to integrate findings from impact analysis into the ecological-economic modeling of land use change.

Since you graduated you have worked, amongst others, at the Technische Universität (TU) in Munich, Germany, at the International Center for Agriculture (CIAT) in Colombia, and at CIFOR in Rio de Janeiro, Brazil. How far did you profit from the interdisciplinary education you received in the international doctoral studies program at ZEF?

The close cooperation with natural scientists at ZEF and later on at the TU in Munich has certainly helped to observe a problem from different angles. Recently, a friend of mine who is an ecologist wrote to me saying "we need more ZEF-trained economists". I think he was referring to the "cultural" facets of the ZEF model, which can stimulate interdisciplinary dialog.

You moved from Brazil to Bonn to conduct research on Brazilian rain forests. Is Bonn the better place to do so?



Slash-and-burn clearing in Brazil

As a researcher, you never work alone and a good setting and long-term planning horizon are necessary conditions for conducting successful research. This is what I was able to find at ZEF and my research will certainly benefit from working under such conditions. Of course, you should always keep in touch with the object of your research. However, findings about the Brazilian rain forests can also be relevant to rain forests in Africa and Asia. So Bonn actually is an ideal location!

Mr. Börner, thank you for this interview.

The interview was conducted by Alma van der Veen

Info

The Robert Bosch Foundation has been awarding junior professorships for "Sustainable Use of Natural Resources" to young and excellent researchers since 2008. Candidates have to focus on issues relating to the interaction of natural processes and human interventions in nature and the environment.

Website: www.bosch-stiftung.de/juniorprofessorship

Facts & news

Emerging development policy issues and implications for development research

This overall topic was discussed at three experts' panels organized at ZEF on Thursday, September 27. Among the panelists were members of ZEF's International Advisory Board such as: Hans van Ginkel, former UNU Rector; Lisa Sennerby Forsse, Rector of the Swedish University of Agricultural Sciences in Uppsala, Sweden; Bina Agrawal, Director of the Institute of

Economic Growth in Delhi, India; Holm Tiessen, Director of the Inter-American Institute for Global Change Research in São Paulo, Brazil; Carolina Vera, Director of the Center for Atmospheric and Ocean Research in Buenos Aires, Argentina; and Mohammed Hassan, Executive Director of the Academy of Sciences for the Developing World in Trieste, Italy.



Alternative Wednesdays: Movie screenings

Stay up-to-date on ZEF's bi-weekly movie screenings by visiting our website or facebook page.

ZEF Friends' Prize for the best doctoral thesis

Alam Mondal from Bangladesh received the "ZEF Friends" Award for the best doctoral thesis written at ZEF in 2010-2011. ZEF alumnus Mondal wrote his thesis about renewable energy technologies in Bangladesh (2010). His doctoral research was funded by the German Academic Exchange Service (DAAD).



Alam Hossain Mondal (center) received the "ZEF Friends" Award 2012 for the best doctoral thesis

Column: Discussions @ ZEF

Development and its critics:

The post-development school in development theory

'The idea of development stands like a ruin in the intellectual landscape.'

Wolfgang Sachs (ed): *The Development Dictionary. A Guide to Knowledge as Power.* London: Zed Books, 1992.

Twenty years ago, an edited volume was published which set out to shake the foundations of development theory. The authors of the Development Dictionary were united by the intention not to improve the idea of development by providing constructive criticism of its imperfect realization, but to challenge and reject the whole paradigm. They even proclaimed the end of the "era of development" and established what has become known as the post-development school in development theory. Why on earth would they do such a thing?

Because, they argue, the concept of development is based on the idea that "our" society is already developed while "theirs" is not, so "they" have to catch up and become more like us. That is why "we" should send our aid and our experts to show them how it's done. The project of "developing the underdeveloped" thus continued the colonial project of "civilizing the uncivilized". But it did so at a certain point in history: in the mid-20th century, when the Holocaust had discredited the idea of racist

superiority, when a wave of decolonization was imminent, and when during the Cold War the West was afraid of newly independent states joining the Communist camp. So political factors played a major role in what the post-development authors call "the invention of underdevelopment". They led to locating the root of the problem of global inequality in the lack of capital, infrastructure and knowledge in the South – and not in relations of power on a global, national and local scale.

Further, they point out that universalizing the Western model of society was neither desirable nor feasible – above all for ecological reasons – and to the darker side of projects and processes of "development": from dam-induced displacement and the relentless exploitation of natural resources to the loss of autonomy and dignity for many indigenous peoples.

So should we now renounce efforts to improve people's livelihoods because of the mistakes of the past? Certainly not. But to be aware of the colonial heritage of the concept of development is imperative if we want to avoid its Eurocentric, authoritarian and depoliticizing implications pointed out by the post-development school.



Aram Ziai

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Project updates

Research on water, sanitation and health funded by Bill and Melinda Gates Foundation started in May 2012

In this new research initiative, ZEF will explore tradeoffs and synergies among water quality and quantity, sanitation and hygiene and related links to agriculture. The aim is to guide pro-poor investments for improved capacities to enhance drinking water, sanitation and hygiene services in agricultural communities. ZEF conducts research in Ethiopia, Ghana, India and Bangladesh.

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ZEF at first Global Soil Week in Berlin, November 19-22, 2012

ZEF co-organized a panel at the first international Soil Week with BMZ and GIZ. The week was organized by the "Institute for Advanced Sustainability Studies" (IASS) in Potsdam. More information at www.globalsoilweek.org.

The economics of land degradation

ZEF is a research partner in this new international project to be funded by BMZ from 2012-2014. Among the cooperation partners is IFPRI. **Contact:** Alisher Mirzabaev. almir@uni-bonn.de

FoodSecure takes off research

The international FoodSecure program started with a kick-off meeting in The Hague and a stakeholder meeting with high ranking representatives of the European Commission in Brussels on September 4-5, 2012. www.foodsecure.eu. **Contact:** Nicolas Gerber. ngerber@uni-bonn.de

Education in post-conflict situations: gearing up for research

ZEF started exploring a new area of research: the politics and social dynamics of rebuilding systems of higher education to support peace-building after armed conflicts or crises. The pilot project

Vocational students in Tajikistan
Foto: Shtaltovna

entitled "Contested knowledge" started in June 2012 and is supported by the Fritz Thyssen Foundation.

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ZEF meets business

The "Bonn International Summer School on Responsible Business 2012", a joint event organized by GIZ, Ernst & Young, ZEF, and others, took place in Bonn from August 26 to September 1, 2012. The Summer School brought together experienced leaders and young executives to design responsible business solutions of tomorrow. The

summer school consisted of a one-week workshop. For more information: www.bonn-summer-school.com.

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International cooperation on doctoral education

ZEF participated in a project on Cooperation on Doctoral Education between Africa, Asia, Latin America and Europe (CODOC) led by the European University Association (EUA) in Brussels. CODOC looked at how doctoral education contributes to the development of institutions, higher education systems and national research capacity. ZEF conducted a survey of doctoral education trends at universities in Asia, Africa and Latin America. For further information see: www.codoc-project.eu.

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European Land-use Institute (ELI) coordinated at ZEF

The Global Land Project (GLP) has announced its new European Nodal Office. It is going to be run by the European Land-use Institute (ELI), which is a multilateral cooperation platform of 49 partner institutions in 15 European and three non-European countries. ELI is coordinated at ZEF and has been funded by the German Federal Ministry for Education and Research (BMBF) since 2011. It will provide the institutional and infrastructural platform for the GLP European Nodal Office, whose thematic foci are: land management, land use planning and land use policies.

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Health and water in Tibet

The ZEF project "Health impact of water access in urban Tibet" has been integrated into the larger International Center for Integrated Mountain Development, Kailash Sacred Landscape Initiative, which encompasses the Himalayan mountain region of China, India and Nepal. ZEF is represented by Daphne Gondhalekar.

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Poor farmers need adapted mobile technologies

Interview with Heike Baumüller. She is junior researcher at ZEF and working in the MARGIP project (see page 6).

Ms. Baumüller, what is your research about?

My research is about services provided through mobile phones and how they help farmers, especially those in remote areas, make use of agricultural innovations. For example, mobile services might offer price or weather information or connect farmers to potential buyers. I am looking at how farmers make use of these services to improve their agricultural production.

Why did you choose Kenya for your research?

On the one hand, we were looking for poor areas with high agricultural potential but low agricultural productivity, which is the case e.g. in the province of Nyanza in Western Kenya where I did my research. These areas offer opportunities to help smallholder farmers increase their output and income through mobile services. On the other hand, there is a vibrant ICT sector in Kenya. Around Nairobi you find innovation hubs where young developers can meet investors and obtain start-up funding through competitions.

What was your motivation for conducting research on mobile services?

The number of mobile phones has skyrocketed in developing countries since 2000. Many of these countries leapfrogged fixed phones and simply never introduced land lines. Instead, almost everybody has access to a mobile phone. Even if someone does not own a phone, he can usually access one through another person.

There is a whole service sector emerging around mobile phones. I think there is huge potential for making mobile technologies benefit the poor and marginalized because they can bridge both distance and social standing.

Can you give an example of a successful mobile service?

One service that I looked at in my research is called M-Farm. It allows farmers to request market prices for 42 crops in the main markets around Kenya. This information strengthens the bargaining position of farmers, who no longer have to rely solely on the information the trader gives them. Another application of M-Farm is that it links farmers with buyers. This helps farmers to integrate into the market better and expand their selling options. All this works on the basis of text messages and can be used with basic mobile phones.

What are the challenges facing the adoption of mobile services for the poor?

Illiteracy, for instance, remains a challenge and prevents some users from accessing even the simple SMS-based services. The cost of a mobile phone, or access to it, is definitely a barrier for people who have problems sustaining their livelihoods. The adoption of mobile services also needs a certain level of innovation on the part of the farmers.

What are your preliminary conclusions?

Part of M-Farm's success has been its user-centered approach, which gives the service an edge over companies that focus mainly on the technological side of the services. The M-Farm team spends a lot of time in the field, talking to farmers and building trust. However, there is still work to be done when we look at mobile services from the perspective of poor and marginalized people. Although private sector-driven initiatives do not rely on external funding but sustain themselves and can adapt to the needs of the target groups, they will usually focus on groups that are able to pay. The challenge is to elaborate models that include groups of people who do not have the means to pay the full price for the services. One idea is to offer premium services to richer farmers and subsidize poorer farmers to enable them to benefit from basic services. To overcome the technical barriers, more effort should also be put into introducing voice-based systems to enable illiterate farmers to participate. Finally, targeted donor support can be beneficial to these groups by extending the reach of existing private-sector initiatives.

The interview was conducted by Andreas Rüter.



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