



## In focus: Biomass and energy

**Editorial**, p.2; **Lead article:** BIOMASS PRODUCTION IN AFRICA, p. 2;

**Research:** FRESH WATER USE IN CHINA, p. 4; FARMER-MANAGED IRRIGATION IN THE TRANS-HIMALAYA p. 4; ZEF'S RESEARCH ON BIO-ENERGY, p. 5; GENDER AND IMPACT OF SHOCKS IN RURAL BANGLADESH, p. 6; GENDER DIFFERENCES IN LAND USE DECISIONS, p. 7; FARMERS' DIARIES IN CENTRAL ASIA, p. 8;

**Doctoral theses @ ZEF:** PARTNERSHIPS AND NGOS IN HAITI, p. 9;

**Viewpoint:** INTERVIEW WITH LAURENT SÉDOGO, NEW WASCAL-DIRECTOR, p. 10;

**Facts & news**, p. 11; **Doctoral field research:** ENERGY SUPPLY IN THE ECUADORIAN AMAZON, p. 12

## Editorial: Bio-energy from the developing world - squaring the circle?

Anybody who has followed the recent discourse on bio-energy and/or bio-fuels vis-à-vis food security in the developing world might think that there is no chance to align these concepts. Just remember the stories on land-grabbing investors that turn rich farmland into bio-crop plantations, leaving the local peasants hungry, or the outrageous hopes that were once associated with wonder crops like *Jatropha*. Yet there is no doubt that developing countries need not only food but also biomass-based industrial raw-materials and especially energy, and that the latter is THE key for the economic and social development of their societies. Presently, biomass constitutes approximately 35% of the total energy consumed in developing countries, and in rural households in sub-Saharan Africa it is often more than 90%. Consolidating the ever increasing demand for biomass for food and non-food purposes, especially in chronically food insecure regions such as sub-Saharan Africa, and developing new future uses of biomass, for instance as industrial raw material resulting in higher added value, is hence the call! A project recently started at ZEF,

"BiomassWeb" (see article below), is trying to do just that. Studying biomass production in sub-Saharan Africa from various angles, positioning it in a biomass-based value web instead of in the conventional value chain, and looking at the full spectrum of biomass utilization from food to feed and energy source to industrial raw products might enable us to 'square the circle'. In reality, many farming communities in Africa and beyond have traditionally practiced mixed cropping systems that encompass also non-food crops like cotton, oil palm, coffee, tea, etc., among others, to generate additional income and spread risks through diversification.



*C. Borgemeister*

Christian Borgemeister  
Director of ZEF's Department of Ecology and Natural Resources Management

## Biomass production in Africa: Possible gains and risks

Concepts to increase food security while addressing growing demands for non-food biomass are still in their infant stages in Africa. So is the development of alternative biomass sources. Therefore, a project initiated by ZEF called BiomassWeb - Improving food security in Africa through increased system productivity of biomass-based value webs - aims at contributing to achieving food security in sub-Saharan Africa by focusing on biomass-based value webs.

### Biomass-based value webs in sub-Saharan Africa

Biomass is defined as biological material from living or recently living organisms, which can be used for food, feed, sources of energy and industrial raw materials. The rapidly evolving and growing global demand and competition for biomass as agricultural

output requires new concepts centering on biomass-based value webs. Various production, processing (incl. cascading reutilization of biomass), trade and consumption pathways can hardly be captured in a conventional value-chain approach.

The overarching goal of BiomassWeb is therefore to provide concepts for sub-Saharan Africa to increase food security through more and high-value biomass for both food and non-food purposes. An intensified food-biomass production, for example, increases the availability of food. Non-food biomass helps to generate income and, in this way, improves access to food. BiomassWeb intends to strengthen existing African expertise and add value to African agricultural efforts rather than to offer and transfer ready-made solutions to the African biomass-producing, processing and trading sector.

Biomass as a renewable resource is expected to play an increasingly important role in the future economies of most countries in sub-Saharan Africa. The expected trends of rising demand for more



diverse biomass-based produce from agricultural land will transform the traditional agriculture from a food-supplying to a biomass-supplying sector. Biomass-based economies comprise farms as producers as well as all industrial and economic sectors and their associated services that produce, process, distribute and consume or use biological resources in one way or another.

### **Agriculture: Many roles and functions, also in future bio-economies**

Agriculture is multifunctional. This is sometimes forgotten when thinking of the nearly one billion undernourished and over two billion malnourished people worldwide. The challenge of agricultural development is to allow people to live directly and indirectly from agriculture. It would enable them to produce enough food, to supply the markets with its produce as well as to earn a living from activities related to agriculture. A modern multifunctional agriculture should therefore not focus on food production alone, but on biomass production in general – besides all the environmental functions of agriculture not targeted in this project. Focusing on the production of food and non-food biomass from locally adapted crops can offer pathways to improve food security and to generate jobs. Income opportunities ensure access to food in rural areas, but even more in the biomass processing and trading sector. Agriculture has always fulfilled different functions and roles in human societies. Fulfilling these different roles will become even more important in an emerging bio-economy. Bio-economy refers to the sustainable use of biological resources such as plants, animals and micro-organisms - including the processing of bio-materials and the value adding associated with it.

### **The potential of biomass in Africa**

Many African countries have the potential to not only meet their own future demand for biomass-based produce but also to provide other African and industrial countries with raw materials and, most importantly, processed biomass products. But the actual available biomass is underutilized in sub-Saharan Africa. Despite this potential and according to a report of FAO published in 2013 on food insecurity, sub-Saharan Africa remains the region with the highest proportion of undernourished people related to the total population. To meet the food demand of Africa's fast growing population (from 1.02 billion people in 2010 to 1.56 in 2030 and 1.96 in 2050), and at the same time increase the income and supply of high-quality agricultural produce, Africa's agricultural sector will have to swiftly increase both its production and its productivity. Increasing the efficiency must include recycling processes in order to close material cycles. These recycling processes may occur between production and consumption, but especially in the processing phase of the biomass utilization.



Many African countries have the potential to export raw materials as well as processed biomass products.

### **Scientific perspective**

In this respect, the concept of biomass-based value webs is a useful scientific perspective to take when investigating agricultural activities in sub-Saharan Africa: (1) The development of multi-purpose crops allows producers to react flexibly to shifting demands, (2) the organizational features of value webs are inherently flexible and thus better suited to a volatile price environment when compared to the classical linear value chains, and (3) the web perspective better allows exploring synergies and identifying inefficiencies in an emerging agro-biomass sector, and thus could be critical to increasing the sector's efficiency.

**Manfred Denich and Detlef Virchow**

Both authors are ZEF Senior Researchers involved in BiomassWeb

Contact: [m.denich@uni-bonn.de](mailto:m.denich@uni-bonn.de); [d.virchow@uni-bonn.de](mailto:d.virchow@uni-bonn.de)



## How to fill the empty glass? Residential fresh water use in Dongying, China

China's residential fresh water use has risen by 37% in the past decade (2000-2011). Therewith, it represents the fastest increase among all water uses in the country. The rapid increase in residential and other fresh water uses has led to an overexploitation of water resources and threatens sustainable fresh water supply in China. In 2013, two thirds of Chinese cities lacked fresh water resources and 22% had serious water shortages. In contrast, 14% of rural households were still without access to safe drinking water in the same year. In this context, the issue of how water policy and research can contribute to an inclusive and sustainable fresh water supply is at the top of ZEF's research agenda.

### Background

ZEF is dealing with this conundrum in a research project entitled "Delta Information System for Geo-environmental and Human Habitat Transition" (DELIGHT), which started in April 2013. The research aims to understand fresh water use by households in the context of urbanization in China, taking an integrated perspective of economics, social science and geography. A systematic approach will be adopted to analyze (1) the determinants of residential fresh water use in China; (2) characteristics and patterns of household behaviors with respect to water use; (3) whether knowledge and communication can motivate urban households to conserve water. So far, ZEF researchers have examined the first issue and the other two will be explored by conducting a large-scale survey in Dongying, China.

### Preliminary results and recommendations

Based on a cross-disciplinary analysis, ZEF researchers have so far found rising household incomes, an aging soci-

ety as well as urbanization to be the main drivers for the rapid increase in residential fresh water demand in China. A 1% increase of urbanization rate gives rise to an increase in fresh water consumption per capita of 0.97% if we assume all the other factors do not change. Accordingly, if the average urbanization rate reaches 60%, average residential fresh water consumption will increase to 198 liters per capita per day, which is more than 60% of water consumption levels in European countries (120-130 liters per capita per day). This result implies that it is high time for the Chinese government to incorporate water conservation policies into eco-city and sustainable development policies. China should adopt a policy that induces a more efficient use of domestic water and encourages individuals to conserve water.

### Further activities

The project is collaborating with the German Aerospace Center (DLR) and the Chinese Academy of Sciences (CAS). The next step for ZEF's researchers will be to organize a large-scale survey in Dongying to investigate the behavior of urban households in terms of water use. Also, the researchers will study whether/how water conservation knowledge and communication affect attitudes and behaviors towards water conservation among urban households.

Lili Jia

ZEF Senior Researcher and project coordinator

Contact: [lili.jia@uni-bonn.de](mailto:lili.jia@uni-bonn.de)



## Farmer-managed irrigation in the Alai, Pamir, Karakorum and trans-Himalaya

This research looks at farmer-managed irrigation in the high altitude mountain valleys of the Kyrgyz Alai, the Tajik Pamir, the Pakistani Karakorum, and the Indian trans-Himalaya. It is part of the BMBF-funded research program Crossroads Asia.

### Farmer-managed irrigation systems

This study asks how farmer-managed irrigation systems across the region have, over time, been differentially transformed - due to government and non-governmental processes. It also asks how levels of equality and inequality between and among water-users have been affected by these changes. Field research has been conducted

in four mountain sites in Kyrgyzstan (Osh province), Tajikistan (Gorno-Badakhshan), Pakistan (Baltistan) and India (Ladakh's Kargil), including in-depth studies of irrigation channels and villages. Similarities in irrigation practices are found across the region, but there are also differences in the types of interventions taking place and in emergent inequalities in access to and control over water.

### Causes and impact

Migration, changing values and demographics impact the way farmers manage irrigation systems. The effect is most pronounced in the former Soviet regions (Alai, Pamir) because of the rapid decline in government funding and

high levels of out-migration in the past two decades. These effects are also tied to political developments within the respective regions, which largely determine how water-users or village-based leaders try to gain funds to renovate irrigation systems. The political context also determines how much attention a government pays to its mountain villages, which non-governmental organizations (NGOs) are present in a region, and the approaches both government and NGOs take to development interventions, e.g. top-down engineer-led approaches, or bottom-up participatory approaches.

### Inequalities

Perceptions of inequalities in access to and control over water vary according to the position of the actor, whether it be a woman or man, large or small landholder, well-to-do or poor household, an NGO or government official, and according to the cultural, religious and historical context (e.g. Soviet, Pakistani). The recording and interpretation of such perceptions is mediated by the researcher's stance.

*Crossroads Asia (www.crossroads-asia.de) is coordinated by ZEF and includes researchers from seven German universities. Crossroads Asia engages with the ongoing debate surrounding the future of area studies and the role of the traditional academic disciplines in the production of knowledge. Under the program empirical research has been undertaken from an actor-centered perspective across the geographical region which straddles Iranian studies, Central Asian studies, South Asian studies, Tibeto-Buddhist studies, Indo-Islamic studies, etc. involving disciplinary (political science, geography, anthropology, sociology, etc.) and interdisciplinary researchers (e.g. development studies).*

**Joe Hill**

ZEF Senior Researcher  
Contact: [jhill@uni-bonn.de](mailto:jhill@uni-bonn.de)



## Bio-economy for all? ZEF's research on the nexus of bio-energy and food security

The modern bio-economy is a rapidly developing sector that efficiently produces, transforms, and uses biomass. Food and bioenergy production, the two major components of bio-economy, are fraught with trade-offs, but also offer opportunities for synergies and win-win solutions.

### Biomass, bio energy - what's it all about?

Bioenergy is the principal source of energy used in most developing countries. Modern bioenergy innovations have a high potential for reducing poverty, improving health, empowering women, and promoting sustainable development. ZEF is expanding its research activities on bioenergy, especially on the water-energy-food security nexus, through case studies in Asia, East and West Africa.

### Nexus synergies with bioenergy

Modern bioenergy should be developed without undermining the long-term productivity of agriculture and the provision of ecosystems services. We are striving to achieve triple-win outcomes in terms of economic development, energy security and food security, especially for the poor. For this, all environmental, social (including gender and health) and economic aspects are to be evaluated. For example, according to the World Health Organization, indoor air pollution through burning traditional biomass causes 2.5 - 4 million premature deaths globally every year, especially among women. We aim at helping to mitigate trade-offs and promote synergies between bioenergy and other components of the water-energy-food security nexus.

### Decentralized energy options

Lack of access to clean, affordable and reliable energy is hindering the development of many communities in the developing world. Decentralized energy options at household and community levels could be a way forward for areas not connected to centralized grids - comprising a significant proportion of rural communities in developing countries. This research also seeks to evaluate the feasibility and potential impacts of decentralized energy production and use, including modern bioenergy, solar, wind and micro-hydropower.

### Institutional preconditions

Socially inclusive and responsible institutions and governance structures are needed if modern bioenergy is to deliver on its development potential. Governments should facilitate technological innovations and provide incentives for research and development, as well as secure land tenure, increase participation of community and local users of resources and improve market access.

**Alisher Mirzabaev**

ZEF Senior Researcher  
Contact: [almir@uni-bonn.de](mailto:almir@uni-bonn.de)



# Are women the better domestic shareholders?

## The impact of shocks on rural households in Bangladesh

A ZEF research team investigates the linkage between who owns an asset within a household and whether it is sold in response to shocks in rural Bangladesh. Our basic questions are: Does it make a difference whether the household head, his spouse, or the two of them jointly own an asset? Ultimately, the aim of the study is to contribute to the design of gender-sensitive policies and approaches aimed at protecting rural households from falling into poverty in response to shocks.

### Assets: An asset or liability?

Assets are an important indicator of a household's welfare. As such, they are often drawn down in response to shocks such as natural disasters or the death of a household member. This may push households deeper and more widely into poverty than can be measured through the direct loss of assets alone. This is especially the case if productive assets such as oxen or ploughs are concerned. Characteristics of the owner of an asset, e.g. his/her education, connectedness to other individuals who may be able to help in times of need, play a potentially large role.

### ZEF's data collection in Bangladesh

The ZEF research team started with collecting data in rural agricultural communities in Bangladesh. The same households were inter-

viewed in 2010 and 2012, respectively. Thus, the researchers have been able to follow households and individuals and to also look at changes that occur within households in response to shocks, rather than only looking at the average effect across the sample.

### Agriculture: A mainly male business

The researchers find that land is mostly owned by men, which reflects that women traditionally do not play a big role in agriculture in Bangladesh. Ownership of other types of assets, however, varies. Jewelry, for example, is generally an asset owned exclusively by the household head's spouse. Overall, research results reflect the fact that women are only weakly involved in the direct management of profitable agricultural activities in Bangladesh. However, they bear greater responsibility for caring for dependents and household members and contributing to subsistence farming.

### Gender matters

Besides studying specific types of assets (land, livestock, jewelry) we developed an index incorporating the various types of assets to gain an understanding of the overall effects of shocks. Our findings indicate that it matters who holds which assets in a household. Household heads and spouses respond differently to shocks and gender matters. Weather shocks (floods, cyclones, tornados), for example, affect assets held by males more strongly and have a weaker effect on those of spouses. In our sample, vehicles and agricultural tools appear to be important to agricultural production, determining the livelihoods of agriculture-dependent households. These tools and vehicles are often jointly held by households. It seems that together they try to keep these goods in functioning condition. These and other jointly held assets have the advantage that they are rarely drawn down in response to shocks.

### Collective action

Furthermore, we are investigating the role of collective action in the way households respond to shocks.

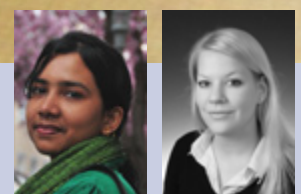
Specifically, we are studying whether risk diversification across households combined with consumption smoothing induced by group membership (for example women's groups) is able to act as an alternative to drawing down assets in times of need.



**Muntaha Rakib and Julia Matz**

Junior and Senior ZEF Researcher.

Contacts: [muntaha\\_rakib@yahoo.com](mailto:muntaha_rakib@yahoo.com); [jmatz@uni-bonn.de](mailto:jmatz@uni-bonn.de)



## Gender differences and functionalities of landscapes: Unraveling complexities

Gender equality is central to sustainability and is therefore among the high-priority goals addressed in the post-2015 development agenda. Though a lot of studies link gender with agriculture, health and food security, few show how gender-specific roles influence multifunctional landscapes, which in turn also affect ecological sustainability.

### Gender's role in land use decisions

The capacity of land to provide different goods and ecosystem services may be affected by the connection between gender and land use decisions (i.e., preferences for new land use options). This includes gender-specific dissimilarities in lifestyles and consumption patterns affecting the condition of the environment. We assume that stereotypes between men and women exist. For example, women are supposed to live more sustainably than men and leave smaller ecological footprints such as CO<sub>2</sub> emissions. This is based, among others, on the assumption that women travel less than men. Moreover, there is a contrast between how females and men choose and select land management practices.

### Research approach

A comparative study is currently being conducted at ZEF in collaboration with the World Agroforestry Centre and students from the WASCAL graduate program. The study verifies the hypothesis that the appreciation of tree cover and its associated ecosystem services varies according to gender and ecological knowledge. A multi-method approach is being implemented using a variety of tools such as land use intensity analysis, role-playing games and agent-based modeling (Fig. 1). The approach was first implemented in the province Jambi on Sumatra, Indonesia. Here, we explored the role of gender as a factor in decision-making about alternative land use options and in response to new investment opportunities. Currently, the approach is being replicated in Vietnam, the Philippines, and Northern Ghana.

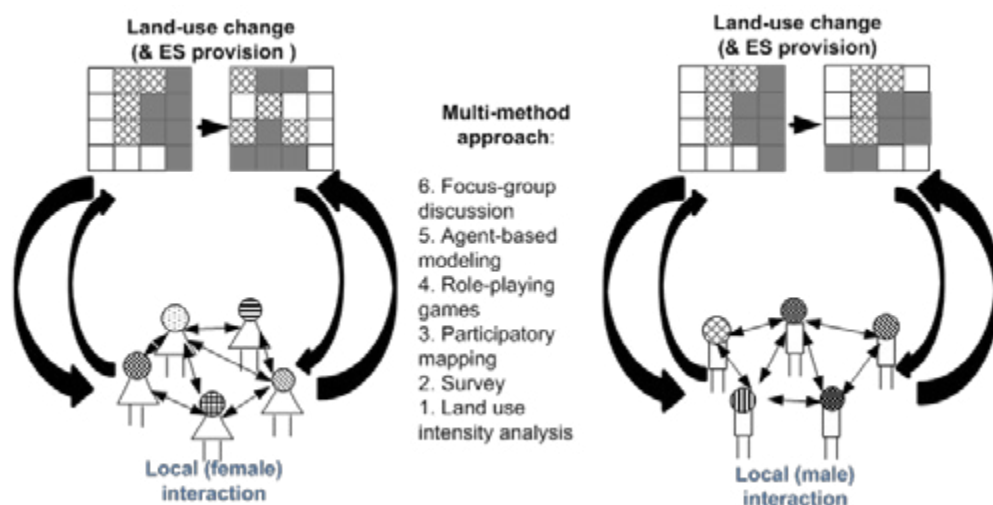


Figure 1 A multi-method approach (adapted from Villamor et al. 2013).

### Preliminary findings

The first implementation of the approach in Indonesia showed that women approached proposals by external investors on logging or oil palm conversion very positively. Consequently, the resulting land use change was more dynamic and extensive than in the equivalent men-only groups. Contrary to expectations and gender stereotypes, it is expected that more involvement of women in landscape-level decision making will increase emissions from deforestation and forest degradation in the area. This poses further challenges to efforts to reduce such emissions.

### Gender differences may matter

While some push gender equality as a pre-condition to sustainable development, it may be worthwhile recognizing the different roles of gender types. These include dissimilarities in physical strength, age, culture and wealth. This global comparative research hopes to bring new insights to the discussions on the post-2015 sustainable development goals.



Participatory research revealed that women take different decisions than expected.



**Grace B. Villamor**

ZEF Senior Researcher.

Contact: [grace.villamor@uni-bonn.de](mailto:grace.villamor@uni-bonn.de)

## Coping with transition in rural Central Asia and Caucasus: ZEF researchers gain insights from farmers' diaries

The states of Central Asia and the Caucasus are undergoing rapid socio-economic processes of transformation. At the same time, they continue to rely substantially on agriculture for providing livelihoods. In order to provide potentially better services to local farmers, a good understanding of the knowledge and information that form the basis of agricultural decisions is required.



Farmers' diaries reveal how local communities deal with transition.

### Research at ZEF

Two research projects at ZEF are tackling the question of how local farming communities in this region deal with the challenges of transition. Research comprises substantial and qualitative field research. In addition to conventional methods of qualitative research, a "farm diary" was designed and introduced to farming households. This enabled the researchers to (a) capture the full agricultural cycle and (b) experiment with and develop further the qualitative data collection method of diary writing, especially in a non-Western agricultural context.

### Methodology and implementation

Farm households documented their farming activities on a weekly basis for a one-year period. Particular focus lay on the thorough documentation of weekly farming activities, the reasons and motivations behind them, the knowledge stocks required and obstacles faced.

Surveys among farmers were conducted in two villages in Tajikistan – one in the southern Shartus region and another in Garibak village in the northern Zarafshan Valley. Since ZEF researchers Andreas Mandler and Hafiz Boboyorov had worked in these two locations before, the survey was based on well-established relations with communities and the research assistants were trusted people. Eight households in each village were selected

- based on their interest in contributing to the project, social situation, farm size, and educational background. The selected households had to fill in a four-page questionnaire on their agricultural activities on a weekly basis over a one-year period, except for the winter break. A small reimbursement was paid for each completed questionnaire. During this period, a research assistant would regularly visit the households. She collected the completed interviews and discussed the detailed accounts given by the farming families. The research assistant translated all collected farm diaries, after which they were checked by a local researcher and project member.

### Findings

The farm diaries provide detailed insights into farmers' weekly agricultural and daily activities throughout an entire production cycle. The responses outline routine agricultural activities such as the struggle for inputs and resources for agriculture, on-farm labor, or post-harvest processing such as sale and storage. Furthermore, the farm diaries reveal what knowledge and innovation sources are available among farmers, how they participate in community affairs and divide labor within their families. The data also provide examples of failing farming activities due to the acute shortage of financial resources. This insight explains why many households calculate that investments in agriculture will not pay off and choose to maintain farming activities on low levels. Farmers proudly reported agricultural achievements. The data, however, outline manifold conflicts and challenges surrounding access to natural resources, commercialization of produce and communal responsibilities. These conflicts might explain why investments and changes in agricultural production systems in the research area are hard to accomplish under the current circumstances.

This research is conducted in close collaboration with the Institute of Philosophical, Political and Legal Sciences of the Academy of Sciences of Tajikistan. Two ZEF projects are involved: 'Epistemic Cultures and Innovation Diffusion in post-Soviet Southern Caucasus and Central Asia' (funded by BMBF) and the project 'Conversion of Knowledge in post-Soviet Agriculture' (funded by the VW Stiftung).

### Outlook

The farmers' diaries were collected between 2012 and 2013, and the data are being analyzed now. The data offer a very intricate and personal insight into the motivations and preferences of the farming families and the localized logics of everyday farming practices in Tajikistan today.



**Andreas Mandler, Anna-Katharina Hornidge, Anastasiya Shtaltovna, Hafiz Boboyorov**

All authors are ZEF researchers involved in the project.

**Contacts:** amandler@uni-bonn.de; hornidge@uni-bonn.de, shtaltov@uni-bonn.de; hafizboboyorov21@hotmail.com



# Doctoral @ ZEF theses

## Exploring alternative spaces in partnerships of international and Haitian NGOs

Haiti. The “Pearl of the Caribbean”, the proud country with the only successful slave revolution in history, the first independent black republic. However, these are the more positive attributes that come to mind when thinking about the country. More often, Haiti is known as the “Republic of NGOs”, the poorest country of the Western hemisphere with the second highest number of foreign NGOs in the world. However, ZEF research found out that the results of this involvement have been disturbingly minute.

### Failing or prospective partnerships?

The causes of failure are manifold: Top-down interventions have caused the disempowerment of Haitian actors rather than producing sustainable change. After decades of international development work, conditions have not essentially improved. This ZEF research explores partnerships of international NGOs (INGOs) and Haitian organizations (HNGOs). Despite many failings in the past, partnership continues to be imagined as the only just and potentially productive form of engaging in North-South NGO interaction. The research aims are (1) to analyze conditions and limitations of partnership, and (2) to identify possible alternative spaces where INGOs help to produce change, but do not co-opt or overwhelm Haitian visions. Insights can contribute to reshaping interactions in order to reach a better level of sustainability.

### Preliminary findings

Field research was carried out in the Haitian capital and four departments in 2012 and 2013. Data was collected through participant observation, narrative interviews and group discussions with INGO and HNGO staff, activists, community leaders and grassroots groups. Preliminary findings suggest that although claims emphasize the importance of equality, participation and dialogue, respondents are aware that these conditions are rather an ideal than a fact. There is a narrative of trickle-down effects by INGOs, who view themselves as intermediaries in the larger aid system, and this determines the nature of the relationships. INGOs find themselves in positions where, in order to demonstrate impact and results to their

own donors, they feel the need to dominate processes of decision making and implementation. Although this compromises sustainability by weakening Haitian actors, INGOs feel that they don't have sufficient space to challenge these structures.



Group discussions were part of the research conducted in Haiti.

### One exception to the rule?

Further, potentially alternative models of engaging were explored. One example evaluates an INGO that views its role as supporting groups to fulfill their rights rather than to facilitate development. Instead of engaging in traditional project work, they cooperate with locally existent structures of self-help and solidarity. They position themselves politically by actively participating in a movement against the exploitation of natural resources. Although this INGO is part of the aid system, it does not accept Official Development Assistance (ODA). There seems to be evidence that the reframing of interaction within political terms of global interdependence, solidarity and rights in connection with independent funding allows more sustainable processes of change.

**Julia Schöneberg**

Junior Researcher in ZEF's Department of Political and Cultural Change.

Contact: schoeneb@uni-bonn.de



# Viewpoint

*“WASCAL is not only about obtaining research results but also about bringing these to the level where decisions are made”.*

Interview with WASCAL's new Executive Director,  
Dr. Laurent Sédogo.



*Laurent Sédogo, former Minister of Agriculture, Water Resources and Fishery of Burkina Faso, took over as new Executive Director of WASCAL as of February 14, 2014. Dr. Sédogo holds a PhD in the sustainable management of natural resources from Wageningen University, The Netherlands.*

WASCAL ("West African Climate Service Center") is a research and capacity development program under the umbrella of ECOWAS and is financed by the Federal German Ministry of Education and Research (BMBF). The ten West African WASCAL partner countries are Benin, Burkina Faso, Côte d'Ivoire, The Gambia, Ghana, Mali, Niger, Nigeria, Senegal and Togo.

## **As a former minister, what brings you to WASCAL, an interregional climate service center?**

Well, besides being a scientist I am also a development expert. I have been involved in rural development in my own country and managed projects on land degradation, for example. I have worked with people in grass-root movements. Being in the position of a minister gives you the opportunity to bring the views and perspectives of local people to a higher level of decision-making. Later on, I had the chance to conduct my PhD degree. I did not only use technologies like Geographic Information Systems (GIS), but also implemented participatory approaches in my field research. I used these to set up participatory land use planning and management activities. These experiences gave me a broader view of how we can take development forward and were key factors for my decision to join WASCAL. However, WASCAL is not a mere scientific institution, but one that aims to develop West Africa. It is tackling the important issue of the impact of climate change.

## **What are the challenges West Africa is facing regarding climate change and land use?**

I think West Africa is one of the most vulnerable parts of the world. At the same time, we have one of the strongest ecosystems in the world. This can cause problems with regard to land management, especially in the Sahara desert. Most West African countries are affected by their proximity to the Sahara desert and the Sahel. The livelihoods of the people in this region are driven by these factors. In West Africa we are living with the realities and consequences of the impact of climate change. Therefore, it is important for us to find solutions on a regional scale, not only on a global one. We have to make West Africa and its people more resilient to climate change.

## **Do you have experience in bridging the gap between research and practice?**

Of course, my background is right in line with this issue: I have worked with people and NGOs at the local level, helping them to take the right decisions for land management. But, we also need to bring concerns and activities to a higher level of decision-making. Sometimes we miss the development track because we fail to link local perspectives with higher decision-making processes. So it is necessary that we take decisions that meet the expectations of local people. Especially, when we are dealing with land - because land is all these people have. I think the big challenge for WASCAL will be to bring together the local, regional and national levels of decision-making. WASCAL is not only about obtaining research results but also about bringing these to the level where the decisions are made.

## **What are your experiences with interregional cooperation?**

If decisions regarding climate change adaptation and people's behavior are to have a relevant impact, they must be taken at the regional level. Our understanding of climate should be from a regional perspective. I think I understand how these regional institutions work and what kind of challenges they face. I have been work-

# Facts & news

ing with regional institutions such as the Interstates Committee for Drought Control in the Sahel (CILSS). Getting things done from local to national level is not an easy exercise, but scaling up from a regional level is also a tremendous job. WASCAL has a chance because it was established as a regional initiative and is recognized as a West African institution. It is linked with ECOWAS, which is an umbrella of West African regional political institutions dealing with policy-making in different sectors. I think that WASCAL will be a great boon with this link and its capacity to develop partnerships. We have to come up with scientific outcome, but we should also use the ladder to climb up to the regional level and trickle down where needed.

## What are your visions and priorities for the future of WASCAL?

My medium to longer-term vision is that WASCAL will become a strong institution in climate change with highly valued research results in the domain. We will strive not only to contribute to the understanding of global change phenomena and mitigation activities, but also to create results to help regional and national decision-makers and local people. We need to build capacity for climate change resilience. So my vision is to make WASCAL a strong institution, which is able to tackle all these ambitious perspectives. I want to build an institution where everyone will feel very comfortable to work, creating an inspiring environment for researchers, policy-makers and everyone who really needs WASCAL's outputs. Finally, I hope that together with our researchers, educators, and students but also with partners like ZEF, the University of Bonn, the BMBF, our African partners, and national governments, we will be able to build a strong institution that is able to fulfill the objectives set.

*The interview was conducted by Jelana Vajen.  
Contact: [jvajen@uni-bonn.de](mailto:jvajen@uni-bonn.de). See [www.wascal.org](http://www.wascal.org).*



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

## WASCAL science meeting at ZEF

Around 80 people from more than 16 countries participated in the first science meeting of the WASCAL partners at ZEF on January 22-24, 2014. They exchanged information on concepts, approaches, and findings achieved so far. The newly appointed Executive Director of WASCAL, Laurent Sédogo, and Barry Boubacar, Coordinator of the WASCAL Competence Center, joined the meeting, where 52 presentations by senior and junior researchers were discussed. **Contact:** John Lamers, [jlammers@uni-bonn.de](mailto:jlammers@uni-bonn.de). See [www.wascal.org](http://www.wascal.org)

## ZEF hosts international secretariat of GlobalHort

With a presentation by Dyno Keatinge, Director General of The World Vegetable Center and the Chair of the Board of Directors of the Global Horticultural Initiative on January 13, 2014 ZEF was officially inaugurated as host of the international secretariat of GlobalHort. The latter is a consortium of national and international research and development organizations aiming to improve the role of horticulture for development in research and practice. Detlef Virchow, ZEF senior researcher, will be heading GlobalHort as Executive Secretary. **Contact:** Detlef Virchow, [dvirchow@globalhort.org](mailto:dvirchow@globalhort.org). See [www.globalhort.org](http://www.globalhort.org)

## Food and nutrition security for all – a pending process?

This question was discussed by international researchers and experts together with African partners and stakeholders in the Ethiopian capital Addis Ababa in October 2013. You can read about the main scientific outcome, perspectives of African participants, and watch interviews as well as a short video on [www.foodsecure.eu](http://www.foodsecure.eu). ZEF is one of the main partners in the FOODSECURE research consortium. **Contact:** Nicolas Gerber, [ngerber@uni-bonn.de](mailto:ngerber@uni-bonn.de)



## Stay in touch with ZEF



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



[twitter.com/zefbonn](https://twitter.com/zefbonn)

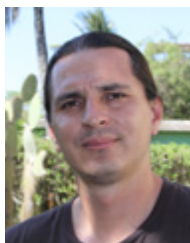


[youtube.com/zefbonn](https://www.youtube.com/zefbonn)



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

## Bringing light into the darkness of the Ecuadorian Amazon demands lots of energy



**ZEF Junior Researcher José Jara Alvear talks about his doctoral field research in his home country Ecuador.**

**Where are you doing your field research exactly and what are the main issues of your research?**

I am doing my field research in the southern part of the Ecuadorian Amazon. Here, more than 2,500 Shuar and Achuar families receive electricity using solar home systems under the program “Yatsa li Etsari” (Light from our Sun). My research methods combine the Geographic Information System (GIS) and system analysis tools (such as System Dynamics) as an innovative method. The goal is to assess how sustainable decentralized rural electrification works in remote indigenous Amazon communities.

**What is interesting about rural electrification in rural and indigenous communities?**

Most of the people without electricity live in rural or indigenous communities. Electricity can improve living conditions. For instance, in some Amazon villages, solar home systems provide energy for lighting. In turn, lighting not only drives away bats that spread human rabies in the region but also enables children to study and grown-ups to make handicrafts at night (the latter generating income). It also improves conditions for women to prepare food at night, thus influencing the health of the family positively. Due to electricity, people in this region can have radios, phones or internet, which can help to reduce their isolation.

**Why is the situation particularly serious in the Ecuadorian Amazon?**

Grid expansion is not feasible due to restricted access to Amazon villages by air and river. Decentralized rural electrification is an alternative. However, the region’s remoteness also makes electrification a difficult endeavor. Projects often fail due to a lack of means of communication and language constraints, high installation and maintenance costs, and a shortage of spare parts. Moreover, low incomes and a lack of education among the population make it difficult for end-users to understand the project and its technology. In addition, the isolated location reduces the possibilities for using energy productively as local communities only have limited access to markets. Last but not least, the level of isolation of Amazon people has led to a situation where electrification depends on the political will of the current administration. After all, the people there do not represent a significant share of the electorate and the region’s electrification is not a profitable undertaking.

**What are the advantages of decentralized rural electrification? Is it sustainable?**

To make decentralized rural electrification a sustainable enterprise, we need a holistic analysis of the interconnectedness of technological, human and environmental systems in rural areas. We do not only need to understand how sustainable the project is, but also what impact it will have on rural development. The sustainability of decentralized rural electrification involves tradeoffs, and therefore we need to balance its impact on environmental, human and economic spheres.

**Why do solar home systems initiatives frequently result in project failures?**

The absence of integral planning involving the active participation of future users leads to solutions that are often not suited to the real needs of the people living in the Amazon. Decentralized rural electrification initiatives should not be designed by engineers only. They need a trans-disciplinary approach in order to find answers to how energy can contribute to rural development without harming the fragile ecosystem, while at the same time preserving indigenous culture.

**What do you want to achieve with your research work?**

I am using different research methods such as literature review, workshops, interviews and quantitative surveys to identify the key success factors for decentralized rural electrification in the Ecuadorian Amazon. I plan to develop a holistic model on this basis. This can then be used as a tool to explore actions needed to ensure the continuous operation of power systems and support rural development in accordance with the needs of the indigenous people.

**José Jara Alvear works in ZEF’s Department of Ecology and Natural Resources Management.**

*The interview was conducted by Sebastian Eckert.*

### Imprint

**Publisher:** Center for Development Research (ZEF)

University of Bonn | Walter-Flex-Straße 3 | 53113 Bonn | Germany | phone: +49 (0)228 / 73 6124 |

fax: +49 (0)228 / 73 18 89 | e-mail: presse.zef@uni-bonn.de | www.zef.de

**ISSN:** 1438-0943

**Editors:** Irit Eguavoen, Franz Gatzweiler, Bernhard Tischbein and Alma van der Veen (resp.); Lynn Benstead and Margaret Jend (language editing)

**Layout:** Sebastian Eckert

**Photos:** ZEF

**Printers:** Medienhaus Plump, Rheinbreitbach

**Number of copies:** 1,100.

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

