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**UNIVERSITÄT  
BERN**

**CDE**  
CENTRE FOR DEVELOPMENT  
AND ENVIRONMENT

# Centre for Development and Environment

SPOTLIGHT ON KNOWLEDGE FOR A NEW DEVELOPMENT AGENDA

ANNUAL REPORT 2013



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Cover photo: Two generations take a stroll in Sehoul, south of Rabat, Morocco. The region is affected by desertification. In the past, increasing overgrazing led to land degradation, causing siltation of the drinking water reservoir visible in the background. CDE researchers worked with the local population and Moroccan scientists to analyse the causes of land degradation and find more sustainable land management options. Photo: Gudrun Schwilch, CDE

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## A word from CDE's Founding President



Hans Hurni  
President of CDE Board  
2009–2013

Dear reader,

*This annual report reflects three major milestones that point CDE's way forward and deserve special attention. First, the 25-year-old Interdisciplinary Centre for General Ecology (IKAÖ) and many of its staff, projects, and activities were integrated into CDE in 2013. In connection with this, two affiliated professorships were established in biology (Eric Allan) and sociology (Ulf Liebe). CDE's research and teaching have been greatly enhanced by these additions along with a new bachelor's-level Minor in Sustainable Development. The minor was launched in autumn 2013 and attracted over 140 students, far exceeding expectations. Similarly, the International Graduate School (IGS) North-South – coordinated by CDE and jointly run with the universities of Basel and Zurich – continues to enjoy success; there are 32 PhD students participating at the University of Bern alone. The second milestone was CDE's successful acquisition of a new university performance mandate, securing another four years of well-defined tasks and core funding covering 21% of CDE's budget. This together with funding to the university's Department of Integrative Geography (DIG) means the university contributed almost 30% of CDE's and DIG's combined budget in 2013. Finally, the successful conclusion of the NCCR North-South – after three full four-year terms – was the third major milestone of 2013. It was celebrated with an event in June 2013 attended by Maya Graf, President of the Swiss National Council, and many other science and policy stakeholders.*

*Please allow me to make some additional, personal remarks. When CDE was first founded in 1988 as an integrative research group in the Institute of Geography, I had the privilege of being its first director. Now, 25 years later, I have had the pleasure of accompanying CDE's establishment as a university-level centre (2009) in my role as founding president of the CDE Board. Over the years, I have watched CDE grow not only in size and scope, but also, and especially, in its ability to respond to changing needs both in partner countries and in Switzerland and to help shape global development. Thanks to its international network and long-standing presence in five regions worldwide, CDE is well positioned to contribute expertise and development-relevant knowledge on behalf of implementing and monitoring the upcoming Sustainable Development Goals of the United Nations – a set of shared global objectives that will likely govern action on sustainable development for decades to come.*

*For 2014 and beyond, I wish CDE's management and staff in Switzerland and abroad continued inspiring and constructive work in research, education, and support for sustainable development.*

Hans Hurni, President of CDE Board, 2009–2013

A handwritten signature in black ink, consisting of a series of fluid, connected loops and strokes, representing the name Hans Hurni.



# Contents

<b>A word from CDE's Founding President</b> .....	1
<b>Continuity and evolution</b> .....	4
<b>Programme work</b> .....	6
Programme overview .....	6
Programmes and mandates in 2013 .....	8
Programme highlights .....	10
<b>Spotlight on knowledge for a new development agenda</b> .....	15
Quantifying poverty: More than just dollars and cents .....	17
Beyond national borders: Assessing the sustainability of Swiss firms' foreign land investments .....	19
Negotiating trade-offs for sustainable development: Can mobile phones solve water conflicts? .....	21
Influencing policy: Lessons from the report on land concessions in Laos .....	23
<b>Partners and networks</b> .....	25
The Water and Land Resource Centre (WLRC) Ethiopia, in brief .....	25
<b>Publications in 2013</b> .....	28
<b>Organization chart</b> .....	35
<b>Personnel</b> .....	37
<b>CDE's PhD students at the International Graduate School (IGS) North-South in 2013</b> .....	41
<b>Finances</b> .....	43

# Continuity and evolution

Thomas Breu and Peter Messerli



Peter Messerli



Thomas Breu

## A look back on some key developments in 2013

.....  
"To produce knowledge for sustainable development in cooperation with partners in the global North and South" – that is our mission at the Centre for Development and Environment (CDE). Now in its fifth year as an interdisciplinary university centre, CDE recently received its second performance mandate (2014 to 2017) including wider responsibilities – especially in sustainability education – and greater funding. This performance mandate will enable CDE to continue making substantial contributions to the university's sustainability goals in accordance with its new *Strategy 2021*. CDE's new mandate reflects the successful linkage of research activities and provision of policy advice – locally and internationally – made possible especially by the recently concluded 12-year NCCR North-South programme.

## Evidence for global debates

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Thanks to its international network, CDE made crucial contributions to development debates on sustainability. Here are just a few examples. First, the World Overview of Conservation Approaches and Technologies (WOCAT) network – coordinated by CDE – participated in an effort by the UN Convention to Combat Desertification (UNCCD) to improve their documentation of sustainable land management practices; this work was rewarded in April 2014 when the UNCCD officially nominated WOCAT as the primary recommended database on best practices and technologies of sustainable land management. Second, in early 2013, the Land Matrix Global Observatory project on large-scale land acquisitions – in which CDE works together with international partners – published revised data on the extent of large-scale land investments, prompting a significant media response internationally. Third, in the newly launched EU-financed RECARE Project, CDE researchers began collaborating with 27 international partners to examine the interaction of soil systems and human activities, with the aim of developing policy recommendations for land care in Europe. Fourth, together with the Food and Agriculture Organization, CDE played a leading role in the creation of *Mountain Farming is Family Farming*, a publication in observance of the UN-declared International Year of Family Farming 2014.

## Making a difference on the ground

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These and other CDE contributions to global policy debates would not have been possible without firm knowledge of development processes and dynamics on the ground. In 2013, substantial progress was made in securing certain long-running research partnerships – some stretching back 30 years – and the related development of various global change observatories in five regions worldwide. Key in this regard were two major programmes financed by the Swiss Agency for Development and Cooperation (SDC) that have now entered new phases, namely the Water and Land Resource Centre (Horn of Africa and East Africa) and the Lao DECIDE Info project (Southeast Asia). Further, two successes were recorded in 2013 in connection with the Programme for Research on Global Issues for Development (r4d programme) funded jointly by SDC and the Swiss National Science Foundation: a CDE research project



Interviewing farmers about their land use practices in the village of Banda (Analanjirifo region, north-eastern Madagascar).  
Photo: Paul-Clément Harimalala

on sustainable renewable energy policies in East Africa was approved, as was a project on the feminization of export-led agriculture in Bolivia, Laos, Nepal, and Rwanda.

### Enhancing education for sustainable development

CDE's course offerings were expanded thanks to the integration of the Interdisciplinary Centre for General Ecology (IKAÖ). The bachelor's-level Minor in Sustainable Development was launched in the autumn semester. It was greeted with enthusiasm and currently has over 140 students. Based on new partnerships and structures, the long-term horizon of the Certificate Course on Sustainable Development (CAS NE) was expanded in terms of content and placed on a new financial footing.

CDE continued its key role in the inter-university doctoral programme known as the International Graduate School (IGS) North-South, which was developed based on the experience of the NCCR North-South programme. Jointly supported by the universities of Bern, Basel, and Zurich, the doctoral programme currently encompasses almost 60 PhD students. A central component of its wide-ranging educational offerings is the annual IGS Summer School, which was jointly implemented in 2013 with the Centre Suisse de Recherches Scientifiques in Abidjan, Côte d'Ivoire, and was attended by 20 students from the South along with students from the North. Finally, CDE assumed a central role in the University of Bern's effort to anchor sustainable development in all of its bachelor's and master's programmes.

### Mutually rewarding cooperation and research networks

Founded in 1988 as a research group of a few people within the Institute of Geography, CDE has since grown to become a university centre in its own right encompassing well over 80 employees and around 80 research, outreach, and policy projects. CDE's rising profile and position would not be possible without its cooperation with various partners and networks within and beyond academia. Thanks to the ongoing incorporation of new CDE members, more and broader aspects of sustainability are being covered. Last year saw the addition of experts in contemporary history, sociology, plant biology, as well as in European and international economic law. Further, the newly established affiliate professorships in biology and sociology began their joint activities with CDE in research and teaching. Within the Swiss research landscape, it was also possible to further strengthen collaborations through joint projects with sustainable-development-focused institutes at the universities of Zurich, Basel, Lausanne, Fribourg, and Geneva, as well as with the Graduate Institute Geneva (IHEID) and ETH Zurich. At the international level, CDE expanded its collaboration with prominent organizations involved in research, policy, and implementation. Particular emphasis was given to securing the position of our long-running partner institutions in East Africa, Horn of Africa, South Asia, Southeast Asia, Central Asia, and Latin America, while the NCCR North-South programme drew to a close.

# Programme work

## Programme overview

CDE's portfolio includes national and regional programmes as well as global mandates. Funding comes from diverse sources. CDE's unique selling points are the diversity of the development contexts it works in worldwide; the link between research, training, outreach, and policy advice; and the long-term engagement that many of our

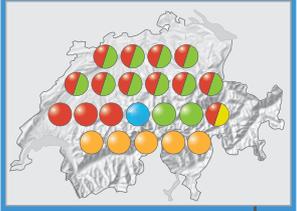
programmes represent. This engagement is based on trusted partnerships with regional institutions and the people who work there, and with funding partners who are willing to support such long-term research and development activities.

**Global networks hosted at CDE**

Many of CDE's programmes and mandates have a global reach and are managed from our headquarters in Bern, Switzerland. The activities of these networks strengthen our regional engagements, but include other regions or cover specific development contexts worldwide. One example is the international peer-reviewed journal *Mountain Research and Development* (MRD), of which CDE hosts the editorial office and which covers all major mountain regions in the world.

**Swiss Alps**

With its contributions to Swiss Alpine research, CDE aims to promote sustainable development in the Swiss Alps. CDE's research focuses on local participation in protected areas and UNESCO world heritage sites, their management and monitoring, regional development in mountain areas, as well as resource governance and institutional change. CDE's work in the Swiss Alps builds on its long-standing research experiences both in the region itself and in other regions of the world.



**South America**

Bolivia, Peru

Complex change is taking place in Bolivia and Peru. New societal paradigms are emerging, ranging from endogenous forms of sustainable development (e.g. "vivir bien") to efforts to counter previous neo-liberal policies by strengthening the state (e.g. by promoting extractive industries to finance public policies). CDE's research focuses on land governance, natural resources, biocultural diversity, livelihood options for the rural poor, and related social and political movements. Research is conducted with the Centre for Agroecology (AGRUCO) in Bolivia and other international and local partners.



- Funding partners**
- Swiss Agency for Development and Cooperation
  - University of Bern
  - Swiss National Science Foundation

## Horn of Africa

Ethiopia, Eritrea

People in the Horn of Africa face major challenges such as their high dependence on often degraded natural resources, extended droughts, and internal conflicts. CDE's research covers land and water management, water governance, hydro-sedimentology, geographic information systems, remote sensing, and socio-economic issues. Its work is coordinated by the Water and Land Resource Centre (WLRC) in Addis Abeba, Ethiopia, which is also the official liaison office for Swiss-Ethiopian bilateral research activities.



## Central Asia

Tajikistan, Kyrgyzstan

Central Asia, confronted with a combined water, energy, and food crisis, faces a number of challenges regarding political stability and social cohesion. CDE's research focuses on sustainable land management, integrated watershed management, monitoring of natural resources, and decision support for land use planning. Research is conducted in collaboration with the University of Central Asia in Bishkek, Kyrgyzstan, and other international and local partners.



## Southeast Asia

Lao PDR, Vietnam, Cambodia

Southeast Asia continues to be an economically dynamic region with spectacular annual growth rates driven largely by investments in land and natural resources. However, issues related to equity, sustainability, and demographic change could disrupt this growth and derail sociopolitical stability. CDE's regional initiatives aim at inclusive development with a particular commitment towards less privileged population segments. CDE's research provides stakeholders with new evidence and innovative tools to support decision-making and guide development interventions.



## East Africa

Kenya, Tanzania, Mozambique, Madagascar

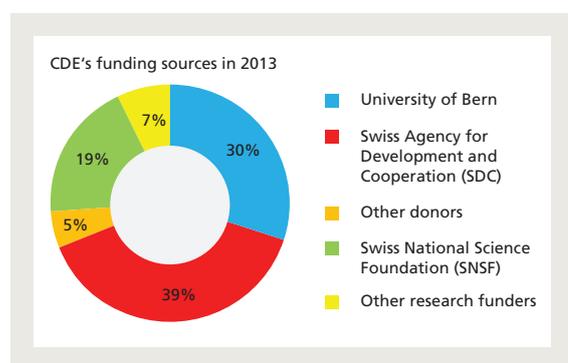
East Africa is highly susceptible to effects of climate change such as drought or flooding. Key topics of CDE's research in East Africa include sustainable management of natural resources, rural development, and poverty reduction. In Kenya, CDE's work is coordinated through CETRAD, a research and training institute based in Nanyuki. In Tanzania, Mozambique, and Madagascar, CDE works with various local partners.



- Other research funds
- Other international and national donors

# Programme work

## Programmes and mandates in 2013



Shares of funding sources for CDE's activities and services in 2013.

Donor	Pledged funds (in CHF)
University of Bern <sup>1</sup>	3,532,100
Swiss Agency for Development and Cooperation (SDC)	4,666,000
Other donors	568,000
Swiss National Science Foundation (SNSF)	2,237,000
Other research funders <sup>2</sup>	855,000
<b>TOTAL</b>	<b>11,858,100</b>

Sources of funding for CDE's activities and services in 2013, including entrusted funds.

Programmes and mandates by cluster (bold)	Funds (CHF)	Project type <sup>3</sup>	Main donors	Countries/regions
<b>Natural Resources and Ecosystem Services</b>				
Sustainable Land Management in Mountain Regions	18,000	Research project (C)	SNIS	Bolivia, Nepal
CASCADE – Catastrophic Shifts in Drylands	75,000	Research project (C)	EU-FP7	Mediterranean Basin
RECARE – Preventing and Remediating Degradation of Soils in Europe Through Land Care	108,000	Research project (C)	EU-FP7	Europe, Switzerland
Impacts of Reducing Emissions From Deforestation and Forest Degradation and Enhancing Carbon Stocks (I-REDD+)	50,000	Research project (C)	EU-FP7	China, Indonesia, Laos, Vietnam
NCCR North-South Research Project on Land Resource Potentials	100,000	Research project (A)	SNSF, SDC	Ethiopia, Kenya, Tajikistan
NCCR North-South Special Research Project on Water	80,000	Research project (B)	SNSF, SDC	Global
World Overview of Conservation Approaches and Technologies (WOCAT)	500,000	Outreach/Policy (C)	SDC, IFAD	Global
Disaster Risk Management	50,000	Outreach/Policy (C)	SDC	Tajikistan
<b>Multidimensional Disparities</b>				
Lao DECIDE Info II and III	265,000	Outreach/Policy (C)	SDC	Laos
NCCR North-South Research Project on Access and Welfare	172,000	Research project (A)	SNSF, SDC	Kenya, Laos, Mauritania, Tanzania, Vietnam
NCCR North-South Research Project on Adaptation to Climate Change	40,000	Research project (A)	SNSF, SDC	Pakistan, Côte d'Ivoire, Kenya, Swiss Alps
NCCR North-South Special Research Project on Climate	75,000	Research project (B)	SNSF, SDC	Global
NCCR North-South Special Research Project on Food	110,000	Research project (B)	SNSF, SDC	Global
NCCR North-South Special Research Project on MDGs	25,000	Research project (B)	SNSF, SDC	Global
Ambizione – Resilient Agriculture-Based Livelihoods: Adaptation to Climate Change in Africa	190,000	Research project (A)	SNSF	Tanzania, Kenya
Mekong Training Workshop	20,000	Outreach/Policy (C)	SDC	Laos
Impact Assessment of Pastoralist Field Schools	55,000	Outreach/Policy (C)	FAO	Ethiopia, Kenya, Uganda
<b>Governance of Land and Natural Resources</b>				
NRP 61 – MontanAqua	35,000	Research project (B)	SNSF	Switzerland
NCCR North-South Research Project on Rural Transformation	100,000	Research project (A)	SNSF, SDC	Bolivia, Mexico
Swiss Alpine Research	100,000	Research project (B)	UNESCO World Heritage	Switzerland
Water and Land Resource Centre	1,000,000	Outreach/Policy (B)	SDC	Ethiopia, Kenya, Tanzania
NRP 61 – Water Governance: Principles for Successful Practice in Sustainable Water Management	55,000	Research project (C)	SNSF	Global

<b>Global Change Impacts</b>				
Backstopping Mandate on Environment and Development	100,000	Outreach/Policy (C)	SDC	Global
Knowledge Management for Sustainable Development in Mountain Areas	40,000	Outreach/Policy (C)	Austrian Development Agency	Global
Land Observatory	200,000	Outreach/Policy (C)	SDC, ILC	Laos, Cambodia, Tanzania, Madagascar, Peru
Development of Nature Conservation and of Protected Areas in the Slovak Carpathians	40,000	Outreach/Policy (C)	SDC, EU-Cohesion Fund	Slovakia
Mountain Research and Development (MRD) International Scientific Journal	205,000	Outreach/Policy (B)	CDE, ICIMOD, IMS, SDC, others	Global
NCCR North-South Research Project on Landscape Transformation	155,000	Research project (A)	SNSF, SDC	Ethiopia, Kenya, Laos
NCCR North-South Special Research Project on Land	80,000	Research project (B)	SNSF, SDC	Global
NCCR North-South Thematic Node 3 Core Activities	70,000	Research project (A)	SNSF, SDC	Global
Mountain Development After Rio+20	100,000	Outreach/Policy (C)	SDC	Global
Large-Scale Land Acquisitions in Southeast Asia	50,000	Research project (C)	SNIS	Cambodia, Laos
Nam Theun 2 Hydropower Project Monitoring	70,000	Outreach/Policy (C)	World Bank	Laos
Global Mountain Vulnerability Report	30,000	Outreach/Policy (C)	FAO	Global
ELD – Economics of Land Degradation Initiative	33,000	Outreach/Policy (C)	GIZ	Ethiopia
<b>Innovations for Sustainable Development</b>				
Eastern and Southern Africa Partnership Programme (ESAPP)	1,000,000	Outreach/Policy (B)	SDC	East Africa, Horn of Africa, Madagascar
Bioenergy in Africa and Central America (BIA)	60,000	Outreach/Policy (C)	EU-ERA-ARD	Ethiopia, Kenya, Tanzania
The Prospects of Pro-Poor Biomass Energy Value Chains in Rural–Urban Contexts in East Africa	16,000	Research project (C)	SNSF	Kenya, Tanzania
Biofuel Production: Spatial Impacts and Normative Powers	70,000	Research project (A)	SNSF	Global, Ethiopia, Tanzania
The Agrobiodiversity Initiative (TABI)	200,000	Outreach/Policy (C)	SDC	Laos
Transforming Tanzania's Charcoal Sector	40,000	Outreach/Policy (C)	SDC	Tanzania
<b>Education for Sustainable Development</b>				
International Graduate School (IGS) North-South	137,000	Outreach/Policy (B)	University of Bern	Global
IGS North-South Summer School 2013	65,000	Outreach/Policy (C)	KFPE	Global
Training Course on Climate Change	20,000	Outreach/Policy (C)	SDC	Global
Various teaching mandates, e.g. Zurich University of Applied Sciences, NADEL/ETH Zurich, University of Lucerne	20,000	Outreach/Policy (C)	Mandating institutions	Switzerland
Integration of Sustainable Development in Curricula	17,000	Outreach/Policy (C)	SUC	Switzerland
Bernese Prize for Environmental Research	10,000	Outreach/Policy (C)	University of Bern, others	Global
Certificate of Advanced Studies in Sustainable Development	20,000	Outreach/Policy (C)	Various funds	Switzerland
<b>Services Unit</b>				
Various books, brochures, editing of publications	20,000	Outreach/Policy (B)	Mandating projects	
NCCR North-South Partnership Regions (JACS)	450,000	Research project (B)	SNSF, SDC	Global
NCCR North-South Management Centre	500,000	Research project (B)	SNSF, SDC	Global
NCCR North-South Thematic Nodes 1 and 2	1,035,000	Research project (B)	SNSF, SDC	Global
NCCR North-South Thematic Nodes 3 and 4	250,000	Research project (B)	SNSF, SDC	Global
<b>University Funds</b>				
University Funds <sup>1</sup>	3,532,100		University of Bern	
<b>Overall Total<sup>4</sup></b>	<b>11,858,100</b>			

Acronyms: CDE = Centre for Development and Environment; EU-ERA-ARD = European Union, European Research Area, Agricultural Research for Development; EU-FP7 = European Union Seventh Framework Programme; FAO = Food and Agriculture Organization; GIZ = Deutsche Gesellschaft für Internationale Zusammenarbeit; ICIMOD = International Centre for Integrated Mountain Development; IFAD = International Fund for Agricultural Development; ILC = International Land Coalition; IMS = International Mountain Society; KFPE = Swiss Commission for Research Partnerships with Developing Countries; NCCR = National Centre of Competence in Research; NRP = National Research Programme; SDC = Swiss Agency for Development and Cooperation; SNIS = Swiss Network for International Studies; SNSF = Swiss National Science Foundation; SUC = Swiss University Conference; UNESCO = United Nations Educational, Scientific and Cultural Organization; UNESCO World Heritage = UNESCO World Heritage Swiss Alps Jungfrau-Aletsch.

<sup>1</sup> Funds from the University of Bern, paid to the Centre for Development and Environment (CDE) and the Department of Integrative Geography (DIG) in compensation for research, services in teaching and supervision, and general university functions

<sup>2</sup> Includes the University of Bern, who provided CHF 137,000 of project funding for the International Graduate School (IGS) North-South

<sup>3</sup> Project types: A = Projects of the Department of Integrative Geography (DIG) that are of strategic interest to CDE; B = Projects led jointly by CDE and the Department of Integrative Geography, in terms of both strategic guidance and content; C = CDE projects of strategic interest to the Department of Integrative Geography

<sup>4</sup> Includes entrusted funds



Export-led agriculture is stimulating female employment in rural areas. FATE, a new research project, is analysing how this affects overall employment conditions for women and men.

Photo: Sabin Bieri, CDE

### Launch of a new long-term research project

Agriculture is the most important source of employment for men and women in poorer regions of the world, and is widely recognized as a primary engine of rural development and growth. Small-scale subsistence agriculture is seen as vital for building people's resilience and livelihoods, providing them with a critical path out of poverty. However, agriculture in the global South is also viewed as underperforming, and there have been demands for more capital-intensive commercial agriculture to promote forms of employment capable of generating higher returns. Non-traditional agricultural exports such as spices (ginger, cardamom), grains (quinoa), or fruits and flowers have been a response to such demands, creating wage labour and stimulating high levels of – notably – female employment in rural areas. The development impacts and gendered implications of these dynamics are the subject of FATE, a new six-year research project involving CDE and other partners from the universities of Bern and Geneva, as well as from the study sites in Rwanda, Bolivia, Laos, and Nepal. FATE – feminization, agricultural transition, and rural employment – is part of the Swiss Programme for Research on Global Issues for Development (r4d programme) and has a budget of CHF 3.5 million. The four study sites were selected from the UN priority category of least-developed, landlocked countries. The project will analyse the effects of the increasing integration of rural women into export-led agriculture, and the conditions under which this development enhances individual well-being and capabilities, or increases dependencies and vulnerability. The study aims at identifying social and political conditions which encourage asset-building and thus help transform high-value crops into high-value jobs for rural workers.

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### CDE researcher becomes geography professor in Bonn, Germany

As a youth, Chinwe Ifejika Speranza applied to study urban and regional planning in her native Nigeria, but she was declined because the course was filled and a quota system was in place. So she switched to geography, completing her BSc at the University of Nigeria Nsukka and laying the foundation for her subsequent career in this field. She started out analysing rainfall in Nigeria, which eventually led her via climatology to study risk and vulnerability in developing countries. After meeting her future husband, who is Swiss, in Nigeria, she enrolled at the University of Zurich and continued her geography studies there. Following completion of her master's, she went on to work at the cantonal department of geoinformation and surveying in Lucerne. Here, she got the chance to pursue a doctorate thanks to a senior staff member who granted her time off to do so. Chinwe Ifejika Speranza completed her PhD at the University of Bern within the Swiss National Centre of Competence in Research (NCCR) North-South programme, writing a dissertation on drought vulnerability and risk in agro-pastoral areas. She conducted her fieldwork in Kenya, accompanied by her children and visited frequently by her husband. She gained her first step towards scientific independence through an Ambizione grant of the Swiss National Science Foundation (SNSF), which enabled her to carry



Chinwe Ifejika Speranza, now a professor of geography at the University of Bonn and the United Nations University.

Photo: Peter Mosimann

out her own research project at CDE. Most recently, she was appointed professor of geography at the University of Bonn, Germany. Her position is jointly supported by the United Nations University (UNU). Chinwe Ifejika Speranza teaches within the international master's programme in Geography of Environmental Risks and Human Security, which bridges the University of Bonn and UNU.

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### More democracy – less hunger

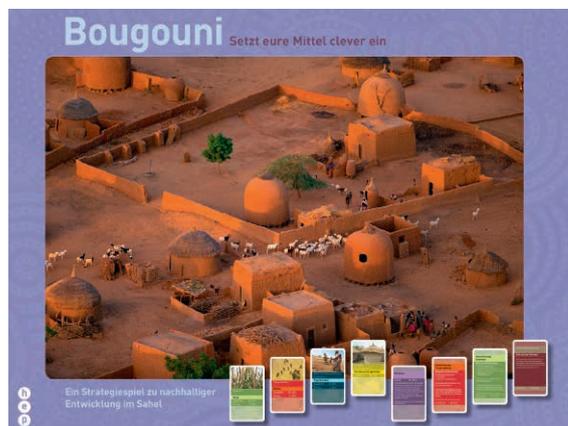


Panellists Markus Ritter, Prisca Birrer-Heimo, Hans Hurni, Frances Moore Lappé, and Jean Feyder emphasized that decision-making processes should include all stakeholders.  
Photo: Eliane Baumgartner, SWISSAID

Why do 25,000 people die of starvation every day when there's enough food globally? At a CDE/SWISSAID event, a panel of Swiss and international experts called for real democracy that centres on the needs of consumers and farmers. Bestselling US author and "Alternative Nobel Prize" laureate Frances Moore Lappé emphasized the importance of integrating more local and regional actors in food production, processing, and marketing, and the need to prevent market concentration through monopolies. Jean Feyder, Luxembourg's former ambassador to the UN and WTO in Geneva, called for "better protection of small-scale farmers against unfair trade practices, and fair prices for their products". This statement was given scientific backing by CDE President Hans Hurni: "Small-scale farmers in developing countries account for 40% of the world population, but they have no influence on decisions with a global impact. Food production can only be increased in a sustainable way if small-scale farmers are fully supported and strengthened." Swiss National Council members Maya Graf, Markus Ritter, and Prisca Birrer-Heimo confirmed the key food security role played by civil society, NGOs, farmers' associations, and related networks. Equally important is a decision-making process that ensures the participation of all stakeholders, in particular smallholder farmers' organizations. The event's bottom line was that greater democratic participation in local, national, and international political and economic decision-making will lead to more equitable food systems that enable everyone to have access to sustainably produced, nutritious foods.

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## Bougouni: a strategy game about sustainable development in the Sahel

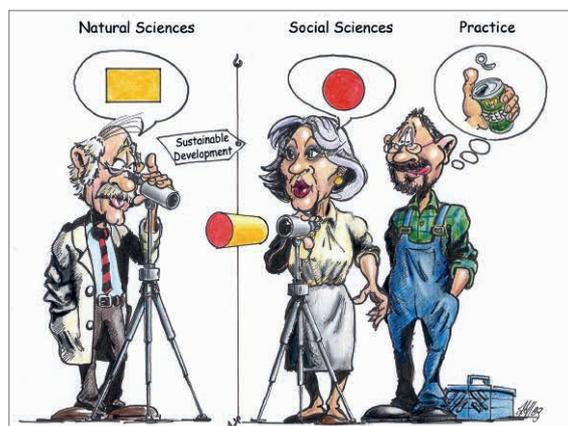


Students can experience the challenges faced by people in developing countries by playing Bougouni, a strategy game about sustainable development in the Sahel. Photo: hep verlag

It is your turn to take on the challenges faced daily by people in developing countries in the Sahel zone. You have a big family and must invest your limited resources wisely to secure your livelihood. You also have to prepare for risks such as price fluctuations, drought, political unrest, or disease. Your family is represented in the local village government, which seeks to support and promote the village's development. But does everyone want to invest in a new community hall? Or is the money better spent on establishing veterinary services? By playing Bougouni, students are taught about the challenges faced by people in developing countries. Students learn to negotiate the "sustainability triangle" as the game confronts them with various environmental, social, or economic tasks. In groups, they develop sensible strategies for sustainable use of scarce resources within limiting economic and environmental conditions. The precursor to Bougouni was developed by CDE and partner organizations in Mali, drawing on local knowledge and experience. CDE, PHBern, and éducation21 have now adapted the learning simulation game for use by high school students. It is available in German from hep verlag.

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## New bachelor's-level Minor in Sustainable Development



Sustainable development can only be achieved when all disciplinary and practical perspectives are considered.  
Cartoon: Karl Herweg, CDE

CDE launched a new bachelor's-level programme in the autumn semester 2013: the Minor in Sustainable Development. The programme is designed to teach students the basic principles and concepts of sustainable development, relating them to current global and national political discussions. It aims to provide students with the core knowledge and skills needed to address questions of sustainable development, approaching the topic from a multidisciplinary perspective. For example, it examines how the concept of sustainability was incorporated into international law and how this shaped legal coherence theory, or how sustainability is interpreted from philosophical and ethical perspectives. Students also have the opportunity to work on current topics in interdisciplinary teams and with development practitioners. This teaches students to jointly integrate and synthesize their various disciplinary viewpoints, to generate a shared product, and to discuss their results with actors from research and practice. Coursework is complemented by an internship in an external organization or by pursuit of an independent research project. The programme is aimed at students from all faculties and replaces the bachelor's-level Minor in General Ecology.

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## Looking back on the NCCR North-South from a policy perspective



President of the Swiss National Council Maya Graf underscored that Swiss research cooperation with countries in the global South is a profitable investment in the future. Photo: Lois Elvey

First launched in 2001, the Swiss National Centre of Competence in Research (NCCR) North-South was formally concluded in the summer of 2013. Over its 12-year lifetime, the programme brought together more than 1,250 researchers in nine regions of the world to find solutions to problems of global change. On 4 June 2013, over 200 people gathered at the University of Bern to take stock of the programme, share experiences, and discuss the ongoing potential of research partnerships between the global North and South. President of the Swiss National Council Maya Graf highlighted the NCCR North-South's extraordinary achievements and underlined that Swiss research cooperation with countries in the global South is not only an act of solidarity, but also a profitable investment in the future. National Council member Kathy Riklin emphasized that partnership-based research in and with developing countries must be anchored as an independent field in Swiss research policy and Swiss development cooperation. High-profile speakers from academia and the administration expressed how the NCCR North-South earned worldwide recognition as a successful model of research partnerships addressing global change, greatly strengthening Switzerland's international profile in the process. The research activities that the programme set in motion will be carried on in part by CDE, which evolved alongside the NCCR North-South, and by the International Graduate School (IGS) North-South, run jointly by the universities of Basel, Bern, and Zurich. Nevertheless, despite such successes, NCCR North-South directors Hans Hurni and Urs Wiesmann stressed the need for additional efforts to sustain the programme's research network, especially in the global South: without continued support, this unique Swiss and international network could weaken, compromising its continued execution of high-quality research on sustainable development and global change.

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Photo: Patrick Bottazzi, CDE

# Spotlight on knowledge for a new development agenda

Sabin Bieri, Peter Messerli, Stephan Rist

The current negotiations for a new global development agenda provide a unique opportunity to reconsider the key ingredients of sustainable development, based on shared responsibility between North and South. CDE's 2013 annual report spotlights how the centre helps inform this process. In the following section, we offer insights into four CDE research projects, illustrating how academic debates and scientific research – in particular, transdisciplinary research for sustainability conducted in international partnerships – can contribute to a development agenda beyond 2015.



The quest for alternative development pathways is at the heart of the ongoing negotiations over a new global agenda for sustainable development.  
Photo: Julie Zähringer, CDE

## Alternative development pathways

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Researchers for sustainable development have a story to tell about other possible development pathways, emphasizes CDE's Andreas Heinimann as he relates his experiences (p. 23). The quest for alternative development pathways is also at the heart of the ongoing negotiations for a new agenda to succeed the United Nations Millennium Campaign.

The importance of the process of defining Sustainable Development Goals (SDGs) cannot be overstated. On the one hand, this historic moment offers a unique opportunity to identify the ingredients of sustainability in an increasingly globalized world. On the other, it comes with the responsibility – particularly for scientists – to explain what it will take to reverse unsustainable trends. One particular challenge is to find ways of parameterizing and measuring sustainable development. There is a pressing need for sound indicators that are widely accessible and easy to grasp, yet capture the complexity of sustainable development. Such indicators are needed to call attention to trade-offs, identify winners and losers, negotiate shared responsibility, and build partnerships towards political commitments for sustainable development. As proposed recently by Oxfam, indicators should encompass

planetary boundaries as the ceiling and social essentials as the foundations of a "safe and just operating space" for all human beings.

At CDE we believe that we have a story to tell about sustainable ways forward, and a responsibility to do so as researchers, as citizens, and as a centre of excellence at the University of Bern – a university which, in its *Strategy 2021*, gives high priority to sustainable development. CDE remains strongly committed to bridging context-specific research and global development discourses. Doing so requires long-term North–South partnerships. A key feature of CDE's work, these partnerships are reflected in the organization of our thematic clusters and activities, some of which are highlighted in this report. Each of the following contributions shows how CDE's research meets the challenge of identifying and analysing unsustainable development and contributing to alternative pathways in partnership with local stakeholders.

## Identifying trade-offs, sharing evidence, and learning in North–South partnerships

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The question of justice in water conflicts in the Kenyan Naru Moru region is addressed by Hanspeter Liniger and Boniface Kiteme. They describe

CDE remains strongly committed to bridging context-specific research and global development discourses.  
Photo: Susanne Wymann, CDE



how a CDE programme makes trade-offs explicit and supports equitable distribution in an innovative way by sharing information with local water user associations via mobile phones.

In their analysis of a Swiss-investor-backed bio-fuel production plant in Sierra Leone, Elisabeth Bürgi Bonanomi and Stephan Rist build a case for sustainable North–South land investment. In the context of (un)sustainable development, different stakeholders frame particular problems in different ways. In addition, the scope of possible institutional solutions is often incongruent with the problems' boundaries. The authors identify a regulatory gap between home state and host state and point to insufficient involvement of family farmers as important stakeholders.

Laos, a long-term CDE partner country, is featured in the two final spotlight texts. While rhetoric on the complex nature of poverty abounds, instruments capable of assessing this complexity have emerged only recently. Drawing on previous CDE projects in Laos, Christoph Bader calculates the Multidimensional Poverty Index (MPI) and is able to give a detailed account of the different aspects of poverty and how poverty is regionally shaped. With its focus on inequality, the MPI, which is based on the work of Nobel laureate Amartya Sen, underscores the social foundation of sustainable development and highlights issues of justice. CDE's country-specific MPI for Laos reveals the nature

of poverty for different population segments in the country, thus providing information that can help build targeted interventions and policy programmes.

Even the best knowledge is of little help if relevant partners are not involved. CDE has a long tradition of engagement in international research partnerships, particularly with institutions from the global South, and invests in learning, transdisciplinary work, and information sharing. It is in this setting and spirit that Andreas Heinemann and his colleagues have written their stories, using sound indicators to identify alternative development pathways in the context of land concessions and decision-making in Laos.

In line with the University of Bern's *Strategy 2021*, CDE engages in research and education that builds sound knowledge on how the different dimensions of sustainability interrelate, and provides platforms to negotiate the trade-offs we face. CDE researchers can draw on a wealth of experience to tell their stories – stories that may help trigger broader political commitment to sustainable development.

# Spotlight on knowledge for a new development agenda

## Quantifying poverty: More than just dollars and cents

What exactly constitutes poverty? When is a person considered poor, and how many poor people are there worldwide? Are certain population segments at greater risk of being poor than others? Between 1990 and 2015, the United Nations aimed to halve the proportion of people living on less than USD 1.25 a day. In September 2013, the UN declared that this goal had been reached. But has the living situation of the world's poorest people really improved? In fact, our measurements show that social inequalities have increased, and that assessing poverty requires differentiated means of measurement.



New methods of measurement stress that there is much more to poverty than what is captured by economic indicators. Income alone is no guarantee of access to adequate health services or education. Photo: Meunierd/shutterstock.com

### **New approaches to measuring poverty**

Until recently, measuring poverty usually meant examining economic indicators such as income or GDP per capita. According to this approach, people living on less than USD 1.25 a day were considered extremely poor. However, this approach is increasingly criticized because it suggests that financial resources alone can cover people's needs, while ignoring that basic needs such as education or health services may remain unaffordable or otherwise out of reach. In view of the Sustainable Development Goals (SDGs), a more differentiated way of assessing poverty and social inequalities must be developed. This would enable a better understanding of the causes of poverty, and provide a clearer picture of the reality experienced by the poor.

### **The opportunity to live a dignified life: the capability approach**

The discussion about better methods of measurement has been influenced by the "capability approach" developed by the Indian economist and Nobel laureate

Amartya Sen. Sen's approach centres around the question of what a person needs to be able to live a good life. Because everyone is different, the approach focuses on people's capability to achieve the things they value, and development is equated with each individual's freedom to realize the sort of life he or she feels is worth living. But because Sen's perspective on poverty and inequality is more complex than conventional approaches, it is more difficult to put into practice. Finding suitable indicators to measure individual levels of opportunity is challenging. Nonetheless, a research team from the Oxford Poverty and Human Development Initiative (OPHI) recently developed a new multidimensional way of measuring and describing inequality and poverty, taking into account various factors of influence. Their Multidimensional Poverty Index (MPI) includes elements such as access to education, work, living space, and health services. The method's core contribution is that it assesses both the percentage of people living in poverty as well as the intensity of poverty. It reveals the poorest segments of a given population as well as social inequalities within and between population groups.

The OPHI team distinguishes between a global MPI and country-specific MPIs. The global MPI enables global comparisons based on a common set of indicators. Country-specific MPIs include additional indicators to better identify the causes, development, and spread of poverty in individual countries and regions. The first country-specific MPIs have been developed for Colombia and Mexico, where they have already been incorporated in legislation. Indeed, country-specific MPIs could play an important role in the implementation and monitoring of SDGs.

### Laos: More poverty than previously thought

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CDE is currently using the global MPI to measure the multidimensionality of poverty in Laos by means of a household survey. Survey questions include: "Did any household member attend school for more than five years?" "Has a child in the family died?" "Does the household have electricity, and is there a source of clean drinking water less than 30 minutes away?" Households that do not score above a certain thresh-

the economic approach. The global MPI confirmed the concentration of poverty in the northern and southern highlands of Laos, and revealed a slight increase in poverty in urban regions due to the global rice crisis in 2008.

In late 2014, a new data set from the Lao Consumption and Expenditure Survey series will make it possible to analyse the development of poverty in Laos between 2002 and 2012. This is of particular significance, as it will enable assessment of a series of policy actions taken to reduce poverty and promote economic development in specific populations and regions.

To complement the analysis of poverty using the global MPI, CDE is developing a country-specific MPI for Laos. It includes additional poverty-relevant indicators such as land purchases and sales as well as households' land use types. The results may be less comparable globally, but they will make it possible to provide more detailed advice to high-level decision-makers in the planning of sociopolitical programmes in Laos.

Do these households have electricity?  
Does it take residents longer than 30 minutes on foot to reach a clean water source? The Multidimensional Poverty Index enables researchers to assess diverse indicators of poverty at the household level.

Photo: Susanne Wymann, CDE



old on at least one-third of the measured indicators are considered poor; those that score poorly for half or more indicators are considered extremely poor. The global MPI analysis of Laos revealed that in 12 out of 17 provinces, more households were affected by poverty than had been originally calculated using

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## Spotlight on knowledge for a new development agenda

### Beyond national borders: Assessing the sustainability of Swiss firms' foreign land investments

Investors based in Switzerland are buying or leasing land worldwide to produce food and biofuels. What are the local effects of these investments? Who bears legal responsibility? What are the respective roles of the home country – Switzerland – and the host country? And what sorts of regulations are needed? Within the Swiss National Research Programme (NRP) 68, CDE has joined forces with the World Trade Institute (WTI) and Agroscope to investigate the sustainability of a large-scale Swiss investment in West Africa. The research team aims to develop a comprehensive approach for analysing and comparing the economic, legal, social, and ecological effects of such investments, locally and globally. This will provide a basis for identifying regulatory gaps – in both home and host states – and facilitate reform proposals.



Swiss investor Addax Bioenergy prepares a piece of land in Sierra Leone for cultivation of sugar cane. Photo: Patrick Bottazzi, CDE

#### Production of biofuels in Sierra Leone

Sierra Leone is one of the poorest countries in the world. Most of its population depends on agriculture as a means of livelihood. Use of traditional forms of cultivation has meant a tendency towards extensive farming of land. The Geneva-based company Addax Bioenergy began leasing around 50,000 hectares of land in Sierra Leone with the aim of producing sugar cane biofuels, particularly for the European market. To prevent local competition between biofuels and food crops, Addax is supporting the intensification of traditional agriculture with new seed varieties, mechanization, mineral fertilizers, and pesticides. In addition, Addax has built an ethanol refinery and a biomass power plant. The latter is meant to generate electricity for the refinery and for Sierra Leone's domestic electricity market. Local populations and government actors hope the investments will bring increased national productivity and new jobs. This biofuel project is the first in Africa to receive the voluntary, non-legally binding certification of the so-called Roundtable on Sustainable Biomaterials (RSB).

#### Clear guidelines needed

Ongoing research at CDE aims to reveal whether this project in Sierra Leone contributes to sustainable development, benefits local people, and respects environmental integrity. Such impacts greatly depend on the integration of investors in regulatory frameworks, effective protection of local land rights, and adherence to proper legal procedures when granting concessions. In Sierra Leone, investment contracts are arranged through investment promotion agencies that ensure landowner compensation. Since land is primarily owned by a handful of prominent families, small farmers essentially have no formal claim to concession payments. How is this traditional form of land tenure affecting the distribution of costs and benefits from biofuel cultivation? Is this yet another case of "elite capture", or do traditional mechanisms in Sierra Leone allow for distribution of benefits between landowning families and land users? These are central questions that researchers are trying to answer.

Sierra Leone's government seeks to attract investors with low taxes and even temporary tax exemptions, since the concession fees mean an influx of cash into state coffers. This sort of tax competition between countries can scarcely be prevented. It has negative and positive effects for the countries concerned. Ensuring that the latter prevail requires strong regulations backed by the international community.

### Including local populations on behalf of absolute transparency

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According to international law and many voluntary standards, large-scale investments in land can be considered "responsible" when local populations are included in the negotiation process. Addax also explicitly highlighted this point, which brings us to the question: Who exactly participated in the negotiations, and to what extent? Were women and young people, for example, able to take part in the process? Civil-society advocates are demanding more transparency from investors on these points. According to Addax, many jobs have been created. But local people lack the proper training for them. Now Addax is offering training opportunities to farmers with the goal of better integrating them in the production process. It is also considering a commitment to purchase sugar cane from local farmers at a guaranteed price.

Whether such actions will bring the farmers prosperity depends, among other things, on the integration of the project internationally. For example, success hinges on sales of biofuels in Europe. The EU promotes gasoline blends containing up to 10%

ethanol, provided they are produced according to specific sustainability standards. These standards are currently being revised. The potential of "small farmer friendly" biofuel production in developing countries also greatly depends on near-term EU market reforms. By conducting field surveys and interviews, researchers are now systematically investigating the bioethanol project's effects in Sierra Leone and how it is embedded in national and international policies.

### Both legal experts and geographers needed

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As seen in such examples, sustainable development requires that investors, home states, host states, and the international community all assume responsibility, agree on regulations, and implement them. To figure out which legal and institutional frameworks are most appropriate, researchers must study the social, political, economic, and ecological effects of these projects on the ground. CDE, WTI, and Agroscope have built an interdisciplinary team of geographers, sociologists, agronomists, and legal experts capable of comprehensively assessing the sustainability of the biofuel project in Sierra Leone.

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A farmer in Sierra Leone harvests potato leaves. To prevent local competition between biofuels and food crops, Addax is supporting the intensification of traditional agriculture.

Photo: Patrick Bottazzi, CDE



## Spotlight on knowledge for a new development agenda

### Negotiating trade-offs for sustainable development: Can mobile phones solve water conflicts?

Water is scarce at the foot of Mount Kenya, where the population has grown tenfold in the last 30 years. An ever-increasing number of small-scale farmers divert river water onto their fields, with serious consequences for those further downstream. In a bid to help promote equitable water distribution, CDE researchers and their partners are investigating the use of mobile phones to instantly share information on water availability in different zones. This could enable water users to jointly determine how much water each may use, and at what times.



Downstream water users depend on the proper management of water supplies by users upstream.

Photo: Hanspeter Liniger, CDE

#### **Diverting river water to grow flowers and vegetables destined for Europe**

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The Naro Moru region is located in the hills surrounding the middle reaches of the Naro Moru river, which flows from a glacier on Mount Kenya. The area is home to a rising number of farming families that have built up livelihoods by growing flowers and vegetables for European markets. To irrigate their fields, the farmers divert river water. However, about 90% of these diversions are illegal and have severe consequences for nomadic communities downstream. During periods of water scarcity, the diversions threaten the drinking water supplies of these nomadic communities and their animals, giving rise to conflict. Downstream groups sometimes attack farmers in the middle reaches and destroy their water infrastructure.

#### **Compromises required to solve conflict**

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To ease the conflict, district administrators are working together with downstream inhabitants and farmers in the middle reaches to find ways of distributing

water more equitably. Water users have founded associations and sought to establish rules governing water use. These include ensuring that downstream inhabitants always have adequate drinking water. This means that farmers must limit irrigation of their fields when river water levels are low. But this still proves difficult in practice because water users' sense of social responsibility remains low, and self-interest dominates. In addition, the district administration cannot track who pumps water from the river, how much, or when. This makes it impossible to identify illegal water users.

#### **Information via mobile phones ensures transparency**

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CDE researchers have collaborated with partners at the Nanyuki-based Centre for Training and Integrated Research in ASAL Development (CETRAD) and with local authorities to assemble a comprehensive water monitoring system. This monitoring system is co-funded by the Water and Land Resource Centre Project, which makes available information about

Members of a water user association work together to dismantle an illegal water diversion. Photo: CDE/CETRAD



water and land resources in the transboundary Ewaso Ng'iro river basin in Kenya and Somalia. The water monitoring system enables researchers and authorities in the Naro Moru region to analyse the number of farmers pumping water from the river and the type of water use permit they have. It also allows them to determine which pump systems the farmers use, the capacity of each pump, and the size of the irrigated areas. The researchers have installed measuring stations upstream, midstream, and downstream to enable long-term observation of water levels and flow. The resulting data are transmitted via mobile telephony to the responsible authorities and water users. As soon as threshold levels are reached, the relevant water user association sends all farmers a text message asking them to limit irrigation of their fields. If any particular measuring station registers a big change in water levels, it is possible to determine which pump extracted the water and thus catch illegal water users in the act. The availability of such data ensures greater transparency, representing an important step towards solving water conflicts in the region.

### Mobile water information system

The researchers are hopeful that their measuring stations will deliver the intended effects. Their ultimate goal is to develop a water information system that enables water users themselves to communicate with each other about planned measures. For example, they could announce if they are switching off a pump or otherwise reducing their water use. But researchers must overcome other challenges first. Metal and cables are coveted goods in Kenya, and the cables and metal boxes housing the measuring stations are often damaged, stolen, and resold. The researchers thus have to come up with innovative techniques to protect their stations from vandalism.

### Will conflicts shift to groundwater?

Many flower and vegetable producers have side-stepped the general pressure of the water user associations by reducing their dependence on river water. For example, they collect surface runoff in small reservoirs during the rainy seasons, and use it to bridge dry periods. They have also begun pumping groundwater, a method whose sustainability will be tested in the coming years. Researchers believe the groundwater is limited, meaning that the water conflict may eventually shift to groundwater reserves.

### Negotiating trade-offs for sustainable development

The project experience illustrates that water conflicts in the Mount Kenya region will not simply solve themselves. Water user associations play a key role in solving such conflicts between water users. As water is a scarce resource, distributing it equitably requires compromise. It is about finding a balance between economic interests and keeping the regional peace, so that everyone can work and maintain their livelihoods. Those avoiding the current need for compromise – such as flower and vegetable producers who pump groundwater – may eventually trigger new conflicts over water supplies elsewhere. Small- and large-scale farmers, local authorities, and researchers are equally challenged to come up with sustainable solutions.

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## Spotlight on knowledge for a new development agenda

### Influencing policy: Lessons from the report on land concessions in Laos

In January 2013, CDE and its partners from the Ministry of Natural Resources and Environment (MoNRE), the Swiss Agency for Development and Cooperation (SDC), and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) publicly launched the first-ever inventory of land concessions and leases in Laos. Expectations were high. The report was seen as shedding empirical light on land pressures, thereby providing a basis for new regulations. But has it really had an impact? In an interview, senior CDE researcher and co-author of the report Andreas Heinimann shared personal insights regarding the report's genesis and effects, and highlighted key lessons.



The report on land concessions in Laos was launched in response to the rapid expansion of land deals. Rubber trees dominate tree plantations in concession areas. Photo: Shutterstock.com

#### Room for improvement

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The land concession inventory grew out of collaboration between Laos, Germany, and Switzerland. The resulting report documents over 2,600 land leases and concessions in Laos encompassing about 1.1 million hectares – roughly 5% of the country's territory. This is more land than is used for rice production in Laos. The report reveals that most investments are made in relatively accessible, well-off areas rather than in the marginal areas that the government would like developed. Further, the diversity of crops grown on concession land is very small, and much of what is produced is exported. This suggests a growing dependency on global markets that could eventually prove problematic. All in all, the report makes clear that concessions and leases could be better planned and regulated to optimize trade-offs and local benefits.

#### A report's ripple effects

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According to Andreas Heinimann, the authors' intent in writing the report was to compile the available data on concessions, carefully analyse them, and make them accessible in a form suitable for policymaking. In his view, the report was published at the best possible moment – various relevant laws were under revision and a new land policy was in the works. He was also invited to join an expert commission advising Laos on its national land policy. His language on the need for data transparency on land issues – especially land concessions – was adopted in an early draft of the new policy, although the wording was subsequently weakened. Nevertheless, he suspects that the research team's early presentations of findings may have contributed to the Prime Minister's decision to declare a moratorium on rubber, eucalyptus, and mining concessions in mid-2012.

In addition to desirable outcomes, there were unexpected but instructive developments. The report was originally planned for release in both English

Effective networking between policy-makers, researchers, and donors was key in prompting the Lao government to collect more comprehensive data on land concessions. Photo: CDE



and Laotian. But authorities abruptly cancelled the Laotian edition. This may have been due to concerns that easily accessible information on the full extent of land concessions could cause unease in some corners of the country. Andreas Heinimann describes a relatively tense climate in Laos concerning land issues. However, another reason for cancelling the Laotian edition may have been its use of admittedly imperfect base data, possibly exposing government agencies and other collaborators to criticism. This desire to avoid controversy is common in bureaucracies, not only in Laos.

Nevertheless, on balance, the report appears to have had a significant positive impact. Based partly on its findings, the Lao government has resolved to collect more comprehensive data on land concessions and leases; these activities are slated for support by SDC, Germany, and the World Bank, with CDE providing technical assistance via the Lao DECIDE Info Project. Crucially, the new data campaign will pursue answers to unaddressed questions on the “quality of investments” – questions such as: How are decisions on land concessions made at the local level? Do communities have a say in the process? What trends are discernible in planned investments? Are they making Laos too dependent on foreign markets? And who are the winners and losers locally when projects are implemented on concession land? Overall, Andreas Heinimann is impressed by the government’s commitment to learn more about the quality and impact of land investments.

### Ingredients of success

What enabled such promising results, likely to support improved policy and societal outcomes? When asked, Andreas Heinimann points to various collaborators with crucial skill sets and motivation. In

his view, policy change in Laos requires visionaries, people who are concerned about the growing number of concessions and have a story to tell about other possible development pathways. He also highlights the need for effective networkers, people capable of bringing together the most important players. Andreas Heinimann is a gifted networker in his own right. He maintains good connections with high-ranking officials, members of civil society, the donor community, and local people. Finally, he emphasizes the need for skilled engineers in a broader sense: individuals capable of designing approaches and programmes that bring everything together. In this case, the feat of engineering was bringing together the data on concessions collected by GIZ with the socio-economic data of Lao DECIDE Info, subjecting it to thorough analyses, and finding suitable ways of channelling it into policy processes.

### Persistence and dedication

Finally, researchers must be committed. The CDE team and its partners in Laos have worked tirelessly to make data on land concessions more transparent and comprehensible. In the process, they have stayed dedicated in the face of stop-and-go politics on land issues, a general climate of controversy, and the need to reconcile the requirements of diverse high-level stakeholders.

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## Partners and networks

### The Water and Land Resource Centre (WLRC) Ethiopia, in brief



A field visit to a “learning watershed” in Abagerima with development workers, researchers, and high-level policymakers.  
Photo: WLRC

The Water and Land Resource Centre (WLRC) is an autonomous, national-level centre that focuses on the Ethiopian Highlands while taking a transboundary view of the entire Eastern Nile Basin. The Eastern Nile portion of the Ethiopian Highlands covers only 12% of the Nile Basin yet supplies 85% of the main Nile water flow. At the same time, this important ecosystem is being harmed by serious land degradation. The degradation jeopardizes the livelihoods of millions of Ethiopians and increasingly threatens communities in downstream countries since sediment flows cause damage to water storage structures, irrigation schemes, and hydropower plants. Considering the Ethiopian population’s huge dependence on subsistence agriculture (roughly 85%) and the Highlands’ role as a major supplier of agricultural products to Ethiopia and of water to downstream countries, land degradation represents a crucial development challenge that demands provision of empirical evidence to identify effective responses. In order to generate such much-needed data, the WLRC was established in 2011 as an institution associated with Addis Abeba University (AAU) and CDE, University of Bern, based on the bilateral framework agreement on science and technology between the governments of Ethiopia and Switzerland. The WLRC is funded mainly by the Swiss Agency for Development and Cooperation’s Global Programme Water Initiatives.

#### Long-standing collaboration with CDE

Located in Addis Abeba, the WLRC builds on over 40 years of experience in Ethiopia among University of Bern researchers, most notably through the Simen Mountains studies (since 1973), the Soil Conservation Research Programme (SCRIP, since 1981), the Eastern and Southern Africa Partnership Programme (ESAPP, since 1999), and the NCCR North-South programme (2001–2013), as well as the work of other agencies on water and land resources management and research in Ethiopia. Collaboration between researchers from the global North (CDE) and South (WLRC) and different disciplines remains a key pillar of all research activities. The WLRC produces and manages knowledge about integrated water and land resources management, hydro-sedimentology, and governance, and enhances the capacities of key stakeholders concerned with water and land management. The WLRC generates evidence-based information and knowledge as well as powerful tools for policy and practice, informing both national and international debates as well as development and policy responses. To fulfil its ambitious aims, the WLRC emphasizes the following four components: (1) learning watersheds (model cases); (2) observatories for knowledge generation; (3) web-based, open-access resource databases and information systems; and (4) capacity development among key stakeholders.

#### Learning watersheds (model cases)

Six model “learning watersheds” have been established in the Abbay Basin (Blue Nile) to serve as live learning platforms where lessons can be derived and then scaled up for interventions elsewhere in Ethiopia and in other suitable locations in the Eastern Nile Basin. The WLRC has successfully introduced a new joint-implementation approach that brings together researchers, development actors (e.g. extension workers, policymakers), and communities to improve people’s livelihoods in a holistic way.



A farmer shows off the high-yielding potato variety introduced by the WLRC in the Andit Tid Observatory, 3,200 metres above sea level, Ethiopia.

Photo: WLRC

## Observatories for knowledge generation

Through the WLRC, several micro-catchment observatories, originally established by CDE in the SCRP, were restored and long-term data monitoring was resumed on hydro-sedimentology, climatology, land use, and land productivity in collaboration with the Amhara Regional Agricultural Research Institute (ARARI) and other institutions. Further, the WLRC has established two meso-catchment observatories in the Eastern Nile Basin to address the knowledge gap on hydro-sedimentology and climate indicators for larger watersheds and high-altitude areas.

## Web-based, open-access resource databases and information systems

One key output of the WLRC is a full-fledged, open-access resource information management system that enables storing, analysing, and disseminating water- and land-related information. This Water and Land Resources Information System (WALRIS) was developed to integrate spatial and non-spatial data on water and land resources in Ethiopia. WALRIS includes all available data from previous research projects (e.g. SCRP), newly generated data from research projects, observatories, and learning watersheds, and publicly available data from other institutes.

## Capacity development among key stakeholders

Based on surveys assessing capacity needs, the WLRC offers capacity development programmes for different stakeholders. These include scientists, master's and doctoral students, federal and regional institutes, development agents, and farmers. The programmes include, but are not limited to, short-term trainings both in Ethiopia and abroad, seminars, and workshops. Activities also cover provision of field and office equipment to facilitate watershed management, in-service trainings, awareness-creation workshops, local study tours, and field days for both farmers and partner institutes.

## Outlook

Now in its third year, the WLRC faces a bright yet challenging future. The WLRC is instrumental to AAU's and CDE's vision of carrying out long-term research on the environment and development in the region. The WLRC represents a crucial entry point and platform for national and regional development initiatives, and a regional reference point for global programmes.

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Photo: Water and Land Resource Centre

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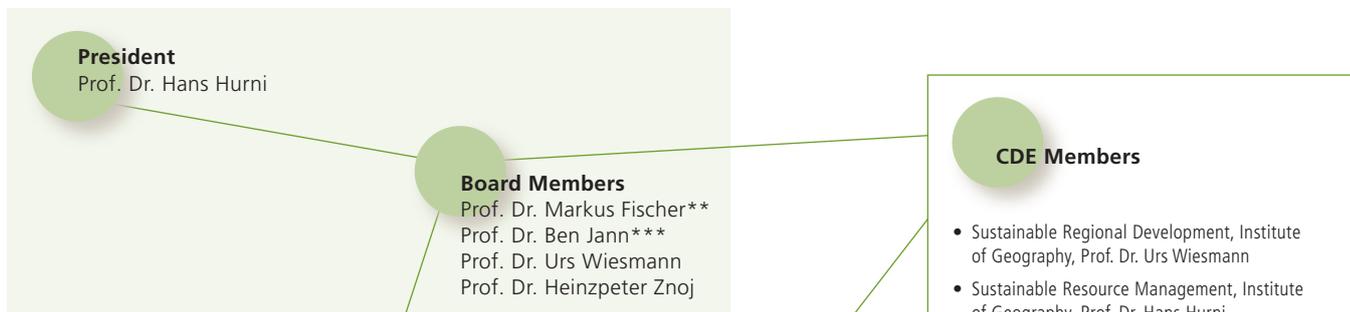
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# Organization chart\*

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<b>Education and Training for Sustainable Development</b> Dr. Karl Herweg	<b>Multidimensional Disparities</b> Dr. Sabin Bieri

## Partner Institutions

### Main partner institutions in developing countries

- Centre for Agroecology (AGRUCO), University of Cochabamba, Bolivia
- Centre for Training and Integrated Research in ASAL Development (CETRAD), Kenya
- Nepal Centre for Contemporary Research (NCCR), Nepal
- Sustainable Management of Natural Resources (Savaivo), Madagascar
- University of Central Asia (UCA)
- Water and Land Resource Centre (WLRC), Ethiopia

### Partner institutions in Switzerland

- Commission for Research Partnerships with Developing Countries (KFPE)
- Development Study Group (DSGZ), University of Zurich
- Graduate Institute of International and Development Studies (IHEID)
- Historical Institute, University of Bern
- Swiss Federal Institute of Aquatic Science and Technology (Eawag)
- Swiss Peace Foundation (swisspeace)
- Swiss Tropical and Public Health Institute (Swiss TPH)
- World Trade Institute (WTI), University of Bern

\*As at 31 December 2013; \*\*Institute of Plant Sciences; \*\*\*Institute of Sociology



Photo: Elias Hodel, CDE

# Personnel\*

<b>Board Members, CDE</b>	
<b>Name</b>	<b>Professional background</b>
Hurni, Hans (President)	Prof., geographer
Wiesmann, Urs	Prof., geographer
Znoj, Heinzpeter	Prof., social anthropologist
<b>Directors, CDE</b>	
<b>Name</b>	<b>Professional background</b>
Messerli, Peter	PhD, geographer (100%)
Breu, Thomas	PhD, geographer (100%)
<b>Executive Committee</b>	
<b>Name</b>	<b>Professional background</b>
Balsiger, Urs	MBA, economist (90%)
Kohler, Thomas	PhD, geographer (80%)
plus CDE Directors (see above)	
<b>Heads of Cluster</b>	
<b>Name</b>	<b>Professional background</b>
Bieri, Sabin	PhD, geographer (70%)
Ehrensperger, Albrecht	PhD, geographer (90%)
Giger, Markus	MSc, agro-economist (100%)
Herweg, Karl	PhD, geographer (100%)
Rist, Stephan	Prof., agronomist (100%)
Schwilch, Gudrun	PhD, geographer (70%)
<b>Programme Staff</b>	
<b>Name</b>	<b>Professional background</b>
Bachmann, Felicitas	MA, social anthropologist (40%)
Bader, Christoph	MSc, economist (75%)
Barnert, Seraina	BSc, sport scientist (25%)
Bär, Roger	MSc, environmental scientist (50%)
Bernet, Lea	MSc, geographer (25%)
Bottazzi, Patrick	PhD, international development studies (30%)
Bürgi Bonanomi, Elisabeth	PhD, Attorney at Law (80%)
De Chastonay, Anne	BSc, urban and environmental planning (25%)
Eckert, Sandra	PhD, geographer (80%)
Engesser, Matthias	MSc, geographer (80%)
Epprecht, Michael	PhD, geographer (100%)
Frey, Sara	MA, development studies (50%)
Fries, Matthias	MSc, geographer (80%)
Gambon, Helen	MA, social anthropologist (50%)
Gehrig, Roger	BSc, geographer (50%)
Gerber, Kurt	MSc, geographer (80%)
Gurtner, Mats	MSc, geographer (25%)
Harari, Nicole	MSc, geographer (80%)
Heinimann, Andreas	PhD, environmental scientist (50%)
Hergarten, Christian	MSc, geographer (40%)
Hett, Cornelia	PhD, geographer (80%)
Hodel, Elias	MSc, geographer (80%)
Hoeggel, Udo	MSc, eco-agronomist (100%)
Hurni, Kaspar	PhD, geographer (100%)

Ifejika Speranza, Chinwe	Prof., geographer (20%)
Jaquet, Stephanie	MSc, environmental scientist (50%)
Jucker, Matteo	MSc, environmental scientist (50%)
Kläy, Andreas	MSc, forest engineer (80%)
Krauer, Jürg	MSc, geographer (100%)
Lauterburg, Nina	BSc, geographer (25%)
Lemann, Tatenda	MSc, geographer (75%)
Leng, Marion	PhD, forest scientist (40%)
Liechti, Karina	PhD, geographer (50%)
Liniger, Hanspeter	PhD, geographer (100%)
Lörcher, Sylvia	MSc, geographer (25%)
Lundsgaard-Hansen, Lara	MSc, geographer (60%)
Mathez-Stiefel, Sarah-Lan	PhD, ethnobotanist (40%)
Meessen, Heino	PhD, landscape ecologist (70%)
Mekdaschi, Rima	PhD, agronomist (50%)
Michel, Claudia	PhD, geographer (50%)
Oechslin, Lukas	BA, historian (35%)
Oggier, Sébastien	BSc, geographer (25%)
Ott, Cordula	MA, social anthropologist (60%)
Paulsson, Maria	MSc, geographer (90%)
Perlik, Manfred	Prof., geographer (15%)
Portner, Brigitte	MSc, geographer (25%)
Providoli, Isabelle	PhD, geographer (90%)
Roth, Vincent	MSc, geographer (75%)
Salmi, Annika	MA, sociologist (50%)
Schneider, Flurina	PhD, geographer (80%)
Schönweger, Oliver	MSc, geographer (50%)
Schotte, Sara-Kay	BSc, geographer (25%)
Stöckli, Bernhard	BSc, geographer (25%)
Tejada, Laura	MSc, geographer (50%)
Trechsel, Lilian	MSc, geographer (80%)
Vonlanthen, Lukas	MSc, earth scientist (80%)
Weber, Adrian	MSc, geographer (80%)
Wolfgramm, Bettina	PhD, environmental engineer (80%)
Wymann, Susanne	MSc, geographer (60%)
Zähringer, Julie	MSc, environmental economist (75%)
Zimmermann, Anne	PhD, language scientist (100%)

<b>Services Unit Staff</b>	
<b>Name</b>	<b>Fields of activity</b>
Balsiger, Nicole	Financial administrator (45%)
Fedail, Ahmed	Web project manager (60%)
Gämperli Krauer, Ursula	Graphic designer (30%)
Heierle, Emmanuel	IT coordinator (80%)
Hirschbuehl, Tina	Language editor and translator (30%)
Jöhr, Franziska	Secretary (80%)
Kummer, Simone	Graphic designer (70%)
Lannen, Anu	Language editor and translator (50%)
Lardelli, Corina	Communications specialist (80%)
Motzer, Yvonne	Librarian (15%)
Nussbaumer, Melchior	Secretary (50%)
Staubesand, Iris	Communications specialist (60%)
Thibault, Marlène	Language editor and translator (100%)
Tresch, Jeannine	Secretary and IT specialist (60%)
Willi, Barbara	Human resources administrator (60%)

\*As at 31 December 2013



Photo: Susanne Wymann, CDE

## CDE's PhD students at the International Graduate School (IGS) North-South in 2013\*

Name	Working title of thesis	Funded by	Start of PhD	End of PhD
Anarbekov, Oytur	Irrigation management transfer: Questions of sustainability of Water Users Associations (WUAs) in Ferghana Valley	International Water Management Institute (IWMI); CDE; United Nations Economic Commission for Europe (UNECE)	2012	2015
Asnake, Mekuriaw	Assessment of the dynamics of soil and water conservation measures and land use change in the highlands of Ethiopia using remote sensing and GIS	Swiss National Centre of Competence in Research (NCCR) North-South	2010	2014
Augstburger, Horacio	Analysis of potentials and constraints of enhancing sustainable livelihoods in artisanal and small-scale gold mining in Bolivia, Peru, and Colombia through the forthcoming Mercury Convention	Swiss National Science Foundation (SNSF)	2013	2016
Bader, Christoph	Reaching the poorest: A multidimensional poverty profile for Lao PDR	CDE	2013	2015
Bär, Roger	Sustainable potentials for biomass fuel production in Kenya and Tanzania	Swiss National Science Foundation (SNSF); Swiss Agency for Development and Cooperation (SDC)	2013	2016
Conradin, Katharina	World heritage sites and sustainable regional development	Self-funding; with support from UNESCO World Heritage Site Swiss Alps Jungfrau-Aletsch and NCCR North-South	2011	2014
Dakka, Abebe	Assessing soil-based ecological services and opportunities to sequester soil organic carbon in selected watersheds of Ethiopia	Self-funding	2010	2014
Faye, Papa	Managing the forest by the people: Constitutionality, citizenship, and representation in two decentralization initiatives in Senegal's forestry sector	CDE; Institute of Social Anthropology, University of Bern	2011	2014
Frey, Sara	Analysis of negotiation processes around "vivir bien / buen vivir" linking state-based and grassroots development initiatives	Swiss National Science Foundation (SNSF)	2013	2016
Gambon, Helen	Constitutionality processes and social-ecological outcomes in an indigenous territory in the Bolivian lowlands	Swiss National Science Foundation (SNSF)	2012	2015
Garrard, Rodney	Landscape dynamics in Sagarmatha (Mount Everest) National Park, Nepal: Impacts on selected environmental services and adaptive capacities	Commission for Research Partnerships with Developing Countries (KFPE); CDE; European Outdoor Conservation Association	2009	2014
Hergarten, Christian	Integrated assessment of land use systems' ecosystem services at the regional scale	NCCR North-South	2009	2014
Hurni, Kaspar	Spatial characterization of land use patterns and land transformation processes in Lao PDR	NCCR North-South	2009	2013
Jacobi, Johanna	The contribution of organic farming to farmers' and ecosystems' resilience in a changing climate: A comparison of different cacao cultivation systems in Alto Beni, Bolivia	Avina Foundation; Commission for Research Partnerships with Developing Countries (KFPE); NCCR North-South	2010	2013
Jaquet, Stéphanie	Impacts of outmigration on land management in the mountain areas of Bolivia and Nepal	Swiss Network for International Studies (SNIS)	2012	2014
Jucker, Matteo	The role of land management in preventing catastrophic shifts of dryland ecosystems	Catastrophic shifts in drylands: How can we prevent ecosystem degradation? (CASCADE)	2012	2015

Kassawmar, Tibebe	Landscape transformation in Ethiopia: Spatio-temporal dynamics and implications on transboundary runoff and sediment yield in the Blue Nile Basin, Ethiopia	NCCR North-South; CDE	2012	2015
Kongthong, Orasa	Interconnectedness between agrarian transformation and the water–energy–food security nexus in the Lower Mekong Basin using case studies in Thailand and Lao PDR	Self-funding	2013	2016
Lemann, Tatenda	The dynamics of “blue” and “green” water uses in the upper Blue Nile Basin in Ethiopia: Towards improved decision-making and transboundary negotiations	NCCR North-South; CDE; Department of Integrative Geography (DIG)	2012	2015
Nazarmavloev, Farrukh	A soil spectroscopy library and its application for assessing soil fertility in agricultural lands of Tajikistan	Swiss Government Excellence Scholarships for Foreign Scholars (FCS)	2012	2015
Ochoa Garcia, Heliodoro	Geography of water, environmental conflicts and social alternatives: The Santiago river watershed, Mexico	ITESO, Jesuit University of Guadalajara, Mexico	2013	2016
Portner, Brigitte	Spatial impacts of biofuel crop production	Swiss National Science Foundation (SNSF)	2009	2014
Primasari, Nova	Dynamics of land use and stakes in Indonesia's peat lands and their impact on environmental services and local livelihoods: The case of Riau Province, Indonesia	Self-funding	2011	2014
Roth, Vincent	Discharge and erosion modelling in the upper Blue Nile basin: Towards improved decision-making and transboundary negotiations	NCCR North-South; CDE; DIG	2012	2015
Schönweger, Oliver	Key factors and processes shaping the implementation of large-scale land acquisitions	Swiss Network for International Studies (SNIS); CDE	2012	2015
Shabdolov, Alisher	Improved governance of rangeland in the western Pamirs: Implications for common property management of scarce pasture resources in mountain regions	Swiss Government Excellence Scholarships for Foreign Scholars (FCS); University of Central Asia, Mountain Societies Research Institute (UCA/MSRI)	2012	2015
Subhatu, Alemtsehay	Impact of integrated watershed management on hydrology and sedimentology in small catchments of Ethiopian highlands	Swiss Government Excellence Scholarships for Foreign Scholars (FCS)	2013	2016
Tadele, Amare	Assessing the long-term impact of soil terracing on carbon sequestration in the highlands of Ethiopia	NCCR North-South	2010	2014
Tejada, Laura	Large-scale land acquisitions (LSLA) in Peru: Effects on households in rural communities concerning gender relations, decision-making, and food security	Swiss Network for International Studies (SNIS); CDE	2013	2016
Thanichanon, Puwadej	Effects of market integration on land use and welfare in Xayaburi Province, Lao PDR	NCCR North-South	2009	2014
Vergara, Cristian	Implementation of the REDD+ scheme in the Pilón Lajas Biosphere Reserve, Bolivia: An evaluation based on a social multi-criteria framework	Swiss National Science Foundation (SNSF); self-funding	2012	2015
Zähringer, Julie	Cross-scale landscape service trade-offs in a conservation–development nexus along the north-eastern escarpment of Madagascar	CDE	2012	2015

\*Includes IGS North-South students enrolled at the University of Bern and/or engaged in preparatory work for their PhDs at CDE in 2013

# Finances

## Financial account for 2013 (in CHF, rounded)

INCOME	Total	CDE	DIG <sup>1</sup>
<b>External funds</b>			
Programme income	3,700,800	3,700,800	
Other income (services)	30,700	30,700	
<i>Total external funds</i>	<i>3,731,500</i>	<i>3,731,500</i>	
<b>University funds</b>			
Contribution to office rent <sup>2</sup>	200,000	100,000	100,000
Contribution to personnel expenditure	2,852,900	1,599,400	1,253,500
Contribution to operating expenses	428,200	395,300	32,900
<i>Total university funds<sup>3</sup></i>	<i>3,481,100</i>	<i>2,094,700</i>	<i>1,386,400</i>
<b>Total income</b>	<b>7,212,600</b>	<b>5,826,200</b>	<b>1,386,400</b>
EXPENDITURE	Total	CDE	DIG
<b>Personnel</b>			
Salaries	5,103,100	4,100,300	1,002,800
Social benefits	1,275,700	1,025,000	250,700
<i>Total personnel</i>	<i>6,378,800</i>	<i>5,125,300</i>	<i>1,253,500</i>
<b>Other expenditure</b>			
Office rent	221,200	121,200	100,000
Office operating expenses	263,900	233,400	30,500
Travel	98,500	98,500	
Miscellaneous	67,400	65,000	2,400
IT (CDE share)	175,700	175,700	
<i>Total other expenditure</i>	<i>826,700</i>	<i>693,800</i>	<i>132,900</i>
<b>Accruals</b>	<b>7,100</b>	<b>7,100</b>	
<b>Total expenditure</b>	<b>7,212,600</b>	<b>5,826,200</b>	<b>1,386,400</b>

All accounts were audited externally and internally and were approved.

<sup>1</sup> Department of Integrative Geography; the financial account of DIG is listed here because its accounting is done by CDE owing to the large number of jointly run projects and programmes

<sup>2</sup> Paid directly by the university administration

<sup>3</sup> This does not include the amount of CHF 51,000 which was transferred to CDE's university account and is reserved exclusively for covering operating expenses in 2014

**Balance sheet as at 31 December 2013** (in CHF, rounded)

<b>ASSETS</b>	
<b>Current assets</b>	
Liquid funds, CDE	69,400
Accounts, university	2,322,400
Accounts receivable	1,078,800
<i>Total current assets</i>	<i>3,470,600</i>
<b>Fixed assets</b>	
EDP equipment	20,000
Furniture	0
<i>Total fixed assets</i>	<i>20,000</i>
<b>Total assets</b>	<b>3,490,600</b>
<b>LIABILITIES</b>	
<b>Current liabilities</b>	
Accounts payable	11,100
Project funds	655,300
<i>Total current liabilities</i>	<i>666,400</i>
<b>Equity capital</b>	
Capital <sup>1</sup>	699,300
General reserves <sup>2</sup>	1,076,700
Tied reserves <sup>3</sup>	1,048,200
<i>Total equity capital</i>	<i>2,824,200</i>
<b>TOTAL LIABILITIES</b>	<b>3,490,600</b>

<sup>1</sup> Equity capital at date of establishment of CDE as an interdisciplinary research centre in mid-2009

<sup>2</sup> Accumulated gains and losses from previous years

<sup>3</sup> Reserved for severance payments and special research

