



NCCR  
north  
south

Partnerships in research for sustainable development  
**Research highlights and their implications  
for policy and practice**

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## Editorial

For us as directors of a research programme on global change and sustainable development it remains astonishing how diverse, challenging, and interesting our partnerships with developing and transition countries have been, and still are. Some highlights of the most recent research projects are summarised in this brochure. National Centres of Competence in Research (NCCRs) were designed at the end of the last century with the aim of promoting Switzerland's excellence in strategically important fields of research. Our programme focusing on research partnerships between institutions in Switzerland and in developing and transition countries was among the first group of NCCRs to be selected. The NCCR North-South was implemented from mid-2001 to mid-2013.



Hans Hurni (l) and Urs Wiesmann (r)  
Directors of the NCCR North-South

Through its cutting-edge research that is well documented in over 2300 publications prepared by the programme's researchers, the NCCR North-South achieved an excellent international standing in terms of appreciation not only in the nine regions where it maintained a constant network, but in developing countries in general, and to some extent also in Switzerland and the global "North". The NCCR North-South focused on problems of these countries and their populations. It developed much-demanded capacity at the levels of masters, PhDs, and post-docs, 60% of whom live in countries of the global "South". The programme tested and applied its research results in over 100 pilot projects. This was highly esteemed both by the target groups and the researchers themselves, who normally did not have the opportunity to make such experiences.

Besides strengthening all partners within their institutional settings, the NCCR North-South fostered establishment of the Centre for Development and Environment (CDE) at the University of Bern and set up the International Graduate School North-South (IGS North-South), a doctoral programme on the topics of global change, sustainable development, and innovation, offered jointly by the universities of Basel, Bern, and Zurich. The IGS North-South preserves the network of Swiss partner institutions built by the NCCR North-South. Exchange with the partners in the South will remain crucial for Switzerland to continue conducting research for sustainable development with a global perspective.

Hans Hurni and Urs Wiesmann, University of Bern,  
on behalf of the Board of Directors, NCCR North-South



• The fishing sector remains an important source of livelihood for many  
• people in Sri Lanka. Livelihood strategies of marginalised groups are  
• an important focus of our research. Photo: R. Alluri



- Bridges have been a symbol of our research partnerships. Bridges – even if they seem
- tenuous at times – can be powerful links between shores otherwise far apart. Bridge over
- the Nam Song River in Vang Vieng, Lao PDR. Photo: F. Grimm



## A twelve-year programme concludes, strong bridges between North and South remain

The residents of Aeschi near Spiez were used to seeing some four dozen people from around the world descend on their village for a week each year. Over coffee and Swiss chocolate, soil scientists from Ethiopia exchanged experiences in sustainable land management with their counterparts in Tajikistan, sanitation specialists from Thailand discussed shared challenges in wastewater management with researchers from Costa Rica, while questions of governance occupied social scientists from Nepal and Bolivia. Veterinarians from Côte d'Ivoire and Kyrgyzstan compared notes on combatting brucellosis, a disease that affects both humans and cattle, and social anthropologists in Tanzania and Ghana worked on their joint project to increase the resilience of adolescents to sexually transmitted diseases in both countries. This was South–South cooperation at its best, one of the cornerstones of the Swiss research for development programme, the National Centre of Competence in Research (NCCR) North-South.

Set up in 2001, the NCCR North-South was a 12-year research programme whose ultimate goal was to have an impact on development and to demonstrate how it may be steered in a sustainable direction. It aimed to develop and consolidate an integrative research approach to generate knowledge for sustainable development in the context of global change in developing and transition countries. Towards this purpose, the programme built and strengthened a network of partners in over 40 countries capable of conducting and coordinating such research and capable of providing support to decision-makers and policymakers, locally and globally.

In this brochure, we present some of the programme's highlights and scientific achievements in the research fields of migration, conflict transformation, health care systems, sanitation and wastewater management, natural resources and sustainable regional development, and governance.

• In Ethiopia, the NCCR North-South helped to make government-induced sustainable  
• land management campaigns more acceptable to farming communities. Soil and water  
• conservation has increasingly become part of their farming systems. Photo: H. Hurni



- For poor countries like Nepal, remittances are an important source of external finance. NCCR North-South researchers studied social movements for the rights of migrants in Kathmandu. Photo: G. Gurung



## Scientific achievements and policy messages

### Institutions, livelihoods, conflicts

**Development Study Group Zurich (DSGZ) and Swiss Peace Foundation (swisspeace)**

Research activities of this thematic cluster explored the dynamic role of institutions in regulating access to means of livelihood, peace, and security. They further sought to identify ways of strengthening the acceptance and legitimacy of institutions fostering sustainability.

#### Conflicts around land-based natural resources

Our case studies showed that local people in Kyrgyzstan, Pakistan, and Nepal appeal to various institutional frameworks to legitimise their claims to forest, pastures, or agricultural land. State law is just one of several legal frameworks. People flexibly exploit this “legal pluralism” to negotiate their property rights in different situations, for example appealing

to customary rules of resource sharing during crises. But local elites typically have more recourse to institutions – customary and state-based – that will enforce their claims. Redefining rights to land is highly charged, and policymakers and development practitioners must understand the dynamic role property regimes and power relations play before getting involved. When addressing resource reallocation, a case-by-case approach is essential to avoid exacerbating conflicts and power imbalances.

#### Migration as a livelihood strategy

In several studies in Kyrgyzstan, India, Pakistan, and Nepal, researchers examined migration processes. Migration provides a critical means for many of the world’s poor to support their families. Researchers refined theories of “multi-locality”, showing, for example, that in the context of migration a “household” should not be understood as a residential unit, but rather as a tight network of exchanges of support (e.g.

- NCCR North-South researchers meeting with a local community group
- to obtain feedback about the development of a community-based tourism
- model in Kaski District, Nepal. Photo: R. Gurung



remittances) and services between people living in different countries. To help lift migrant labourers out of poverty, governments should support circular migration by introducing measures such as flexible residency, citizenship rights, and portable benefits.

### Processes of state-building

State-building in fragile contexts was another important research focus, especially in Africa (e.g. South Sudan, Ethiopia, and Côte d'Ivoire). Stable and accountable states are crucial to sustainable development. State-building is chiefly an endogenous process resulting from a complex and oftentimes chaotic, contradictory, and violent interplay between (1) long-term historical and social dynamics and (2) strategies of local and external actors aimed at shaping the state-building process. Researchers developed a theoretical framework – known as negotiating statehood – to facilitate the identification of local processes and people involved in constructing legitimate political institutions. Rather than bypassing weak state agencies (e.g. health authorities), donors and development agencies

should look for ways to support local collaborations between state and non-state actors such as community leaders, for example, in service delivery. This would reinforce state–society relations and state legitimacy.

### Peacebuilding by the private sector in South Asia

Researchers also studied peacebuilding activities of businesses in transformation situations in Sri Lanka, Nepal, and Assam (East India). Applying a narrow definition of peacebuilding, researchers could not substantiate the claim that business actors are relevant actors in peacebuilding processes. A genuine interest of the business community in peacebuilding was overall lacking. The only area where businesses contributed to peacebuilding, although always indirectly, was economic reconstruction. However, business actors have proven to have strong ties with the state given the political economics in post-conflict situations. Peacebuilders need to revise their conceptualisation of business actors in policies and programming by taking into account these ties in innovative ways.

- Under the “One Health” vaccination campaign, veterinarians and human doctors
- travelled together to reach nomads in Chad. Here, doctors are vaccinating a
- group of nomads, while vets are treating their cattle nearby. Photo: D. Weibel



## Health, services, planning

**Swiss Federal Institute of Aquatic Science and Technology (Eawag/Sandec) and Swiss Tropical and Public Health Institute (Swiss TPH)**

Research activities of this thematic cluster aimed at contributing to the improvement of water supply, sanitation, and health in developing countries.

### Planning and implementing better sanitation

Planning and implementing better sanitation with end-users in poor settlements was the goal of applied research in Tanzania, Lao PDR, and Nepal. A group of programme scientists and engineers developed a step-by-step process for planning and installing affordable sanitation technologies together with all key stakeholders, especially end-users. This Household-Centred Sanitation approach may be used together with the group’s Compendium of Sanitation Systems and Technologies (e.g. toilets) that can be flexibly adapted to local conditions. The planning

approach was also adapted for urban settings under the name Community-Led Urban Environmental Sanitation. These tools are available for free to enable the widest possible impact.

### Water pollution and health risks

Runoff from farms and residential areas as well as poorly treated wastewater cause major pollution problems in Southeast Asia’s waterways. Programme scientists investigated water pollution and health risks in Thailand and Vietnam. They refined a mathematical Material Flow Analysis model that makes it possible to trace the flow of pollution through important river systems, such as Thailand’s Tha Chin River Basin. By combining such data with information on hydrological patterns, researchers can quantify the balance of pollutants versus water in rivers, thereby assessing risks to humans and the environment and possible ways of intervening.

- *Uncontrolled rubbish dump in Lai Xa, Vietnam. Researchers developed practical tools for use in assessing health risks due to deficient sanitation. Photo: D. Ruef*



### **Jointly addressing human and animal health**

Researchers helped to refine the theory of “equity effectiveness” in health interventions and to build the case for simultaneously addressing human, animal, and ecosystem health in West Africa and Central Asia. Programme researchers tested the “One Health” approach – uniting doctors and veterinarians, for example, to treat zoonoses (diseases transmissible between animals and humans) or jointly vaccinate pastoralists and their animals – with very positive results: In Chad, mobile human–animal health campaigns markedly improved vaccination rates for serious illnesses (e.g. tuberculosis) among pastoralist children; in Mongolia and Kyrgyzstan, researchers’ mathematical modelling demonstrated how brucellosis – a disease transmissible between livestock and their keepers – could be affordably eliminated in humans through mass vaccination of animals.

### **Reinforcing the resilience of teenagers**

Researchers in Tanzania and Ghana developed a “multi-layered social resilience framework” that shifts the emphasis from at-risk groups’ vulnerability to their existing tools to cope with or overcome threats. They surveyed over 1,000 young women and girls in Tanzania to learn more about how they avoid or cope with pregnancy. They found that a surprising proportion of the girls were resilient – i.e. knew how to take care of their health – even those who were young mothers. Further, local mass media – especially young women’s magazines – were identified as a primary source of information about how to avoid pregnancy and stay healthy. The researchers identified a need for information campaigns aimed at pregnant girls and young mothers, to provide them with information about how to protect their health and the health of their baby. Though effective, existing mass media campaigns tend to target girls who are not pregnant.

- Soil spectroscopy is a highly versatile technology that can be used both
- in the laboratory and in the field. These researchers are examining soil
- organic carbon in Tajikistan. Photo: B. Wolfgramm



## Natural resources, economy, governance

Centre for Development and Environment (CDE) and Graduate Institute of International and Development Studies (IHEID)

### Sustainable land management and assessment of its benefits

Researchers demonstrated in Ethiopia, Kyrgyzstan, and Tajikistan that practices of sustainable land management (SLM) – such as terracing, afforestation, mulching – are capable of preventing, halting, and rehabilitating degraded land as well as conserving water. The research pointed to possible win-win scenarios: By applying SLM practices, millions of small-scale farmers worldwide can not only increase their yields and improve their livelihoods, they can help to mitigate climate change by enabling soils to absorb more carbon. In order to track soil health (e.g. carbon content) and evaluate the effectiveness of SLM practices, programme researchers are also helping to

perfect efficient, relatively inexpensive techniques of soil spectroscopy. Used in combination with remote-sensing technology, spectroscopy can be used to monitor the health of soils worldwide.

### Creating maps to enable better decision-making

Many useful insights can be gained when carefully gathered statistical data – for example regarding poverty, land use types, or deforestation – are rendered on maps and examined for patterns. Using government census data and linking them to household-level expenditure data, researchers in Laos applied a method called “small-area estimation” to calculate the incidence and density of poverty across Laos. They then rendered the data on maps and looked for patterns. Plotting the density of poverty across the country revealed that most of the poor were in fact living in districts previously considered low-priority for poverty-alleviation efforts, since the percentage of poor was low at the district level. In countries like Laos where most of the poor live in densely populated

- *Walking to the market near Harer, eastern Ethiopia. In this area, biofuel plantations are encroaching on the territory of the local elephant sanctuary. Photo: B. Portner*
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urban areas, side-by-side with better-off populations, it is best to target poverty assistance to individual households. In sparsely populated rural areas where almost everyone is poor, broader interventions – such as infrastructure improvements – work well.

### **The impact of protected areas on local populations**

Researchers compared various case studies in South America, Africa, South Asia, Southeast Asia, and Europe and found that with few exceptions community participation in the management of protected areas is a largely unrealised goal throughout most of the world. In Latin America, Africa, and Asia, local people are routinely barred from access to protected areas and are not compensated for their loss of livelihood. Conservation works best when local people’s livelihoods are protected in addition to flora and fauna. Community participation in the management of protected areas appears to be a promising approach. Sharing revenues from tourism or providing support for other income-generating possibilities can incentivise people’s participation in conservation goals.

### **Biosphere reserves and extractive industries**

There are 564 official biosphere reserves worldwide that are recognised by UNESCO as “learning sites for sustainable development”. Researchers studying the Oxapampa–Asháninka–Yánesha Biosphere Reserve, in the central Peruvian Amazon, found that local authorities lacked a strategy for dealing with extractive industries and lacked knowledge about the impact of their activities. More than 85 mining concessions and four oil concessions overlapped with some of the reserve’s key watershed and agricultural areas. Instead of forcing individual biosphere authorities to find their own ad hoc solutions for dealing with extractive industries, global standards and guidelines must be developed that safeguard biospheres from destructive extraction.

## Partnership Regions



## The NCCR North-South's regional network

Cooperation with the Southern partners was coordinated by the NCCR North-South's nine Regional Coordination Offices: in Abidjan, Addis Abeba, Bangkok, Bern, Bishkek, Kathmandu, La Paz, Nanyuki, and San José. Just as the regions in which the research was conducted were geographically diverse, so were the topics studied. Environmental engineers and anthropologists, veterinarians and political scientists worked together in interdisciplinary teams, to help find answers to the problems of global change.

### West Africa



*"In order to address the geographical, social, and cultural diversity of mobile communities, there is a need to combine molecular, epidemiological, economic, and social science approaches."*

Bassirou Bonfoh, Regional Coordinator West Africa, Abidjan, Côte d'Ivoire

Research within the NCCR North-South focused on the needs of mobile communities and the barriers they encounter in accessing social services related to health, education, information, and security. NCCR North-South Regional Coordinator and Director of the Centre Suisse de Recherches Scientifiques, Bassirou Bonfoh, believes that interdisciplinary, partnership-based research is the most effective way of responding to challenges faced by mobile communities in the region.

## East Africa



*“Long-term solutions to managing drought must combine indigenous knowledge with modern knowledge systems that generate data. It is vital that we reconsider the kind of crops that are grown. In the past, we have abandoned indigenous crops like millet and sorghum, that were suitable to the given climate conditions, in favour of commercial crops, such as maize, which require more moisture to grow.”*

Boniface Kiteme, Regional Coordinator East Africa, Nanyuki, Kenya

In East Africa, the NCCR North-South has been working with CETRAD, an organisation based in Nanyuki, Kenya. Research focused on devising and implementing participatory approaches to environmental and socio-economic development challenges. Led by Regional Coordinator and Director of CETRAD, Boniface Kiteme, the NCCR North-South’s research activities in the region have helped to strengthen scientific capacities and competences of participating institutions and researchers, in addition to building a strong knowledge and information base.

## Horn of Africa



*“The fact that a Swiss–Ethiopian agreement on capacity building and research partnerships was signed can, to a significant extent, be attributed to the work of the NCCR North-South and the Eastern and Southern Africa Partnership Programme.”*

Berhanu Debele, Regional Coordinator Horn of Africa, Addis Abeba, Ethiopia

The Addis Abeba-based Regional Coordination Office also functions as the official liaison office for Swiss–Ethiopian bilateral research activities. A history of conflict as well as the degradation of natural resources characterise the Horn of Africa: NCCR North-South research projects in the region strove to find solutions to such challenges. For example, researchers worked with local farmers to identify sustainable land management systems that reduce degradation of soils and improve their carbon storage properties.

## Swiss Alps



*“Researchers from diverse countries have worked with us in the Swiss Alps. The organisation of common pasture management and the use of water for agriculture, and the handling of land use conflicts in protected areas are just a few examples of topics that are of relevance worldwide. Through scientific exchange, researchers from the global North and South can learn a lot from each other.”*

Karina Liechti, Regional Coordinator Swiss Alps, Bern, Switzerland

The Swiss Alps Regional Coordination Office is located at CDE, University of Bern. The Swiss Alps partnership region fulfilled the important role of providing a basis for exchange and mutual learning with other partnership regions. Questions of sustainable regional development were at the core of NCCR North-South research in this region.

## Central Asia



*"We've received positive feedback from local herders saying that the newspaper we created is really valuable, as it gives them information about animal and human health issues, about winter fodder, and about the veterinary services available."*

Mira Arynova, Regional Coordinator Central Asia, Bishkek, Kyrgyzstan

The Regional Coordination Office for Central Asia is hosted by the University of Central Asia (UCA) in Bishkek, Kyrgyzstan. Kyrgyzstan and Tajikistan face a number of challenges to ensure that water, energy, and food resources are effectively managed, as formerly Soviet-managed services and monitoring networks are no longer functional. PhD and master's studies centred on issues such as agricultural productivity, sustainable land management, climate change, and its impact on livelihoods.

## South Asia



*"A book we published on land issues generated a lot of interest in Nepal. Various contributors to the book were invited to speak with high-level government officials and the Land Reform Commission. The public media requested that the book be translated into Nepali and distributed widely. In this way, research, dissemination, and policy influence are coming together."*

Bishnu Raj Upreti, Regional Coordinator South Asia, Kathmandu, Nepal

Peace promotion, the livelihood strategies of poor and marginalised groups, and migration were among the issues addressed in South Asia. The benefits and limitations of private-sector involvement in peace promotion were studied in India, Nepal, and Sri Lanka, with Nepal and Sri Lanka in particular marked by the consequences of recent civil wars. Further research focused on the rural poor as well as on the livelihoods of marginalised groups in resource-scarce areas.

## Southeast Asia



*"Doing research and publishing results is one thing – but the real challenge is getting simple, affordable technologies out to communities and convincing them that they work."*

Thammarat Koottatep, Regional Coordinator Southeast Asia, Bangkok, Thailand

The Asian Institute of Technology hosts the Regional Coordination Office in Bangkok. In the region, environmental engineers are working to expand people's access to effective, sustainable toilets. This includes modelling the interaction of land use and water pollution, looking for strategies to protect public health and ensure water quality, and developing innovative approaches that trap harmful wastes while diverting nutrients for use as fertiliser.

## Central America

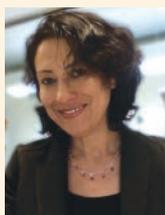


*“Income disparities are only one aspect of the poverty syndrome. Equally important is its exclusion effect. Poverty blocks the entry of the poor into the broader community, making their own individual advancement difficult, if not impossible.”*

Marian Perez, Regional Coordinator Caribbean and Central America, San José, Costa Rica

Research emphases include urban sanitation interventions, natural resource governance, and migration. One project explored the dimensions of participatory planning processes intended to provide user-driven, gender-sensitive solutions to the problem of insufficient sanitation. Another project in Cuba and Mexico examined governance issues regarding the transformation of multifunctional agrarian systems. The Regional Coordination Office is hosted by the Costa Rican headquarters of the Facultad Latinoamericana de Ciencias Sociales (FLACSO), in San José.

## South America



*“Research in South America should be able to contribute to the current rethinking of the development process as a whole. In Bolivia, research can contribute to a better understanding of the role of local rural organisations and institutions, as well as the linkages between local/traditional knowledge and outside scientific knowledge. Involving social actors throughout the research process is one way to attain not only useful results but also outputs that can become part of public policies and local development practices.”*

Elizabeth Jimenez, Regional Coordinator South America, La Paz, Bolivia

In many South American countries, the benefits of economic growth did not trickle down as predicted by the neo-liberal paradigm that various governments chose to follow. Observing these trends, researchers in the region ask: How can natural resource governance be made more sustainable, enabling rural systems to benefit from, and be integrated into, wider society, without harming bio-cultural diversity? And what is the best way to formulate, implement, and monitor new policies for more sustainable governance of agrarian systems? The Regional Coordination Office is hosted by the Centre for Development Studies at the University of San Andrés in La Paz, Bolivia.



## The NCCR North-South in a nutshell

Around 1250 researchers worked together in the NCCR North-South to find solutions to problems of global change. The programme brought together six Swiss research institutions and 140 partner institutions in Africa, Asia, and Latin America. Building research partnerships between participants in the industrialised global “North” and their peers in the developing global “South” was central to the programme’s success. Participating researchers investigated issues of poverty, conflict, health, sanitation, natural resources, and governance. The programme received CHF 100 million in funding over 12 years from the Swiss National Science Foundation, the Swiss Agency for Development and Cooperation, and the participating institutions.

### Successes of the NCCR North-South

The NCCR North-South strengthened Switzerland’s position in international research on global change. Through the programme, the six Swiss partner institutions increased their standing, particularly in the indicated research fields.

- Migration, poverty, institutions, and livelihoods: Development Study Group (DSGZ), University of Zurich

- Conflict transformation: Swiss Peace Foundation (swisspeace)
- Health care systems: Swiss Tropical and Public Health Institute (Swiss TPH)
- Sanitation and wastewater management: Swiss Federal Institute of Aquatic Science and Technology (Eawag/Sandec)
- Natural resources and sustainable regional development: Centre for Development and Environment (CDE), University of Bern
- Governance: Graduate Institute of International and Development Studies (IHEID)

### Enhanced exchange with the global South

Researchers honed their skills and expertise, for example in the NCCR North-South’s international training courses. Around 230 young researchers have completed or will soon complete their PhD (59% from the global South, 40% women). The programme’s international network strengthened mutual trust and enabled participants to share their experiences. These partnerships will remain important to future research and practice beyond the end of the programme.

• Secondary school students at an NCCR North-South research site in the  
• Mtwara region, southern Tanzania, where researchers studied issues of  
• reproductive health. Photo: C. Pfeiffer



## Programme Management

- The NCCR North-South is directed by a board made up of representatives from the Swiss Partner Institutions together with the Regional Coordinators. It is headed by programme directors Hans Hurni and Urs Wiesmann, and coordinated by Thomas Breu.

## Swiss Partner Institutions

- Centre for Development and Environment (CDE)  
University of Bern  
Hans Hurni and Urs Wiesmann  
[www.cde.unibe.ch](http://www.cde.unibe.ch)
- Development Study Group (DSGZ)  
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- Swiss Peace Foundation (swisspeace), Bern  
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- Swiss Tropical and Public Health Institute (Swiss TPH), Basel  
Marcel Tanner and Jakob Zinsstag  
[www.swisstph.ch](http://www.swisstph.ch)
- Department of Water and Sanitation in Developing Countries (Sandec) at Eawag (Swiss Federal Institute of Aquatic Science and Technology), Dübendorf  
Janet Hering and Chris Zurbrugg  
[www.sandec.ch](http://www.sandec.ch)
- Graduate Institute of International and Development Studies (IHEID), Geneva  
Gilles Carbonnier  
[www.graduateinstitute.ch](http://www.graduateinstitute.ch)

## Further information on the NCCR North-South

### General information

Please visit our website for more information on the NCCR North-South in general, research projects, the practice-oriented PAMS component, and the people involved. The NCCR North-South website will remain online until 2014, after which publications will be integrated into the IGS North-South and CDE website.

[www.north-south.unibe.ch](http://www.north-south.unibe.ch)  
[www.igs-north-south.ch](http://www.igs-north-south.ch)  
[www.cde.unibe.ch](http://www.cde.unibe.ch)

### Publications

The NCCR North-South has numerous publications aimed at a diverse readership. Publications include academic articles and books (*Perspectives* series), working papers and reports on effectiveness (*Dialogue* series), newsletters, fact sheets (*Outcome Highlights* series), and policy briefs (*evidence for policy* series).

<http://www.north-south.unibe.ch/content.php/page/id/184>

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**Photo on front cover:** Suspension bridge over the Shakhudara river in the Tajik Pamirs. Photo: D. Maselli

**Photo on back cover:** Elderly Massai peeping into a bar in Mukogodo, north of Mount Kenya. Photo: U. Wiesmann



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