

north
NCCR
south



Research Partnerships

Research Partnerships for Sustainable Development

Sustainable Development

**National Centre of
Competence in Research
North-South**

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Message from the Director

The worldwide ecological, social and economic dynamics that we call 'global change' continue to accelerate, posing a considerable challenge for technological, political and social adaptation and innovation towards sustainable development. In the present-day global knowledge society, developing and transition countries are at a disadvantage because they have less infrastructure and personnel capacity in education and research compared to industrialised countries. Enhanced international cooperation is thus indispensable for shaping a common future. Research partnerships have proven to be highly suitable tools for reducing global disparities.

The NCCR North-South is a case in point. Six years have passed since we last presented our programme in brochure format. At that time, in early 2002, the programme had just started, and we were busy recruiting the first group of PhD candidates. The first brochure was thus largely programmatic – it contained the vision and objectives we wanted to achieve. In the meantime, the programme has initiated 150 PhD studies, 65 of which have been successfully completed to date. Moreover, in late 2005, we launched a first series of eight post-doctoral projects, which are now well underway. The present brochure is based on the research carried out by the nearly 400 members who are active in the North-South network. Numerous teams are working on four continents, in over 40 countries concentrated around nine regions, which we call 'Joint Areas of Case Studies' (JACS).

This second brochure reflects experience gained and lessons learnt by us in the first 7 years of the programme. And what is more, we have experimentally tested our research in pilot activities called PAMS; some of the best ideas have been taken up by implementing institutions in spin-offs.

I hope that this publication will help increase readers' awareness of the complexities of global change research, as well as of the need to conduct such research in partnership with the scientific and non-scientific communities worldwide.

Hans Hurni

A handwritten signature in black ink, appearing to read 'H. Hurni', written in a cursive style.

“The world scientific community needs to chart an interdisciplinary strategy for sustainable development research, backed by increased funding. Leading scientific institutions should now coalesce behind a shared agenda on sustainable development and thereby help to draw governments into the challenges of the 21st century.”

Jeffrey D. Sachs and Walter V. Reid
Science, Vol. 312, No. 5776, 2006

“In view of the increasing role the sciences have to play in dealing with the issues of environment and development, it is necessary to build up scientific capacity and strengthen such capacity in all countries – particularly in developing countries – to enable them to participate fully in the generation and application of the results of scientific research and development concerning sustainable development.”

United Nations, Agenda 21

Research for Sustainable Development

The NCCR North-South is one of twenty National Centres of Competence in Research implemented by the Swiss National Science Foundation. Created in the understanding that development research and cooperation are of primary concern to Switzerland, it currently comprises a network of about 400 researchers worldwide.

The National Centres of Competence in Research (NCCRs) were set up to promote long-term research projects in areas of vital strategic importance for the science, economy and society of Switzerland. The NCCR North-South was launched as a twelve-year programme in 2001. Its aim: to establish the foundations for advanced research in sustainable development, in the North as well as the South. To this end the NCCR North-South has set up a research network for sustainable development studies at graduate and post-graduate levels both in Switzerland and around the world.

Research in the NCCR North-South programme is conducted by seven partner institutions in Switzerland and some 160 universities, research institutions and development organisations in Africa, Asia, Latin America and Europe. One of the partner institutions, the Centre for Development and Environment at the University of Bern, coordinates and manages the programme. The “leading house” of the programme is the University of Bern.

The NCCR North-South programme is divided into four-year phases. In the first phase, 30 core problems of global change were defined, and partnership regions and institutional partners were selected. The second phase served to deepen these relationships and present a synthesis of the work done so far. The NCCR North-South intends to use the third phase to launch new projects, with the firm intention of institutionalising the type of research conducted within the partnerships and going beyond the 12 years originally intended. As a long-term, truly interdisciplinary and transdisciplinary project dealing with global change issues, the NCCR North-South is a unique and valuable asset to the Swiss research landscape.

In the first phase of the programme, the NCCR North-South had a budget of 32 million Swiss Francs (CHF), provided in equal parts by the Swiss National Science Foundation (SNSF) and the Swiss Agency for Development and Cooperation (SDC), with further funds provided by project participants. The second phase of the programme was financed with CHF 35 million. For the third phase, the budget is expected to total CHF 30 million (US\$ 30 million).

Since 2001, NCCR North-South researchers have published 1500 papers, including 300 peer-reviewed scientific articles. Participating in international conferences and workshops, by 2008 they had given approximately 1500 lectures and presentations. Between 2001 and 2008, 150 doctoral theses and an equal number of masters dissertations were launched.

Long-term vision of the NCCR North-South

The programme’s vision is to contribute to mitigating syndromes of global change by carrying out research, providing education and promoting societal empowerment in partnership with individuals and institutions in developing and transition countries, and through a Swiss network of excellence in research on sustainable development.

The NCCR North-South was launched with support from the Swiss Commission for Research Partnerships with Developing Countries (KFPE).



Hans Hurni
Director
NCCR North-South



Urs Wiesmann
Director
NCCR North-South



Thomas Breu
Coordinator
NCCR North-South

The NCCR North-South: How It Works

The main focus of NCCR North-South research is on processes of global change – both natural and man-made – and their significance for sustainable development. Research focuses on four core themes, with case studies undertaken in nine different regions of Asia, Africa, Latin America and Switzerland.



At first sight, life in pastoral regions appears unaffected by global change. Marala Region, lowlands of Kenya.

Research areas

In a nutshell, the following four research areas form the core of NCCR North-South activities:

- **Governance and Conflict** seeks to understand the complex processes of governance that play a role in transforming situations of conflict into a basis for cooperation.
- **Livelihood Options and Globalisation** focuses on the changing economic, social and political structures that determine the livelihood options available to the poor.
- **Health and Environmental Sanitation** aims at finding ways to integrate effective health and sanitation strategies into participatory planning processes.
- **Natural Resources in Sustainable Development** explores potentials for making good use of resources like water, soil and biodiversity while maintaining standards for sustainable development.

Transversal research

A further set of research projects aims at providing insight into specific issues that occur in a number of different regions and socio-environmental contexts. These “Transversal Package Projects” are an attempt to understand local manifestations of problems within the complex of ongoing changes taking place at the global level. In addition, a continuous effort is made to further refine conceptual and methodological approaches and tools.

Partnership regions

Research supported by the NCCR North-South is carried out in partnership between researchers and research institutions in Switzerland and their counterparts in Africa, Asia and Latin America. NCCR North-South activities focus on eight regions outside of Switzerland, each with its own Regional Coordination Office:

- West Africa
- East Africa
- Horn of Africa
- Central Asia
- South Asia
- Southeast Asia
- Caribbean and Central America
- South America

A ninth partnership region, the Swiss Alps, was created in order to facilitate the exchange of knowledge and experience between North and South.

Swiss partner institutions

Research is conducted by partner institutions in Switzerland. Each research area is covered by a “Work Package” headed by the following partner institutions.

Work Package 1

Governance and Conflict

- Swiss Peace Foundation (swisspeace), Bern
- The Graduate Institute of International and Development Studies (IHEID), Geneva

Face-to-face knowledge exchange during an international NCCR North-South meeting in Laos.



Work Package 2

Livelihood Options and Globalisation

- Development Study Group (DSGZ) at the Department of Geography, University of Zurich
- Laboratory of Urban Sociology (LaSUR) of the Swiss Federal Institute of Technology (EPFL), Lausanne

Work Package 3

Health and Environmental Sanitation

- Swiss Tropical Institute (STI), Basel
- Department of Water and Sanitation in Developing Countries (SANDEC), EAWAG, Dübendorf

Work Package 4

Natural Resources in Sustainable Development

- Centre for Development and Environment (CDE) at the Institute of Geography, University of Bern

To complement this, the Transversal Package Projects fulfil a bridging function between the different Work Packages and partnership regions. This ensures integration which is vital for the relevance of research for sustainable development. It also enables comparisons of research findings and possibilities for their application across regions.

Research approach

NCCR North-South research is conducted in a framework that combines and adapts the methods of traditional scientific disciplines to meet the needs of a changing world. Scientists from the social, natural and engineering sciences work together as teams to define new fields of interdisciplinary research capable of addressing the complex issues of sustainable development.

To enable this process of integration and exchange, the NCCR North-South also invests resources in joint education and training activities that bring together researchers from all over the world. The training programme for master's students, PhD candidates and post-doctoral researchers includes basic theoretical and methodological training as well as regionally adapted courses focused on the

implementation of interdisciplinary and transdisciplinary approaches at the local level. This is how individual researchers are able to both contribute to and capitalise on the overall knowledge base of the NCCR North-South and its wider network.

The NCCR North-South also promotes a transdisciplinary approach to development studies, by incorporating the practical understanding available through non-scientific knowledge systems into its research. In this way scientific methods contribute directly to the search for pragmatic solutions to the problems of developing and transition countries.

In the NCCR North-South, new knowledge for sustainable development is generated in mutually beneficial learning processes involving various scientific disciplines (**interdisciplinarity**) as well as non-scientific stakeholders (**transdisciplinarity**).

PAMS

An innovative addition to the research activities of the NCCR North-South are selected small-scale local development projects of limited duration and financial scope. Known as "Partnership Actions for Mitigating Syndromes of Global Change" (PAMS), these projects are designed to address specific problems by applying research results to "real" situations. The PAMS provide an empirical basis for evaluating the potential of transdisciplinary research in triggering social learning processes.

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Transdisciplinarity: Research for a Changing World

Adapting research methods to meet the needs of a world in constant transformation is one of the major challenges facing the scientific community today. The NCCR North-South promotes a transdisciplinary approach – combining scientific insights with the practical knowledge of non-scientific actors.



One of the most widespread obstacles to sustainable development is the fact that policymakers often have difficulty in integrating the diversity of perceptions and high levels of complexity and uncertainty linked to sustainability. Some of the information required for decision-making is of a technical nature – statistics, scientific data, results of controlled studies and other kinds of information that specialists can provide. This type of information is generally supplied by interdisciplinary teams of experts from various disciplines of the natural and social sciences, whose academic credentials lend weight to their analyses and recommendations.

There is, however, also another source of information that is equally crucial for determining effective development policy: people's knowledge. Unfortunately, it is usually more difficult to access this kind of knowledge and, for this reason, it tends to be neglected by those who set policy. Moreover, simply retrieving this information is not enough: there is a need to develop knowledge together with the actors concerned.

Non-scientific knowledge

Thus the people who have lived in and with a given set of circumstances over time need to be involved in expanding on knowledge for sustainable development. This includes traditional or indigenous community leaders, small farmers, local entrepreneurs, migrant workers, the urban poor, as well as development practitioners with practical experience in the field. It often includes people who may lack academic training or formal education, which in turn limits their personal access to policymakers and their ability to communicate what they know beyond their own social circles. However, they possess non-scientific knowledge whose value is essential to ensure the effectiveness of development goals and

interventions. The participatory approach – involving society in the decision-making process – is vital.

It is with this understanding that the NCCR North-South has adopted a transdisciplinary approach to the research it conducts. The hallmark of this approach is precisely that it is participatory and action-oriented: solutions to problems are worked on together with the people affected, as opposed to being imposed on them by development “experts” or policymakers alone. This means that the search for increased sustainable development takes the form of a social negotiation and mutual learning process.

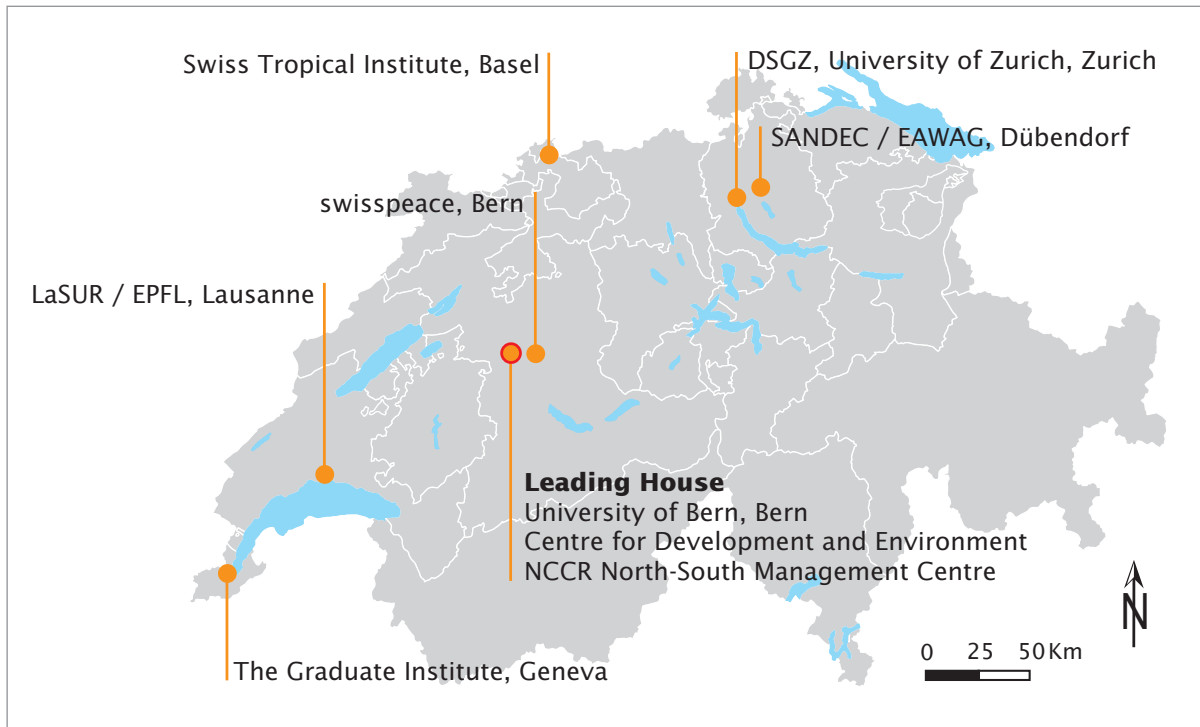
Challenges

The validity of transdisciplinarity as a method of obtaining reliable evidence and negotiated values on which to base fundamental policy decisions has been a subject of debate in academic circles since the 1990s. The difficulties of verifying, quantifying, comparing and generalising information that has been gathered not in controlled experiments but from actual experience render the concept of transdisciplinary research highly questionable in the eyes of many academics familiar with the traditional scientific method. And, the difficulties are not few, especially as research for sustainable development also requires taking into account the normative and epistemological aspects of development. In other words, the diversity of goals and belief-systems of the actors involved must be considered. Because of this, many of the NCCR North-South's activities centre on the development of a viable methodology for conducting transdisciplinary research.

The pages that follow provide an overview of the kinds of research which the transdisciplinary approach of the NCCR North-South makes possible.

The Swiss Partners in the Research Network

Swiss Partner Institutions



Contacts at Swiss Partner Institutions

Work Package 1: Governance and Conflict

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Work Package 3: Health and Environmental Sanitation

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Deputy head: Roland Schertenleib, Department of Water and Sanitation in Developing Countries (SANDEC), EAWAG, Dübendorf, schertenleib@eawag.ch

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Work Package 4: Natural Resources in Sustainable Development

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Transversal Package: Syndrome Mitigation and its Scientific Foundations

Head: Hans Hurni, on behalf of the Board of Directors

Coordinator: Stephan Rist, stephan.rist@cde.unibe.ch

Firearms as a display of joy, not an act of aggression: Pastoralists celebrate the coronation of their new Sultan. Gora Bagagsah, Somali Region of Ethiopia.



Governance and Conflict

In regions where resources are scarce and competition for them is intense, the potential for conflict is a major factor that must be dealt with in any attempt to achieve sustainable development. Research on Governance and Conflict seeks to enhance our understanding of the complex processes of governance that play a role in transforming situations of conflict into a basis for cooperation.

Research in this area aims at providing empirically grounded evidence on the institutionalisation of power relationships within a given context at the interface between the local, national and international levels. Research is focused on the following three themes: negotiating statehood; governance and gender; conflict and economy.

Negotiating statehood

One of the NCCR North-South's research objectives is to develop a critical view of how statehood is conceived and constructed by various actors in post-conflict settings. Such states tend to be measured against a Western model and are often described as "failed", "rogue" or even "quasi" states. The implication of this label is that these states are locked in a downward spiral in which the state capacity to govern is continuously weakened.

The NCCR North-South advocates that statehood should be seen as a dynamic process: a place where power relations are negotiated between different actors. Rather than using a predefined approach to state-building, NCCR North-South researchers investigate how specific political, social, cultural and economic situations "produce" specific forms of statehood.

Case studies are currently being conducted in Côte d'Ivoire, Ethiopia and South Sudan as well as in Bolivia and Peru. The studies involve an analysis of the interaction between three different actor groups, all of whom advocate different types of statehood. These groups are "traditional authorities" such as chiefs, elders or religious leaders; political-military authorities such as liberation movements or militia; and humanitarian actors including local and international NGOs or United Nations agencies.

These studies will provide new, empirically based knowledge on current dynamics of state formation and transformation in Africa and South America. They all share the basic assumption that the state is a central actor of sustainable development, either through its concrete actions and interventions in the field, or because of its deficiencies, its inadequate structures and its failure to provide basic needs and security to its citizens. They also address the many challenges that

Key term

Governance addresses the evolution of governing processes in a society, transcending hierarchical structures and including bottom-up as well as horizontal and cooperative forms of decision-making.

states have to face in the era of globalisation. By mapping out the actors that are part of these processes of state formation and transformation; by assessing the issues around which negotiating takes place between these actors; and by analysing the outcomes of these negotiation processes in terms of the institutionalisation of power relationships, they will contribute to a better understanding of how states actually work – despite their many weaknesses – and will suggest some lines along which state intervention to support sustainable development can be enhanced.

Governance and gender

NCCR North-South research on governance is based on case studies relating to issues of biodiversity, vulnerability, decentralisation, health and labour. A central aspect of NCCR North-South research on governance and conflict is the role of gender differences in stakeholder approaches to these issues.

Special emphasis is given to the study of various forms of governance, following a newly developed analytical and interpretative framework. In particular, the NCCR North-South examines how problems can be mitigated through the legal and political means available to the international community and to national and local actors.

Gender is considered as a core transversal tool in the approach to governance and conflict. The sex/gender system is a complex social construction that includes sexual categories, practices, relations, representations, symbols and institutions marked by both hierarchies and inequalities. At the same time, gender is intertwined with class, nation, race, culture and ethnicity in their historical contexts,

Research insight

To test an analytical framework for governance developed by the NCCR North-South, case studies are being conducted in Bolivia and Argentina. Emphasis is placed on examples of “bottom-up” governance, where previously “voiceless” social groups such as women, indigenous peasants or labourers have succeeded in asserting their citizenship by taking the political initiative in the public arena. This should also help to clarify the role of gender differences in political processes.

For example, in Bolivia it was shown that vulnerable people are absorbed by their immediate needs. This has led to their making little or no attempt to participate in the process of constructing public risk management policies.

and all these interactions need to be taken into account. A particular focus concerns the redefinition of statehood, citizenship and political participation by indigenous women’s movements that struggle for cultural and ethnic recognition as well as gender justice.

Conflict and economy

The presence of natural resources can be a source of both rapid growth and of intense conflict in developing economies. NCCR North-South research is aimed at analysing the roles of local, national and international stakeholders in the complex relationship between conflict and economy. Particular attention is paid to issues involving agro-commodities, public goods and financial services.

Another focus is on the role of economic actors in violence-prone economies. The role of extractive industries in conflict zones has been a popular research topic in recent years. The main research findings have been concerned with causal relations between a country’s resource endowment and the likelihood of different types of armed conflict. Research so far has focused largely on mineral resources, oil, timber and illicit narcotics.

By contrast, the role of agro-business in conflict zones rarely attracts attention. Besides the involvement of business actors – in direct extraction or production, but also in services such as financing or insuring such activities – other economic factors contributing to conflict need to be considered. Economic decline (low or declining economic growth rates), poverty (low per capita income) and income disparities within societies are associated with the risk of civil war. Trade relations and access to world markets are also seen as influential factors.

Case studies are being conducted in Ethiopia, Côte d’Ivoire, Kenya, Tanzania and Nepal. Each study is looking at the interests of selected business actors; ways for them to contribute to economic and conflict transformation; and instruments to enhance peace-promoting behaviour of business actors, such as Public Private Partnerships or the modification of general framework conditions such as trade laws by third parties.



Laurent Goetschel
Head of Work Package 1
swisspeace
Bern, Switzerland

“A change of generations in the countries that gained independence in the second half of the 20th century is helping new groups to gain political legitimacy. They are looking for new ways of solving conflicts and promoting a civil society. This is an area in which Switzerland can play an important facilitating role.”



Michel Carton
Deputy head of
Work Package 1
Graduate Institute of
International and
Development Studies
(IHEID)
Geneva, Switzerland

“As the institutions of governance are increasingly obliged to consider the interests of all stakeholders involved, scientific research can become an important tool in negotiating political change.”

Making a living under transition – after the break-up of the Soviet Union, people were left to their own devices. Here, a small business along the road to Song-Kul Lake, Kyrgyzstan tides someone over.



Livelihood Options and Globalisation

Globalisation is having a profound effect on the world's poor. For some, it creates new economic opportunities. For many others, it is creating new obstacles to overcome in the constant search for a sustainable livelihood. Research conducted by the NCCR North-South is concerned with the changing economic, social and political structures that influence livelihood options.

Poverty is often rooted not in a lack of available resources, but in institutional and territorial barriers that impede access to them. Economic programmes based on market liberalisation, privatisation and reduced government controls usually benefit only those who already have a fixed place in the economy. For those on the outside, poverty itself limits access to state-run programmes for the promotion of livelihood opportunities. As a result, those affected often end up having to resort to “informal” survival strategies that only increase their economic, social and political vulnerability.

The NCCR North-South's long-term objective is to understand changes in people's livelihoods and the institutions influencing them. In this way it works to support positive patterns of change and help mitigate negative developments. The research focuses on the following three themes: livelihoods and institutions; livelihood strategies and poverty; and livelihoods and territory.

Livelihoods and institutions

Research on even such basic issues as making a living needs a clear theoretical and methodological basis. For this reason the NCCR North-South gives high importance to theoretical research and refining approaches to livelihood analysis. For ex-

ample, while research at the start of the programme focused on people's assets and how these could be improved by outside interventions, it tended to neglect the causes for unequal access. During the course of the programme, researchers began to address the enabling or restricting institutional context within which people construct their livelihoods. By turning their attention to the institutional dimension, researchers are focusing on issues of access, power and entitlements as opposed to just the issue of assets.

In this same line of research, the NCCR North-South aims to foster the understanding of the increasing rural – urban interactions in a globalising world. The accelerated tendency towards urbanisation that has accompanied changes in the global economy has brought with it a tendency for households to become multi-spatial, with some members living in rural areas while others move towards urban and peri-urban settings. Households are progressively coming to resemble highly gendered, tightly organised networks for the exchange of goods,

Key term

A **livelihood** refers to people's capabilities and their means of living – including food, income, resources as well as claims and access.

services and support between rural and urban locations. This, in turn, is bringing about fundamental changes in the ways decisions are made regarding both urban and rural livelihood activities and the strategies followed for linking them.

Livelihood strategies and poverty

Here, the focus is on deepening and refining livelihood-oriented research, with an emphasis on institutions. Renewable natural resources are core assets for livelihood security in rural settings. Unfortunately, control over these assets is often contentious. Multiple claims and legal pluralism can easily create a situation in which access to available resources becomes restricted, particularly for the poor and disenfranchised. A phenomenon often observed in remote mountain areas is that in such situations the importance of land and agriculture as livelihood assets diminishes, as households become increasingly dependent on remittances generated in remote urban contexts.

Conflicts also prevail between nature, conservation and livelihood interests – research shows that they need to be reconciled. This requires a paradigmatic shift from ‘protectionist’ to ‘people-oriented’ conservation approaches. The local communities within the protected areas have to be understood as equal partners with whom decision-making processes and local ownership have to be created.

Research insight

In Nepal a people-oriented approach was applied in 1998 to create a conservation area around the world’s third-highest mountain, Kangchenjunga. Subsequent interviews conducted by the NCCR North-South with residents and experts showed that three-quarters of those asked reported that living conditions had improved, and that all agreed that there had been an increase in wildlife.

The NCCR North-South also investigates the role of institutions in creating or enhancing livelihood opportunities. Specific attention is given to the role of the state, whose importance in developmental processes is re-emerging, especially for the specific purpose of mediating between global market forces and the locally defined needs of the poor.

Livelihoods and territory

Research into this theme examines the relationship between livelihoods and territory in the context of globalised societies. It looks at the interdependence between

livelihood strategies and social and spatial transformation. Globalisation has far-reaching effects on the ways in which territorial space is divided. Existing boundaries are being shifted, suspended, removed or reinforced, while new boundaries based on market forces rather than political or geographical considerations are being created. These changes have profound social and existential consequences, both positive and negative, for those whose lives and livelihoods are affected by them.

Changing boundaries are especially visible in expanding cities. The global competition between them has led in many cases to increased exclusivity: low-income populations are forced to the periphery as rising costs make it impossible for them to remain in the centre. While this is a phenomenon also known in the North, it is a trend even more pronounced in the South. Here the segregation of the rich from the poor is often both more formal and more strict – taking the form of gated communities and restricted areas and reinforced by the imposition of tolls and other official and unofficial sanctions.

Research insight

Rather than removing borders, globalisation processes often only shift them – removing boundaries between countries while creating new ones within cities. Case studies in Hanoi, La Paz, Mexico City and Tegucigalpa thus far indicate that sustainable urban development is impossible without the mobilisation and active participation of the population groups concerned.

A further tool to analyse and help create livelihood opportunities for the poor is the concept of “habitat”. The extent to which a habitat can be considered successful depends on a number of variables such as the manner in which space is appropriated, planning and policy-making, mobility opportunities, availability of expertise, individual capabilities, and access to real and financial assets. The central goal of this research is to determine the ways in which such variables can be influenced so that a habitat may offer livelihood opportunities.

Key term

The term **habitat** refers to the combination of tangible and intangible elements that go into making a given environment suitable for human beings to live there. This can include such factors as housing, sanitation, access to goods and services, and infrastructure.



Ulrike Müller-Böker
Head of
Work Package 2
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Group Zurich (DSGZ)
University of Zurich
Zurich, Switzerland

“When looking for solutions for development problems, it’s important to see them from the point of view of the people directly affected.”



Adriana Rabinovich
Deputy head of
Work Package 2 /
Transversal Package
Project Leader (4)
Laboratory of Urban
Sociology (LaSUR)
Swiss Federal Institute of
Technology (EPFL)
Lausanne, Switzerland

“Conducting research in partnership opens new possibilities for scientists from both the North and the South. You learn that there are different ways of overcoming obstacles. Comparing similar problems in Bangkok, Havana and Buenos Aires helps us find common solutions that can be adapted to specific local circumstances.”

Under the “One Medicine” vaccination campaign, veterinarians and human doctors travel together to reach the nomads. Here, the women, children and the nomads’ cattle are vaccinated in Chad.



Health and Environmental Sanitation

Health is not just a benefit of sustainable development – it is a prerequisite. For populations trying to escape the cycle of poverty, one of the most serious handicaps is the high vulnerability to disease. NCCR North-South research in this area aims primarily at finding ways to integrate effective health and sanitation strategies into participatory planning processes.

Access to safe drinking water and proper sanitation facilities has proved to be the single most important factor in promoting health and combating disease among the poor. The goal of research on this topic is to contribute to the United Nations Millennium Development Goals in the field of health, health systems and environmental sanitation. NCCR North-South research focuses on diagnosing deficiencies in existing environmental sanitation services and identifying the ways in which people cope with those deficiencies.

Research in this area focuses on the determinants of vulnerability and resilience; improved environmental sanitation; and interventions that reduce the health burden.

Vulnerability and resilience

This line of research looks into the factors leading to vulnerability and resilience in the fields of health, well-being and environmental sanitation. It focuses on diagnosing deficiencies in existing environmental sanitation services and identifying the ways in which people cope with those deficiencies. A central aspect of this research lies in determining the priorities of the users for improvements in environmental sanitation services. Priorities may differ, as users live in a variety of settings (urban, rural, pastoral) and are subject to a variety of different

but highly interrelated social, cultural and economic determinants. Sensitivity to the role of gender in establishing priorities is also of fundamental importance. Specific research activities include the assessment of nutrition and food security of nomadic children in Chad. In Ethiopia, researchers are examining the burden of bovine tuberculosis.

Research is conducted using a combination of established scientific disciplines, from epidemiology to medical anthropology and environmental engineering. This enables research questions and relevant experience at individual, household and institutional levels to be considered.

Research insight

While livestock in the Sahelian region of Chad are routinely vaccinated, nomadic children are not covered by the immunisation programme. Nomads are particularly vulnerable, also due to their exposure to diseases which affect the animals they keep. Since the launch of the joint human and animal vaccination campaign “One Medicine”, the rate of immunisation has increased between 10% to 30% per year. By sharing costs, both the veterinary and public health sectors have managed to reduce their expenditure by 15%. The success of this programme has shown the potential for strengthening health services for hard-to-reach populations.

Environmental sanitation

The guiding questions under this research theme are: how can faecal and wastewater management be improved, and in what way can better environmental sanitation services help reduce the vulnerability of poor populations?

Field-testing of a novel approach to environmental sanitation is being carried out in Africa, Central America and Southeast Asia. The Household-Centred Environmental Sanitation (HCES) approach is based on the understanding that development can only be sustainable if people play a central role in the planning, design and implementation process. As this marks a radical departure from the centralised planning approaches of the past, this requires a change in the attitudes of professionals away from mere service provision towards participatory and locally adapted service creation.

Key term

The **Household-Centred Environmental Sanitation (HCES)** approach is based on the “Bellagio Principles”, which were defined in 2000 and call for an overhaul of conventional policies and practices worldwide in order to help achieve the objective of universal access to safe environmental sanitation. The Bellagio Principles call for human dignity and the quality of life to be maintained; the involvement of all stakeholders in decision-making; waste to be considered as a resource with maximum use of recycling and reuse potential; and problems to be solved as close as possible to where they occur. The approach is being field-tested in selected cities in Kenya, Tanzania, Burkina Faso, Costa Rica and Laos, focusing on un-serviced or under-serviced areas in urban and peri-urban settings.

The health risks arising from poor environmental sanitation, including the spread of epidemics and waterborne diseases, also have extensive secondary effects on developing economies. In addition to the direct costs of health care, the prevalence of such risks has negative consequences for tourism and agricultural exports. These entail far greater economic costs than the investments required for providing a safe water supply and decent sanitation facilities.

Disease reduction

Research here considers different dimensions of poverty and deprivation, and the existing resilience strategies of the most vulnerable urban populations. The NCCR North-South is working to identify and test interventions for health, environmental sanitation and social systems that can equitably reduce the disease burden.

To this end, researchers are developing a conceptual framework using an approach combining methodologies to identify the extent of chemical and microbiological contamination in a specific system and its impact on human health. The methodologies – Material Flow Analysis (MFA) and Quantitative Microbiological Risk Assessment (QMRA) – are combined to provide a holistic approach for identifying sustainable environmental sanitation services that balance the needs of the people with those of the environment.

An important aspect in determining viable solutions to disease reduction is an understanding of spatial patterns in the transmission of infectious diseases. This involves monitoring the spread of such diseases as malaria, tuberculosis, HIV/AIDS and diarrhoea, particularly among the urban poor. Transmission of disease is considered in relation to such factors as the vulnerability of the population, their access to treatment and socio-demographic dynamics.

Within this context gender can play a determining role, since access to health services such as diagnosis and treatment is often a direct function of power relationships within the household. Consequently, the empowerment of women can make a substantial contribution to disease reduction, by enhancing both their opportunities for and probabilities of seeking health care.

Equally important is the understanding of intra- and inter-ethnic groups. This applies in particular to rural-pastoral nomadic settings where some people maintain the traditional lifestyle, some become resident/semi-resident in rural areas and others migrate to an urban setting. These key issues are tackled through comparative research in West Africa and Central Asia.

Research insight

While human and veterinary medicine are separated sectors in most countries, there are many overlapping issues; in some cases, cooperation is crucial. One example is the control of zoonoses – diseases which are transmissible between animals and humans. In places where the interaction of humans and animals is inextricably linked, a rethinking of institutions, legislation and policy is required to take into account a closer cooperation between the two sectors – a “One Health” approach. There is a large potential for new models of providing health services jointly to remote populations, as well as for innovative, cost-effective approaches to zoonoses control.



Marcel Tanner
Head of Work Package 3
Swiss Tropical Institute
(STI)
Basel, Switzerland

“We do not believe that there is one ‘magic bullet’ to alleviate the disease burden in our world, but that there is only the integrated use of different tools tailored to the context of local health and social systems that will bring long-term success.”



Roland Schertenleib
Deputy head of Work Package 3
Department of Water and Sanitation in Developing Countries (SANDEC)
Swiss Federal Institute of Aquatic Science and Technology (EAWAG)
Dübendorf, Switzerland

“Leaving water in plastic bottles in the sunlight for a certain amount of time is the simplest method of killing bacteria. It works, but people don’t trust it. How can you get people to do it? We tried it in one project with schoolchildren in Bolivia. Nobody wants to use a technology they think is meant only for poor people.”

A shift in the seasonal river peak flow caused by the effects of climate change jeopardise land use systems. Agricultural plots in the Pamir mountains, Tajikistan.



Natural Resources in Sustainable Development

In most developing countries the majority of the people depend on agriculture for their livelihoods. The availability and sustainable use of natural resources like vegetation, water and soil are therefore of central importance. This also applies to the impact of natural resources on climate change and vice versa – while natural resources suffer from the effects of climate change, their availability also influences climate change. For these reasons the NCCR North-South aims at finding sustainable ways of using natural resources.

Research in this area examines issues such as the dynamics and management of natural resources. What do these dynamics – factors that affect natural resource management – mean for people's livelihoods? And how are they perceived by different players?

Work is divided into the following three themes: environmental dynamics, natural resources and livelihoods; knowledge, values and power in natural resource management; and the development-environment nexus in trans-contextual settings.

The first theme analyses the relationship between natural resources and sustainable development mainly from a geo-physical perspective; the second does so from a social science point of view. Finally, the third theme combines these perspectives at a meso-level – that is, at a regional or national level.

Natural resources and livelihoods

Farmers require adequate access to land, water resources and natural vegetation. If these resources are in short supply, degraded or unaffordable, then livelihoods are affected. In addition, natural resource systems provide regulating and protective

Key term

Research takes a **multi-level approach**. At the micro- or household level, research examines local particularities. At the macro- or international level, research identifies global influences. In the end, these results have to be reconciled in some way – this takes place at the level “in-between” – the meso-level, the regional or national level.

Research focusing just on the micro-level tends to concentrate on local particularities, losing sight of global influences. Conversely, research conducted only at the macro-level dilutes all local particularities. It is only at the meso-level that both the local particularities of natural resource management and the global influences on them become visible.

In Laos, the NCCR North-South has shown that lower deforestation rates in protected areas are mainly due to the remoteness of the areas, and not to their protected status. Deforestation is especially high where forests are easily accessible from Thailand, Vietnam or China. Patterns such as these can only be seen at the meso-level.

Policy decisions are taken mostly at the meso-level. As one of the aims of the NCCR North-South is to generate data that can become policy-relevant, taking this level into account is crucial.

services and are needed to help prevent global climate change. The NCCR North-South looks at the multiple factors influencing the availability of natural resources and their variations over time and space.

Researchers in Kyrgyzstan were able to show to what extent natural resources and livelihoods were affected by climate change. The reduction in glacier surface of 28% between 1963 and 2000, with a clear acceleration in recent years, has not just increased the quantity of river water, but also shifted the river peak flow one month forward. This shift may well lead to insufficient water during the period of maximum water requirements towards the end of the dry summer season.

In Kenya, researchers found that in a semi-arid context not only irrigation-based agricultural systems but especially rain-fed ones are highly vulnerable to climate change. Climate change has led to an increase in rainfall variability, heightening the risk of a series of droughts.

Values and power

Natural resources are basic for rural livelihoods but equally important for governments in resource-rich countries. This may lead to conflicts of interests. For example, a national government may declare the construction of a hydropower station in a particular area as an energy policy priority. This, however, may have a negative effect on the lives of farming communities who depend on safeguarding the forest cover for income generation, ecosystem services and even spiritual values.

NCCR North-South research aims to reveal such value differences at the micro-level using a social science approach. At the meso-level, it analyses the power relations in order to understand why some value systems dominate others.

In Bolivia, the NCCR North-South held workshops that brought together local users of natural resources and external supporting actors. The workshops revealed that through the interplay of social, emotional and cognitive competencies, a social learning process can be initiated. Such a process allows participants to identify and address problems and potentials in natural resource management relating to issues of values and power.

In Tajikistan and the Swiss Alps, initial results show that external actors attribute fewer values to natural resources than

the local users do. The multidimensionality of the local user's valuation makes it more difficult for them to express how to use natural resources. This weakens their position in negotiations for more sustainable development.

Environment and development

The concept that poorer people contribute more to environmental degradation to satisfy their development needs is controversial. The relationship between the environment and development depends on global market trends, government policies and local situations in multiple variations.

The NCCR North-South aims to provide explanatory models at the meso-level. This requires data often missing in developing countries, such as poverty mapping at village level. To provide this kind of data the NCCR North-South is collaborating with the statistical bureaus of Vietnam and Laos. This has resulted in a joint publication, a socioeconomic atlas of Vietnam. Work is currently underway on a socioeconomic atlas of Laos.

In Ethiopia, attempts were made to reconcile nature conservation of the Simen Mountains World Heritage Site with human land use inside and surrounding the protected area. By re-designing the boundaries of the conservation area so that the cultivated land of a majority of the villages was no longer included, it was possible to find broader agreement between Park authorities and local villages. In addition, some modest local income was generated through tourism development, so that local attitudes towards wildlife were improved further.

Research insight

Research in parts of India contributed to a better understanding of organic farming. It revealed that cotton yields on farms that have completed the conversion period to organic farming are on a par with those on conventional farms and do not require significantly more labour input. Due to 10–20% lower production costs and a 20% organic price premium, average gross margins from organic cotton fields are 30–40% higher than in the conventional system. The challenge of tapping the potential of organic cotton farming lies in enabling poor farmers to overcome the obstacles of the conversion period. These findings have already found a great response in research and development communities.



Urs Wiesmann
Head of Work Package 4
Centre for Development
and Environment (CDE)
University of Bern
Bern, Switzerland

“Think globally and act locally – think locally and act globally: in sustainable development these two perspectives have to meet – and they best meet at the regional level. At this level we today face the biggest challenges and find the best opportunities to promote real sustainability.”



Hans Hurni
Deputy head of
Work Package 4
Centre for Development
and Environment (CDE)
University of Bern
Bern, Switzerland

“The most rewarding experience is when I see the shining eyes of participating land users when together we have found out something innovative of which they are convinced that it will help render their livelihoods and natural resource uses more sustainable.”

A coffee ceremony in Ethiopia, coffee's country of origin. Coffee is the world's second most heavily traded commodity, after oil. The conditions under which coffee is grown and sold is of fundamental importance to small-scale producers in Africa.



Transversal Research

In order to capitalise further on the research results and experience gained in its coordinated case studies, the NCCR North-South has introduced eight advanced research projects that cut across the boundaries set by the individual, thematic Work Packages. Designed to test and define the potentials and limitations of sustainable development as a research concept, these “Transversal Package Projects” (TPPs) make use of concepts and methodologies developed in the research partnerships of the NCCR North-South. Proceeding from a transdisciplinary approach, the individual projects consider the complex reciprocal relationship between theory and practice in sustainable development research.

1) TPP Coffee Value Chains

The dependency of rural producers on global markets is crucial not only to individual livelihoods but also to economic development. Coffee offers an ideal starting point to study the role of local and national actors and institutional structures in the production of agro-commodities for sale on the global market. Three case studies are being conducted in Ethiopia, Kenya and Tanzania to understand the impact of price volatility of coffee on livelihoods of coffee producers, as well as on national political economies, institutional arrangements and production systems.

In coffee-producing countries, recent declines in coffee prices have led to a reduction in state revenues and spending on social development. The approximately 33 million Africans who derive their livelihoods by growing coffee have to adapt their livelihoods. Besides reducing household incomes, this may also have negative social impacts, like migration of male workers or increasing child labour. To compensate revenue losses, those affected may resort to an extension of farming,

leading to deforestation and biodiversity loss. Or farmers may use more irrigation, fertilisers and pesticides, resulting in water shortage and water pollution. Research is also conducted on fair trade schemes, which are seen as a way to improve producers' livelihoods by paying producers fairer prices for their goods or supporting communities.

2) TPP Human Security

Human security is a crucial concept for the definition, early detection and effective mitigation of vulnerability to local threats and negative effects of global change. To further sustainable individual and communal livelihood strategies, this originally academic concept has to be operationalised. To this end case studies are being conducted in Venezuela, Kyrgyzstan and Ethiopia.

Under the transdisciplinary approach, threats to human security cannot be identified by scientific experts alone. To incorporate the non-scientific perspective, representatives from all major stakeholders are brought together in every case study. In a first step, the scientists

and the stakeholders each compile and analyse the causes and effects of human insecurity, as well as past and existing mitigation measures. This leads them to formulate a “human insecurity cluster” – a set of core threats unique to each context under study. In a second step they design measures to recognise, monitor and mitigate the development of those core threats. Finally, they explore strategies to transfer mitigation measures to those actors who are able and willing to implement them in order to reduce human insecurity.

3) TPP Multi-local Livelihoods

Worldwide, an increasing number of families are diversifying their income sources through migration. In most cases only parts of the families migrate, resulting in a multi-locality of households which affects the livelihoods of the people involved. In a quest to gather empirical knowledge to understand the resulting risks and potentials, this project focuses on labour markets spanning Nepal–India–Bangladesh; Kyrgyzstan–Kazakhstan–Russia; and Guatemala–Mexico–US.

Migration is not always an option; often it is a necessity of survival, or a result of conflict (in the form of displacement). Case studies show that more often than not, little attention is paid to the conditions under which the migrants live and work, remitting money to their homes. In Kyrgyzstan, for example, potential migrants are increasingly informed about their formal rights and obligations when working in Russia or Kazakhstan. Despite

Key term

In an increasingly complex and uncertain globalising world, scientific knowledge is indispensable in the promotion of sustainable development. But where changes are needed, who decides which are changes for the better? This requires the involvement of all people concerned – not just scientists. At this level research within the NCCR North-South attempts to break new ground and promote the use of new methodologies. These are then tested in particular within the framework of the Transversal Package Projects.

For the methodology of **research for sustainable development** this means that communication platforms have to be established at all stages of research: from the definition of the problem to the gathering of data and the evaluation of solutions. To provide such platforms, the transversal research projects have organised more than 30 workshops in all partnership regions so far. Each was attended by between 25 and 40 representatives of different stakeholder groups.

this, their daily reality looks different, with little enforcement of their rights as migrants. They feel stigmatised as low-skilled, foreign workers. According to a study, their main aim is to earn “quick money” and return to Kyrgyzstan, though not necessarily back to the rural homes they left.

4) TPP Urban Planning and Habitat

Urban planning has come a long way since it was regarded as a purely technical activity. Having gone through several evolutions, it is now considered a multi-stakeholder and multi-scale activity – and one which must also take into account social, cultural, political, economic and environmental factors. Multi-stakeholder, because it involves both experts and non-experts; multi-scale, because local developments are often the result of decisions made at a national level. In response, new instruments of urban intervention have emerged to link these factors – which in turn are crucial for ensuring sustainable development.

The main purpose of this Transversal Package Project is to examine and evaluate such “innovative” approaches to urban planning. It focuses on recent projects for the rehabilitation of city centres with high heritage value in Havana, Buenos Aires and Bangkok. Preliminary findings show such projects often run the risk of being “too successful” in the long term. As the quality of the buildings and the infrastructures improve, these centrally located city neighbourhoods become increasingly attractive for private investors. In most cases, the original residents lack the financial means to resist market pressures and are forced to leave.

5) TPP Pastoral Production Systems

Pastoralists rely on the use of livestock to make a living. In most cases, pastoralists are nomads who move around in search of suitable resources for the animals they depend on. Over the last decades, pastoral production systems have faced heavy and unprecedented pressures by a number of factors – socio-political, economic, cultural, institutional and ecological. This calls for the introduction of innovations and incentives to motivate the communities and their younger generation to reconsider pastoral production as a promising and sustainable way of life.

Through case studies in West Africa, the Horn of Africa and Central Asia, this transversal research project looks for



Stephan Rist
Coordinator of
Transversal Package
Centre for Development
and Environment (CDE)
University of Bern
Bern, Switzerland

“There’s no fixed blueprint for achieving sustainable development. Each situation has to be analysed within its own context in order to define what sustainable development means concretely. This generally involves a process of social learning and the negotiation of competing interests.”



Brigit Obrist van Eeuwijk
Transversal Package
Project Leader (6)
Swiss Tropical Institute
(STI)
Basel, Switzerland

“I find it much more inspiring to think about resilience than vulnerability because positive stories evoke more engaged responses from practitioners and policy-makers.”



Eva Ludi
 Transversal Package
 Project Leader (1)
 Overseas Development
 Institute (ODI)
 London, UK

“Prices for coffee on the world market have a direct impact on what the farmers who produce it earn. One problem is that the market reacts quickly, while coffee plants need four years before they become productive. It might be possible to ensure a minimum price for the producers through the promotion of ‘Fair Trade’ coffee. So, how much of what the consumers pay in a shop will actually make its way back to the farmers?”



Peter Messerli
 Transversal Package
 Project Leader (7)
 Centre for Development
 and Environment (CDE)
 University of Bern
 Bern, Switzerland

“When a farmer in Laos cultivates his land, he is increasingly influenced by outside actors. There’s a whole chain of governmental authorities and development organisations intervening at district, regional, provincial and national levels, and all of them have their own agendas. And then there are land-hungry private investors coming from Laos’ neighbours, the economic powerhouses of China, Vietnam and Thailand.”

alternatives to ensure the survival of the system. It investigates how adaptations in the dynamic environment (such as sustainable land use or natural resource management) and adaptations in society may improve the livelihoods of populations working in pastoral regions. This research is also needed as policymakers, particularly at local, regional and national levels, frequently underestimate if not overlook the societal and economic role of pastoral production systems. Pastoral production systems have the potential to help reduce vulnerability as well as migration towards urban centres and developed countries – factors of which decision-makers must be convinced.

6) TPP Social Vulnerability and Resilience

Vulnerability is commonly understood as the exposure to risks and a lack of the means to deal with these risks. Some individuals and social groups are better able to adjust to adversities than others. In order to mitigate the unwanted effects of global change, sustainable development should not only reduce risk but also enhance people’s ability to adapt. This positive adjustment is called resilience. Redirecting the attention of researchers, policymakers and practitioners from managing risk to building resilience is an important prerequisite for sustainable development.

In La Paz, Bolivia, poor people live on steep slopes and are endangered by landslides. Measures such as improving local governance are required to secure the slopes and strengthen people’s resilience to this challenging livelihood condition. In northwestern Pakistan, rural – urban migration increases the resilience of the men who leave but also the vulnerability of the women left behind in the villages. Helping couples develop alternatives to outmigration is a way to strengthen resilience. In unplanned settlements of the Tanzanian capital Dodoma, resilience to sanitation-related threats depends on access to resources and services. One effective measure is to involve community-based organisations and local residents in the development of cognitive, technical and managerial skills.

7) TPP Contextuality of Development Interventions

Does development which is successful in one part of a country work elsewhere, either within the same country or even on a different continent? Trying to determine how best to plan and implement sustainable development is the aim of this transversal research project. It does

so by drawing up “sustainability contexts”: describing certain generalised contexts within a country or a region which display similar characteristics. These are poverty, environment and the decision-making structure of the region under study.

This gives rise to questions such as: what is the distribution of poverty and poor people; what is the pattern of environmental degradation? What actors work where and with what agendas? Research on this project is carried out in Laos, Tanzania and Pakistan. In Laos, work was completed on developing an atlas mapping the incidence and density of poverty. Understanding patterns such as these help define how general or how specific policy-making needs to be. Conversely, if a promising solution is identified in one place, where could it be applied?

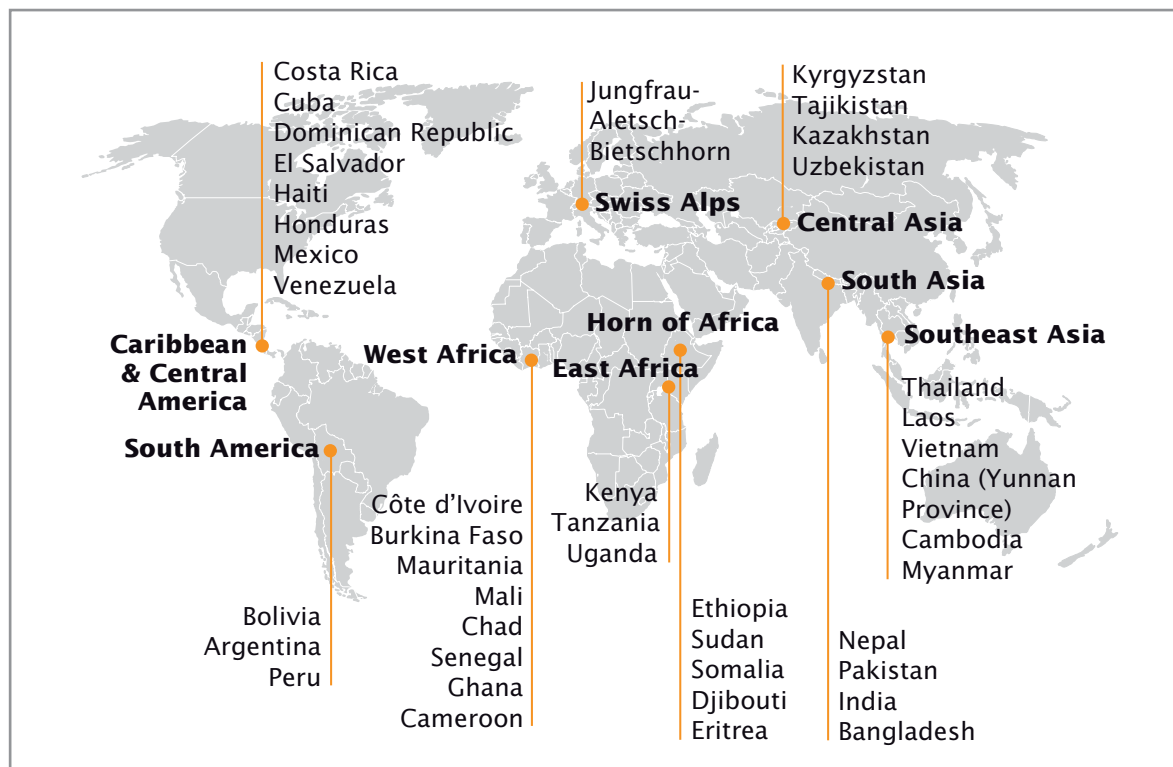
8) TPP Knowledge, Power, Politics

The generation of more and better knowledge is generally considered as a positive thing. This is also the case in the development sector, where there is the idea that a better basis and use of knowledge on complex issues related to development processes can be a major factor in improving the lives of a large number of people. This Transversal Package Project examines the production and exchange of knowledge in international development research, policy and cooperation. It is especially interested in the political nature of ‘knowledge for development’, asking critical questions such as ‘whose knowledge?’ and ‘for what kind of development?’.

The purpose of this project is to further our understanding of the dynamics of knowledge in development research, policy and practice. Empirical evidence is gathered in three case studies, in Bolivia, Vietnam and Switzerland. Each of the three case studies contributes an analysis of the knowledge – power – policy nexus in a specific organisational and development context. This is then to be linked up with what is going on in the global knowledge economy of sustainable development that finds its expression in ever-changing and various development discourses. A key objective of the project is to explore impacts of knowledge exchanges on institutional and social conditions of development research, policy and practice, both in the South and in the North.

See p. 40 for TPP contact details

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Nomadic people, like the ethnic group of Fulbe in West Africa, are particularly vulnerable to global change.



West Africa

The West Africa partnership region comprises eight countries: Côte d'Ivoire, Burkina Faso, Cameroon, Chad, Ghana, Mali, Mauritania and Senegal. NCCR North-South research focuses on issues of health, sanitation and disease prevention in both urban and rural contexts.

The demographic explosion in West Africa has created serious demographic challenges to sustainable development in the region. Heavy intra-regional migration from rural areas to urban centres and from less to more developed countries has placed tremendous pressures on natural resources and on transport and sanitary infrastructures. These problems have been exacerbated by climatic difficulties, irregular food supply, conflicts and political unrest.

NCCR North-South research in West Africa began by focusing mainly on health, well-being, water and sanitation. Research targeted poor urban populations and nomadic communities, groups which are particularly vulnerable to syndromes of global change. As the programme progressed, research in this partnership region continued to examine health and environmental sanitation while opening up to other new themes such as institutions and conflicts.

The research undertaken so far can be presented under three main themes: risk management and equity effectiveness in water, sanitation and health; vulnerability

and resilience; and institutions, conflicts and public spaces.

Sanitation and health

Inadequate solid and liquid waste management in urban areas is a key problem for public health in West Africa. One of the main lines of study was on understanding overlapping syndromes of global change in underprivileged settlements in Abidjan, Côte d'Ivoire, and Nouakchott, Mauritania. These two capitals are home to more than 40 per cent of the urban populations of their respective countries. Urbanisation in the two towns, since the countries gained independence, was accompanied by rapid and significant development in underprivileged suburbs.

The issue of faecal sludge management is a big concern in the small towns of West Africa. The situation is also critical for industrial wastewater management. NCCR North-South studies in six underprivileged suburbs in the commune of Yopougon, Côte d'Ivoire, found that wastewater is mostly discharged directly onto the street, and household waste is discharged into the nearest wastewater canal as well as onto the streets and

Research insight

Studies in Abidjan showed that 52 per cent of women who had informed their family circle of their HIV positive status were excluded from social activities. A large number of these seek moral support from self-help groups. Despite the existence of a national programme for reproductive health and family planning, ensuring the widespread use of contraception remains complex. One of the main reasons is that there is not always agreement on the matter of family planning within couples.

vacant areas of wasteland. The canals into which waste is discharged lead to a lagoon near the peri-urban villages, increasing the risk of disease.

Vulnerability and resilience

The complexity of the threats faced by poor populations makes it necessary for all the involved disciplines to tackle them in a holistic manner and to consider additional concepts such as vulnerability and resilience. The vulnerability of the population groups in underprivileged quarters is illustrated by the prevalence of disease there.

Studies in Abidjan found a particular area to map nearly 1000 potential mosquito breeding sites, most of which were sanitation canals and wells. Nearly a third of the breeding sites were found to contain the larvae of the mosquito *Anopheles Gambiae*, the principal vector of malaria in Africa.

The other major disease in the project zone is HIV/AIDS. NCCR North-South studies examined the issue of social fragmentation by addressing the vulnerability and resilience of women living with HIV/AIDS. The aim of resilience-building is to strengthen their capacity to deal with the situation.

Studies on the pollution health risks of the urban environment have also been analysed

On the region

The term West Africa generally refers to the part of Africa that is bordered to the north by the Sahara desert, to the west and the south by the Atlantic Ocean, and to the east by the line running from Mount Cameroon to Lake Chad. In area, it covers approximately one-fifth of the African continent. The northern areas of West Africa belong to the semi-arid region of the Sahel. Further south, moist savannas provide a transition to the low-lying tropical plateau of the coastal regions. The total population of West Africa is now estimated at over 250 million inhabitants – as compared to some 90 million in 1970.

from a vulnerability and resilience angle. The frequency of diseases is examined in relation to variables such as the level of access to potable water, solid waste and wastewater management, health facilities as well as the reaction capacity to crisis in several urban contexts.

Institutions and public spaces

Several projects are underway in this field. In one case, institutional change in semi-arid areas in Chad and Cameroon is being examined: the transition from customary laws to new institutional modalities. Public spaces in Nouakchott and Dakar, the capitals of Mauritania and Senegal, are the subject of another project.

Also underway is a study looking into the notion of citizenship and its role in the construction of nationhood in Côte d'Ivoire. Here, competing definitions about citizenship and national belonging have played a central role in the recent conflict that split the country in two after 2002. The study examines different moments in the country's history during which the issue of locals versus foreigners was the subject of heated debate in society. It shows how the current struggle about the definition of the Ivorian nation-state is the product of long-lasting historical and political dynamics.

Partnerships

The Regional Coordination Office for this partnership region is housed at the Swiss Centre for Scientific Research in Abidjan. This has been beneficial for both sides, with the Centre since becoming a truly regional establishment.

At the scientific level, the NCCR North-South programme has helped create a South – South platform for exchange between universities, research institutions and other institutions such as NGOs and international agencies. The interdisciplinary and transdisciplinary approach is now being applied by scientists at a regional level. In a major development, it is also being integrated into the curricula of universities.

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Guéladio Cissé
Regional Coordinator
West Africa
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"The main dietary staple of Côte d'Ivoire is called 'atiéké'. It's made from the cassava root, and the preparation is a long process done by women of the lagoon regions, who work in groups on the banks of the lagoon. This helps us to explain the importance of researching and improving water and sanitation systems – and for avoiding pollution of the lagoons: it makes not only for better health, but also for better atiéké."



Jakob Zinsstag
Deputy head of
Work Package 3
Swiss Tropical Institute
(STI)
Basel, Switzerland

"In Mali we succeeded in bringing policymakers to a remote part of the country for a workshop. It was their first time there. Seeing the situation on the ground made it clear to them that there was no point in trying to treat tuberculosis among nomads by setting up stationary clinics. For nomads you need mobile approaches to health care."



Managing the effects of drought remains a pressing problem in Kenya.



East Africa

The East Africa partnership region comprises Kenya, Tanzania and Uganda. The management of natural resources for the needs of both urban and rural populations is a central focus of NCCR North-South research in the region. An ongoing attempt is made to find new ways of integrating knowledge available from a wide variety of sources into strategies for sustainable development.

The largely rural economies in the East Africa partnership region have witnessed vast waves of internal migration. This has put unprecedented pressure on an already fragile environment. Together with severe and recurrent droughts, the intense competition for scarce natural resources has made this region one of the world's most challenging.

Here, the NCCR North-South aims at finding pathways for sustainable development in the three syndrome contexts: urban/peri-urban, semi-arid areas in transition, and highland – lowland systems.

In this partnership region, the three main research themes are: natural resource management; livelihoods, vulnerability and resilience; and integrating knowledge for syndrome assessment and mitigation.

Fragile environment

As population density in areas of high agricultural potential reached explosive levels, sizable population groups began to settle in neighbouring, semi-arid lands. Efforts to increase productivity in these areas led to the introduction of land use practices and farming methods

incompatible with prevailing ecological conditions. This has contributed to a cycle of severe land degradation, declining productivity and growing conflicts over resource use and access.

NCCR North-South research in East Africa attempts to assess the social, political and environmental factors contributing to the existent pressures and to develop methods for their mitigation in both the short and long term.

Research is conducted in two main clusters. In the Mt Kenya and Mt Kilimanjaro areas studies focus on the management of water and other natural resources. In the same cluster, in the Eastern Arc Mountains, the focus is on problems related to biodiversity conservation.

The second cluster of geographical areas of concentration covers the semi-arid areas of Kenya and Tanzania. Research topics here include drought vulnerability, geo-information technology for sustainable development approaches and reconciling conservation, tourism and development in Kenya and Tanzania.

Research insight

Frequent land ownership changes and the resulting loosely regulated subdivision of land coupled with immigration-driven demographic growth in the last century have had an adverse effect on the sustainable use of natural resources, especially water. Smallholder agropastoral settlements became the main agents of resource degradation and simultaneously the victims of natural resource limitation and degradation as they engaged in survival and coping strategies incompatible with the prevailing ecological conditions. Studies have shown that any strategy must comprise two main aims: first, to gain acceptance for the development of a sustainable water supply; and second, to influence or reduce the demand for water.

Water and natural resources

Managing water is of paramount importance in drought-prone Kenya. One study examined simple water conservation tillage practices such as mulching, in which a protective cover (usually crop residue) is placed on the soil to reduce evaporation. The study found that this practice has the potential to improve crop production by up to four times, depending on the seasonal rainfall.

Other research examined approaches for achieving ecological sustainability in East Africa. To this end, it investigated the development priorities of local-level actors and local institutions in view of the importance of the problem of water use and management. Questions asked included that of how institutional arrangements enhance or compromise efforts to promote the sustainable use of natural resources.

Drought vulnerability

Droughts and the resulting vulnerability of the affected populations is a major problem in this partnership region. Managing droughts and their impacts (droughts can be cumulative) remain a

On the region

The countries of East Africa are characterised by a high degree of cultural and ethnic diversity. While the rate of population growth has declined markedly in recent decades, extreme demographic pressures continue to threaten the economic and political stability of the region.

The dramatic landscape for which the region is known is a product of the geological forces that created the Great Rift Valley. Africa's two highest peaks, Kilimanjaro and Mount Kenya, are both located here, as are the world's second-largest freshwater lake, Lake Victoria, and the world's second-deepest lake, Lake Tanganyika.

critical challenge to reaching the United Nations Millennium Development Goals of reducing poverty, attaining food security and promoting environmental sustainability.

Research here looks at ways of reducing vulnerability to drought in the agropastoral communities of semi-arid areas in Kenya, and strengthening household capacity to deal with livelihood insecurities and drought risks. According to NCCR North-South research, the dominance of maize in the semi-arid farm and market systems has led to the neglect of indigenous crops like millet and sorghum; and this has adversely affected the food security of semi-arid areas of the Makueni district.

Application of research

There has been an overwhelming uptake of research results from various studies, an indication of a high level of acceptance and relevance of the research to the region at a local, regional and national level.

For example, the assessment of water management information needs contributed greatly to the implementation of water sector reforms in Kenya. NCCR North-South study results were also used to develop campaign materials for the ongoing water awareness campaigns in the larger Mt Kenya region, and are being used as a basis for designing a study for a detailed mapping of conflict hotspots on water use.

In Tanzania, the analysis of how the Rufiji people managed common property resources in pre-colonial times was a useful tool in developing instruments to help the various actors collaborate on the sustainable management of common property resources in the Rufiji floodplains.

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Boniface Kiteme
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"The biggest problem with drought is not the intensity, but the frequency. People need time to recover from the effects of a drought and to prepare for the next one. This requires an organised response on the part of governments. Provisions have to be set aside in advance. Droughts are a common and well-known occurrence in Africa. There is no reason governments should be caught unprepared for them."



Flora Kessy
Senior Researcher
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"Participatory development is something with which we have had a lot of experience in Tanzania. The contact with research institutions from the North offers us new possibilities for disseminating the knowledge we have. This helps us reach policymakers and provide them with the documented information they need for making sound decisions."



Specific political, social, and economic situations require specific forms of statehood in order to help increase the resilience of societies. Water supply in Kapoeta, Southern Sudan.



Horn of Africa

The Horn of Africa partnership region comprises Ethiopia, Sudan, Somalia, Djibouti and Eritrea. In this volatile region, NCCR North-South research focuses on statehood, conflict and sustainable land management.

Politically, the countries of the Horn of Africa share a long history of armed conflict, including civil and inter-state wars. This has led to the massive displacement of various population groups both within and between the countries.

The Horn of Africa is also one of the most food-insecure regions of the world, with crop and livestock production often hampered by recurrent droughts and natural disasters. About 80 per cent of the Horn of Africa is classified as arid or semi-arid, with large areas of unproductive land due to natural conditions or human-induced environmental degradation. At the same time, the average population growth rate is one of the highest in the world.

These issues have given rise to the following three main NCCR North-South research themes in the Horn of Africa partnership region: statehood, institutions and access to resources; natural resource management, migration and livelihoods; and human security and health.

Conflict and statehood

In recent decades, armed conflicts and natural disasters have led to a massive

displacement of people both within and between the countries of the Horn of Africa. This has further compounded the problems of ethnic divisions that arose through the arbitrary creation of national boundaries by the former colonial powers in some countries of the region.

Given the instability of the political situation in the region, NCCR North-South research places emphasis on issues related to the concrete processes of negotiating statehood. Of particular interest are the questions of decentralising power and of power-sharing between the state and local political forces – and the role of civil society and development co-operation in these processes.

At the start of the programme, research focused mainly on understanding the root causes of conflict linked to the use of water and land resources. To do so, it concentrated on the role of local or indigenous institutions in conflict management on the one hand, and on natural resource degradation-related issues on the other. During the second phase of the programme the direction of research has shifted slightly. Drawing on the work conducted on environmental conflicts,

Research insight

Chat is a stimulant which has been known and used by people for over one thousand years. Ethiopia and Yemen are the most frequently mentioned countries of its origin. *Chat* is also known as *qat* or *khat*; the Oromo community who are its major producers in Ethiopia, call it *Jimaa*.

Among *chat*-growers, the role of the stimulant for religious, socio-cultural and labour productivity purposes is still intact. Used as an energiser and leisure-time refreshment, *chat* is chewed by different categories of people in rural areas as well as urban centres, with consumption cross-cutting gender, religion and socio-cultural backgrounds.

the scope has been broadened to examining processes of state formation and transformation (“negotiating statehood”) as well as the role of key commodities and the economic sector both in fostering and in potentially mitigating conflicts.

Studies are underway on the political economy of stimulant crops such as coffee, tea and *chat*. Researchers are gathering and analysing data in a study looking at the strategies of coffee-producers in the face of changing economic, institutional and political factors.

Natural resources

Emphasis has also shifted from the issue of land degradation and landscape transformation to the management of natural resources. In Ethiopia, research was conducted in the Simen Mountains, with the main aim of documenting bio-physical and socioeconomic changes to the region since the last study there more than a decade ago. According to the findings, the region has benefited from the construction of infrastructure such as schools,

On the region

The Horn of Africa takes its name from the horn-shaped land formation that makes up the easternmost part of the African continent, projecting into the Indian Ocean south of the Arabian Peninsula. The term is also used to refer to the greater region of adjacent countries located at the southern end of the Red Sea and on the Gulf of Aden: Sudan, Eritrea, Djibouti, Somalia and land-locked Ethiopia.

Despite highly diverse social, cultural, economic and ecological characteristics, the countries of the Horn are closely related – not only by their geography, but also by their history and demography. Politically, they share a long history of armed conflict leading to large numbers of displaced population groups.

clinics, trails and roads, as well as from soil and water conservation measures.

Human security and health

One of the Transversal Package Projects underway in this partnership region examines human security. Workshops with multi-stakeholder groups were conducted to test the methodology used to identify and analyse human security threats.

In Ethiopia, the most important human insecurity components are health, food, and economic insecurities. Health insecurity issues are related to HIV/AIDS in particular, as well as malaria and tuberculosis. Food insecurity is especially critical in rural areas, with threats often caused by natural phenomena such as late rainfall, drought and flooding. Economic insecurities mainly affect urban areas with major threats including inflation, unemployment and a lack of social security programmes. Each threat is analysed in great detail, along with the record of past, current and required response measures.

Other studies are underway on health issues related to HIV/AIDS in this partnership region. In addition, research is being conducted on the transmission of tuberculosis between humans and animals.

PAMS

A number of Partnership Actions for Mitigating Syndromes (PAMS) have also been implemented. The PAMS on water management in the Nile region, for example, came up with innovative strategies and approaches on how to deal with conflict situations between states. Four Nile Dialogue Workshops were held, aimed at enhancing understanding among the interest groups in the countries concerned. One of the conclusions reached at the workshops is that upholding meaningful dialogue is a key aspect to preventing the escalation of conflict.

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Berhanu Debele
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“The Nile Basin Initiative was aimed at getting the Egyptians, the Sudanese and the Ethiopians to try and understand each other’s concerns. We supported this effort with a series of meetings and workshops with senior academics – knowledgeable persons at the level of individual capacity. Then we also held workshops that brought students from these countries together. It is they who will decide the future.”



Didier Péclard
Coordinator
Work Package 1
swisspeace
Bern, Switzerland

“The state is a central actor of sustainable development, either through its concrete actions and interventions, or because of its deficiencies, its inadequate structures and its failure to provide basic needs and security to its citizens. With our focus on ‘negotiating statehood’, we intend to provide new, empirically based knowledge on current dynamics of state formation in Africa and South America.”



Integrated water management is a promising pathway to escaping from poverty. Private irrigation systems in Tash-Bulak Village, Sokuluk catchment, Kyrgyzstan.



Central Asia

The Central Asia partnership region comprises Kyrgyzstan, Kazakhstan, Tajikistan and Uzbekistan. Work in this region has been particularly challenging as the highly specialised and disciplinary research tradition inherited from the Soviet period did not support integrated approaches, methodologies and concepts. Since its inception in 2001, efforts by the NCCR North-South and its local partners have had a major impact on inter-institutional research collaboration within the region.

The Central Asia region has undergone tremendous political and socioeconomic changes following independence from the former Soviet Union in 1991. One of the major challenges of working in the region was to overcome obstacles in introducing new approaches and methodologies such as sustainable development or inter- and transdisciplinary research. Under the Soviet academic system there was a high degree of education and specialisation, but a lack of integrated thinking and cross-institutional and cross-disciplinary work. Since the launch of the NCCR North-South in 2001, institutional collaboration has increased considerably.

At the beginning of the programme's activities in the region, research in Central Asia was mainly focused on the use and management of natural resources, in particular water and land. During the current phase of the project, greater emphasis is being placed on the interrelationship of natural resources and people, with the goal of improving livelihood conditions.

Among the themes dealt with are natural resource management and the role of institutions in regulating access, and pasture management and livestock systems.

Changes since independence

The political and socioeconomic changes following independence have had implications for the use of natural resources in the region. This has given rise to questions such as: what effect do these changes have on the livelihood strategies of the poor? Research has found that much is dependent on whether people own or have access to land. This is an issue which is in turn also affected by environmental dynamics such as climate change.

Linking a number of different aspects such as migration and natural resource management has become important for a more holistic understanding of the region to allow more relevant responses. To this end, transversal research is underway to try to link the various aspects. This has generated new information and knowledge relevant for development actors, government officials and the local population.

Transversal research

The Transversal Package Project "Pastoral Production Systems" aims to achieve a better understanding of pasture use and livestock-rearing linked to institutions and livelihoods in Central Asia. Field studies showed an urgent need to improve

Research insight

The de-collectivisation of “state farms” has led to a sharp increase in water users in the Sokuluk river basin since 1991. This complicates water allocation and distribution – a problem which is further aggravated by the fact that distribution channels are often dilapidated. On average, only 23 per cent of the initially abstracted water currently reaches its final destination. Analyses show that in principle, the available amount of water would be sufficient to cover local irrigation needs if water were appropriately managed using adapted small-scale technologies. Most of the planning, monitoring and payment mechanisms implemented during Soviet times are still in use today, despite being outdated and inadequate. This leads to tensions and potential conflicts among users and towards the authorities.

specific understanding of pasture conditions and the relationship to livestock management at the level of both the village administration as well as the individual herder. While rental fees per hectare are uniform, pasture productivity varies considerably. This has led to a situation with potential for conflict, and calls for the introduction of incentives for more sustainable pasture use.

The Transversal Package Project “Multi-local Livelihoods” investigated reasons for migration and the status of migrants: in addition to factors such as searching for a better income, younger men and women may migrate for education and to escape traditions such as arranged marriages. In order to raise their status at home, migrants tend to invest in housing, livestock, cars, education and marriage expenditures of family members.

Findings such as these are of relevance in formulating possible policy responses. Major destinations for labour migrants from rural South Kyrgyzstan are the capital, Bishkek, as well as Russia and Kazakhstan. But despite the high demand for labour in these countries, the majority of migrants have a de facto illegal status. They are also stigmatised, and exposed to health and security risks. This is in stark

On the region

A large, landlocked area, Central Asia is characterised by highly varied geographic conditions, including high plateaus and mountain regions, extensive deserts and grassy, treeless steppes. The main source of livelihood is livestock herding and agriculture, with some industry in the cities. Central Asia has throughout history played an important role in relations between Asia and Europe. For centuries the regions of Central Asia were known in the West as transit points along the Silk Road.

contrast to their work experience in Russia and Kazakhstan during the Soviet period, where a single citizenship and equal rights prevailed on Soviet territory.

Methodologies

A major innovation was the introduction of participatory and integrative research approaches and methodologies for local PhD and MSc studies, in contrast with the former, more top-down and disciplinary research schemes applied during the Soviet period.

One example of this was the “integrated watershed research approach”, applied in the Central Tien Shan mountain range. This approach linked individual studies in an integrative way and strongly promoted teamwork and mutual support. At the same time, the approach reached a high explanatory level by using analytical generalisation based on one case rather than on multiple cases. In addition, a thematic and conceptual integration of all studies from the very beginning allowed for a truly interdisciplinary perspective.

Synergies

Several new partnerships were established by the NCCR North-South, increasing the potential for synergies in fostering a more efficient coordination of research and development projects. Many local partners expect a stronger impact of future development projects by integrating and considering up-to-date research results. In one example, Kyrgyz government and parliament representatives are interested in the research results on land degradation, for consideration while drafting a new law on pasture use.

A number of research results have been translated into concrete policy advice and have led to follow-up activities outside the NCCR North-South. One example of this is the development and launch of the new Global Environment Facility programme on Sustainable Management in the Pamir-Alai mountains of Tajikistan and Kyrgyzstan, initiated in cooperation with the United Nations Environment Programme and UN University.

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Mira Arynova
Regional Coordinator
Central Asia
Bishkek, Kyrgyzstan

“By giving pastoralists video equipment to film their daily life, they and their relatives opened up much more than if a camera crew had been involved. In this way pastoralists were able to share their knowledge and experiences among one another.”



Albrecht Schnabel
Transversal Package
Project Leader (2)
swisspeace
Bern, Switzerland

“In our multi-stakeholder meetings participants feel that they are not just the objects of our studies – quite the contrary: they are the analysts, working together in exploring threats to the sustainable existence of their families, neighbourhoods and societies. Human security as an expression of people’s right to be taken seriously by governments and international actors clearly seems to empower them to search for remedies to the most important threats.”



Meltadi, a village in Nepal. Many people migrate from villages like this one to the Indian capital, Delhi.



South Asia

The South Asia partnership region comprises Nepal and specific regions in Pakistan, India and Bangladesh. In Pakistan, the region of focus is the North-West Frontier Province. In India, work focuses on Kerala, Maharashtra and Northeast India. NCCR North-South research in the South Asia partnership region addresses conflict and centres on the livelihoods of marginalised people in the context of globalisation.

In a workshop held to determine the focus of NCCR North-South research, the consensus was that core problems associated with syndromes of global change are most acute in marginal regions and among marginalised people. Since many of the marginal areas are mountainous, the decision was made to focus research in this area, where climatic and environmental conditions pose an additional risk in an already precarious economic situation.

At the start of the programme, research was led by the objectives of understanding the following: how can marginalised people in rural and urban areas improve their livelihoods in a sustainable manner, and how can their strategies contribute to sustainable development? In addition, the question is put how marginal people cope with the present conflict situation and how governments and public policies can support these coping strategies further.

While research is continuing on these objectives, the research themes have been expanded to include questions of access and power relations, structural causes of inequalities and conflict, and a thorough analysis of prevailing state policies. This

has led to work on the following three themes: livelihood realities of the poor; environment and resource management; and governance and institutions.

Research groups

The core research interest in Nepal is to understand and analyse different rural livelihood strategies in marginalised areas with their urban links. This also involves identifying related institutions that support or hamper efforts of the poor to secure the means for improving their lives. This core theme was approached by studying the following: the effects of nature conservation on livelihoods; migration and rural livelihoods; livelihoods of marginal communities in peri-urban areas; and the analysis of conflict transformation and peace-building.

In Pakistan, the research group focuses on livelihood constraints and alternatives for people living in the highlands and adjoining lowland regions of Northwest Pakistan. Special attention is paid to the rapidly changing role of local and national institutions under the pressures of globalisation and, as in Nepal, to examining what effect these institutions have on efforts of the poor to improve their livelihoods.

Research insight

Poverty, unemployment, declining natural resources and civil unrest have caused migration to become an increasingly important livelihood strategy of many South Asian people. In the case of the marginalised area of Far West Nepal, impoverishment, food shortages, indebtedness, social discrimination and a lack of infrastructure have led to large-scale labour migration that has continued for generations. Usually people leave for neighbouring India, while migration to other areas such as the Gulf States is a more recent phenomenon. In most cases, men seek work in Delhi, leaving their families in Nepal.

The importance of migration is often underestimated, as it is a complex process and poses a number of challenges. Migrants face a life between two worlds: their 'home society' and the 'society of arrival', both of which have different rules and regulations. For this reason the category 'household' must be understood not as a residential unit but as a tight network of exchanges of support, pooling goods and services between different countries. Within this transnational social space, mainly kin-based networks are formed, and gender and caste relations are transformed.

While labour migration has the potential of benefiting the families involved, it can also perpetuate debt and dependency.

In the South Indian state of Kerala, the institutional setting within which people construct their livelihoods has undergone enormous changes. The research group in this area focuses on coping with change – examining the effects of decentralisation and economic globalisation on rural livelihoods. This includes looking at tribal livelihoods and the diversification of groups such as rubber smallholders.

Research in North-West India focuses on the forms and causes of conflicts between indigenous people and settlers in frontier areas and develops strategies for their transformation. It also looks at the interface between national and state-level policy environments, colonisation and indigenous collective action.

On the region

South Asia is a geopolitical term for the countries of the Indian subcontinent and their immediate neighbours. This includes India, Pakistan, Afghanistan, Nepal, Bhutan, Bangladesh, Sri Lanka and the Maldives.

Geographically, the term is used to apply to the peninsular region south of the Himalayas and Karakoram and east of the Hindu Kush – mountain ranges formed by the collision of the Indian and Eurasian tectonic plates.

Dialogue

Researchers within the partnership region have been innovative in testing options that can add value to and cope with institutional and structural debates.

Experiences in the South Asia partnership region have prompted NCCR North-South participants to call for a clear definition of the role of researchers: they are to produce intellectual "food for thought", which then serves not as "policy advice" in the old-fashioned way, but can be offered as starting points for stimulating a dialogue with a whole range of stakeholders involved.

Researchers have found that the daily lives of poor people in this region tend to be influenced by patron – client relationships and unequal power structures. For this reason, there is a need for analysis of the role of the local elite and state actors. In addition, researchers here have found that findings can contribute to policy change only when they are debated in suitable platforms to foster a constructive dialogue among different stakeholders.

One of the important lessons learnt from the existing institutional and structural setup in the South Asia partnership region is that engaging in new concepts, perspectives and implementing collaborative initiatives is a slow and evolutionary process and requires continuous efforts and commitment. The constant backstopping and support at both material and knowledge/skills levels from Northern and Southern senior researchers are the crucially important basis for developing Southern and Northern capacity.

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Bishnu Raj Upreti
Regional Coordinator
South Asia
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"One of the biggest challenges is helping to provide the disenfranchised with a political voice. The Dalit community is socially excluded in Nepal. These are the 'untouchables' in the Hindu caste system. The local elites ignore them completely. That is why we developed a project to give them access to members of the national Parliament and political parties, people who could, in turn, use their position to influence the local elites."



Susan Thieme
Transversal Package
Project Leader (3)
Development Study Group
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University of Zurich
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"Migration can help reduce the risks of seasonality, harvest failure and food shortages. It can also provide access to a medical infrastructure and to education. Because the legal status of immigrants is often so insecure, they are highly vulnerable when there are sudden economic or political changes. There is only a very thin line that separates being able to survive from suddenly being no longer able to do so."



Polluted surface waters pose an increasing problem for river-villages such as this one in Bangkok. The causes of pollution include sewage drainage and run-off from chemical fertilisers.



Southeast Asia

The Southeast Asia partnership region comprises Thailand, Laos, Vietnam, the Yunnan Province in China, Cambodia and Myanmar. NCCR North-South research is carried out in the Greater Mekong Subregion and focuses on sanitation, livelihoods and environment.

A region of emerging economies, Southeast Asia gives rise to a different type of challenge than that faced in some of NCCR North-South's other partnership regions. Most of the countries of Southeast Asia have shown high rates of economic growth in recent years. However, the distribution of wealth remains one of the most important social challenges in the region. Given the continuing rapid expansion of the population, the more vulnerable groups face a growing risk of marginalisation.

Economic growth has also placed increased pressure on the region's natural resources. Deforestation, soil degradation and pollution of water resources have emerged as the key environmental and public health issues.

The three main NCCR North-South research themes in South Asia are the following: environmentally sustainable sanitation for reducing the disease burden; multi-level stakeholder processes to help define coping strategies; and livelihoods and environment from various perspectives.

Environmental sanitation

The current main focus of NCCR North-South activities in Southeast Asia is on research on better environmental sanitation. This and improving urban water supply are also decisive elements towards achieving the targets set by the United Nations Millennium Development Goals.

In the early stages of the programme, research on technical aspects of environmental sanitation resulted in the development of technologies for the decentralised treatment of wastewater and faecal sludge. These systems were taken up by environmental authorities, partly included in national standards and codes, and implemented in several projects in Thailand and Vietnam. At the same time, emphasis was put on the development of innovative waste management systems that can be adapted to local needs and means.

Since the main goal of environmental sanitation is to reduce the health burden for the entire population, an additional dimension of research was added during the course of the programme: that of health and social aspects of sustainability.

Research insight

In one study, a Mathematical Material Flow Analysis (MMFA) was applied as an alternative approach to conventional river water quality models. Applied to analyse river water pollution, MMFA makes it possible to trace pollution flows and their transformations, from their input into the system through waste production, separation and treatment to their output as a product or discharge into receiving water bodies. In this way, the perspective is widened to get an overview of the river system and to understand the origins and the main processes involved in the chain of nutrient pollution generation.

Case studies are carried out in the Thachin River Basin in central Thailand to investigate the potentials and limitations of the MMFA approach as a basis for river water quality remediation in developing and transition countries.

Poverty and environment

Is it possible to detect typical patterns of environmental degradation and related welfare or poverty, or vice versa? Empirical and methodological insights gained through studies on land cover change and natural resources in the Lower Mekong Basin may help provide answers to questions such as these.

One example is deforestation, which, despite logging bans in place, remains the dominant and most disturbing form of land cover change across the Lower Mekong Basin. Assuming that deforestation rates remain stable, the forest cover will be reduced by more than half – to below 16% – by the year 2100. With its effect on

On the region

Southeast Asia is the term used to refer to those Asian countries located to the south of China and the east of India. It consists of two main geographic regions: the Asian mainland and the islands and archipelagos lying between Asia and Australia. With the exception of the mountain areas in the north, Southeast Asia has a mainly tropical climate, with heavy rainfall.

The Mekong is one of the world's largest rivers, draining an area of some 795,000 square kilometers. Rising in Tibet, it traverses the Yunnan province in China, Myanmar, Thailand, Laos, Cambodia and Vietnam before emptying into the South China Sea. The Mekong forms a large part of the border between Thailand and the Lao People's Democratic Republic. Extreme seasonal variations in flow, as well as numerous falls and rapids, make navigation of the river extremely difficult. Because of this, the Mekong has historically divided rather than united the people living in the region.

the hydrological cycle, the reduction in forest cover in the Lower Mekong Basin will have unpredictable consequences for the livelihoods of millions of people. Secondary forests and shrubby vegetation types show by far the highest level of human interference. Considering the ecological value of these vegetation types, as well as their significance for the livelihoods of the rural population in the Basin, ensuring the sustainable management of the areas concerned is of vital importance.

Potentials

Studies demonstrated the inadequacy of current environmental sanitation practices in Southeast Asia and the ecological impact of these practices. As a result, research in the partnership region focused on the development of tools and technologies which enabled an assessment and mitigation of the problems of current practices.

Given the high investments required for these systems, environmental sanitation services provision in low-income countries is mostly limited to high-density and high-income urban centres, whereas peri-urban and low-income areas remain unserved. Waterborne and sanitation-related diseases are still widespread in Southeast Asia, also as a result of the widespread practice of using contaminated surface water and untreated waste products in agriculture.

Before innovations in environmental sanitation can be introduced on a large scale, it is essential to determine the potential and limitations of these innovations in a specific context. A methodology was adapted and applied to the Chinese city of Kunming. Results indicate that China has the potential to become one of the most interesting and productive sites for the development of decentralised wastewater treatment alternatives.

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Thammarat Koottatep
Regional Coordinator
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"Environmental sanitation is one of the most severe problems in our region. We need approaches to environmental sanitation that do not pose health risks and that are suited to our situation. We can't just adopt the systems used in the urban centres of the North, in London, New York or Zurich. Maintaining Swiss standards is very expensive. We need low-cost systems and that means getting involved with the local people in order to find local solutions."



Andreas Heinimann
Coordinator
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and Environment (CDE)
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"Politicians need facts on which to base decisions. Unfortunately, these often consist of single case studies which are then generalised. For example, a study on land use changes in a particular village in Vietnam may be quoted a few times, and later taken to be representative of land use change processes in the whole country."



An increasing number of people live under conditions of social exclusion. Street scene in Ouanaminthe, a Haitian town on the border with the Dominican Republic.



Caribbean & Central America

The Caribbean and Central America partnership region comprises Costa Rica, Cuba, the Dominican Republic, El Salvador, Haiti, Honduras, Mexico, Cuba and Venezuela. NCCR North-South research in this partnership region centres primarily on issues related to livelihood strategies and the effects of urbanisation.

Challenges to sustainable development in the Caribbean and Central America region are typical of those faced in many parts of the developing world in the current age of globalisation: unbalanced economic growth with increasing income disparities; unplanned urbanisation and industrialisation; marginalisation of the poor; rapid population growth and the resulting environmental pressures; and conflicts over natural resources.

A particular problem is the economic dependence on remittances sent by legal and illegal migrants living in the United States.

The core challenge in this partnership region is to identify and promote the potential for innovation, empower people and promote social practices contributing to the mitigation of the effects of global change.

Research is coordinated around three central themes: social exclusion, inner borders and fragmentation; poverty, livelihoods and migration; and local strategies, environmental governance and conflict management.

Social exclusion

Here the focus is on providing innovative and empowering social practices to mitigate the impacts of new forms of social exclusion and new inner borders. This includes examining the increased vulnerability of the urban poor population due to deficient environmental sanitation services. Research is also conducted on the role of violence and insecurity, and the negative impact of globalisation on identity-building. At a transversal research level, the focus is on innovative approaches to urban planning.

Two studies looked at the border between Haiti and the Dominican Republic. This border was recently economically opened, but since this opening was almost exclusively guided by the market and by commercial interests, it is possible to speak of a “fragmented opening”. The opening has also shaped the spatial and social development of the border towns. While links have been established between the towns, these are mainly functional, with neither a feeling of belonging together nor a bi-national urban space.

Research insight

Few borders exist which separate two countries as disparate as Haiti and the Dominican Republic. Both share the territory of the Island of Hispaniola, but have undergone a profound process of differentiation rooted in the colonial division of the island between France and Spain.

In spite of prejudices which are still prevalent, cross-border relations are frequent, if only for largely economic reasons. There are busy bi-national markets in the border towns of both countries, creating a local dynamic of their own. However, the increasing dependence of each border town on the other has also accentuated the existing unbalanced relationship between each town. For a growing number of Haitians, it is of existential importance to cross over to the border town of Dajabón in the Dominican Republic. They do so to seek income, health care and education, despite latent racism and mistreatment. In contrast, the majority of Dajabón residents do not need to cross the river to make a living. Most of them have never been to Ouanaminthe, the Haitian border town, and consider it out of control and dangerous.

Migration

Under the theme of poverty, livelihoods and migration, NCCR North-South research focuses on social responses beyond strategies of survival. The emphasis is on economic, social, cultural and political activities taking place between nations and regions. For example, where new livelihoods are emerging along borders of different countries, the need arises for people to integrate the networks necessary for their livelihoods by crossing the border. An analysis of local arrangements and their impact on livelihoods in the region takes place in the NCCR North-South research area of Livelihood Options and Poverty.

On the region

The Caribbean and Central America region, sometimes also referred to as Middle America, coincides roughly with the area known in pre-Columbian archaeology as Mesoamerica.

It comprises some 25 countries with coastlines on the Caribbean Sea. These include the large mainland countries of Mexico in the north and Colombia and Venezuela in the south; the islands of the Caribbean; and the Central American nations of the isthmus that links North and South America, separating the Caribbean from the Pacific Ocean. The total population of the region is estimated at approximately 240 million inhabitants.

One study in Western Mexico looked at land use changes and their causes. In this context, the impact of remittances – that is, money sent home from migrants abroad – was examined. The impact of these remittances was found to be variable, depending on a number of factors. In half of all households studied, at least one family member was a migrant in the US, with remittances accounting for 45 per cent of the total household income. A third of these migrant households, in turn, invested remittances in land, livestock, agricultural production and house construction – all of which are investments leading to land use changes.

Public policies

At the level of public policies, natural and built environment and the management of conflicts, the emphasis is on the spatial dimension in livelihood struggles and the analysis of rural – urban relations. New forms of local governance and local answers to global problems will be examined in order to be better equipped to face the impact of globalisation in terms of increasing territorial vulnerability, environmental risks and disasters.

Research here has examined how actors in rural and urban areas use and/or manage natural resources, and how this results in the transformation of space and influences sustainable regional development.

Eight municipalities in the Ayuquila watershed in Mexico were studied, with a variety of actors whose social practices differed in their degrees of sustainability. In one case, results showed that at the local level, despite being rich in water resources, the municipality in question did not manage to provide a good quality potable water service. As water distribution is irregular, households are forced to resort to practices such as storage and finding alternative water sources. An analysis of these results has shown that important changes must take place in order to reinforce the decentralisation already in place.

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“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. One solution is in the development of social networks. This might be one of the most important factors in overcoming the inner social power divide.”



Yves Pedrazzini
Senior Researcher
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Sociology (LaSUR)
Swiss Federal Institute of
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“Urban violence is a phenomenon as well known in the North as it is in the South. Are the motivations and behaviour of gangs in Mexico City’s poor quarters essentially different from those of their counterparts in Los Angeles or the suburbs of Paris? Is there some way for them to put their energy to less destructive use?”



"Marcha Eco Solidaria": women take to the streets of La Paz, Bolivia, to show their support for fair trade.



South America

The South America partnership region comprises Bolivia, Peru and Argentina. NCCR North-South research activities focus primarily on issues of governance, as related to questions of citizenship, social movements, decentralisation, environmental risks to urban populations and biodiversity.

The countries in this partnership region have undergone a number of changes in the past decades. After the return to democratic political systems at the end of the 1980s, Peru, Bolivia and Argentina practised neo-liberal policies. It was in this framework that various types of decentralisation to the municipal and local levels began to take place.

The economic crisis at the start of the new century brought high rates of unemployment and the emergence of social movements which led to new forms of collective action by workers, peasants and urban dwellers. In addition, there are dangers presented by environmental hazards, conflicts over access and control of natural resources, the erosion of indigenous institutions and the loss of biological diversity.

Attempts at understanding these issues have led to the following main lines of research: social movements, decentralisation and citizenship; urban risks; and the governance of biodiversity and protected areas.

Social movements

The first line of research grew out of attempts to understand the problems that the countries in this partnership region faced during their economic woes.

A number of research topics are underway in Argentina which highlight the problems in an urban context. The economic crisis, unemployment and increasing poverty and inequalities all resulted in new forms of collective action. Research in Argentina includes analyses of the social movement of unemployed people and the workers of recovered factories. These are factories which were abandoned by their owners following bankruptcy and which were subsequently taken over by the workers and members of the unemployed movement. These "self-managed" factories became an important means for preventing the workers from falling into poverty during the severe period of financial collapse of Argentina.

In Bolivia, researchers have focused on the issue of decentralisation and its effect on citizens' rights. In rural areas, decentralisation has led to a modification of traditional forms of action by peasant

Research insight

Despite the fact that women often make up the majority of members in the unemployed workers' organisations, research has shown that they have very little access to roles of leadership. In addition, a gender perspective is not included in public policies directed at unemployed or poor workers.

and/or indigenous organisations, as these groups have had to adapt to new regulations. Indigenous people and peasants can now elect their municipal authorities, and can themselves be elected as authorities. They have developed successful strategies that have enabled them to take control of several municipal governments. Through participation and participative planning processes, the voice of these groups once excluded from public management is beginning to be heard.

Urban risks

In the Bolivian political capital, La Paz, research was conducted on the population's perception of natural and social risks. Many poor people in La Paz live in what would generally be regarded as precarious situations, with a constant threat of landslides and flash floods.

On the region

The continent of South America is characterised by vast geographic and biological diversity. This is mirrored by wide divergences in the social, cultural, political and economic conditions that prevail. Compared with other parts of the world, countries in South America show some of the most extreme discrepancies between the living standards of the rich and poor.

The discovery of the Americas by Christopher Columbus in 1492 was followed by an extended period of colonisation aimed at exploiting the continent's rich natural resources. A degree of political independence was attained by most South American countries in the 19th century. Nevertheless, they remained largely subject to the economic domination of Europe and, later, the United States. In the late 20th century, South America was a central battlefield in the Cold War, creating political and economic instability throughout the region. In a number of countries this resulted in takeovers of the political institutions by the military.

Since the 1980s most countries have adopted democratic forms of government. The high level of public debt in many countries led to a period of obligatory economic liberalisation. Since the beginning of the 21st century, voters in South America have shown a marked preference for proponents of strong social policies and for leaders highly critical of neo-liberalist economic tendencies.

However, according to the studies, the population does not necessarily consider these risks as a problem.

Reasons for this may include attempts to maintain the price of housing, or the fact that they have always lived with this risk and therefore do not regard it as unusual. As the members of the population with a low income are mainly concerned with satisfying their immediate needs, they do not see their situation of living in high-risk areas as a primary concern.

The complexity of this situation makes it necessary to develop a holistic understanding of the context and the social conditions in which risk-exposed people live, think and make decisions. The people's perceptions cannot be explained with a single approach; researchers have to draw on concepts from various social sciences: psychology, anthropology, sociology, economics, politics and philosophy.

Biodiversity governance

Another sector in which the state and social movements intersect is in the field of natural resource management, in particular regarding the national parks and protected areas.

In Peru, for example, a case study in the lowlands showed that the establishment of protected areas was welcomed by the indigenous population as it allowed them, on the one hand, to have their territory officially recognised and, on the other, gave them the means to defend themselves against illegal logging on their land.

In Bolivia a different picture emerged. Here, the indigenous farmers rejected the creation of protected areas as an unwelcome intervention into their autonomy regarding the management of their historic territories. They stated the following requirements: autonomy to manage their own areas, and investments from the government in infrastructure such as roads, schools and health care. In return, they would maintain land use based on traditional practices with a view to promoting greater sustainability in the management of their biodiversity.

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"The combination of research and practice makes it possible to fully realise the benefits of participatory development. The introduction of advanced geoinformation technologies completely changes the equation of the Indians of Peru in their struggle to identify and lay claim to their land."



Claudia Zingerli
Transversal Package
Project Leader (8)
Development Study Group
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"The NCCR North-South network brings together many people who collaborate and work together in new ways. Its innovative research partnership approach does not prevent the need for critical reflection on the research and working conditions. We need to make sure that unequal power relations in the North - South dialogue are not unconsciously perpetuated in our joint research activities."

A line visible on the side of the mountain shows to what extent the Aletsch Glacier has receded. The glacier currently recedes by up to 50 metres a year.



Swiss Alps

The Swiss Alps partnership region concentrates on high-Alpine areas, which includes the Jungfrau-Aletsch-Bietschhorn UNESCO World Heritage Site. The extent to which Switzerland's experience may or may not be applicable to the challenges faced in developing and transition countries forms the main focus of NCCR North-South research in the Alps. Research themes examined in the Swiss Alps are now also being extended to other parts of Switzerland.

The Swiss Alps partnership region has a slightly different position than the other regions within the conceptual framework of the NCCR North-South. It fulfils the important role of providing a basis for exchange and mutual learning with other partnership regions.

In addition to their geological importance, the Alps are also an integral part of Switzerland's cultural landscape. The highly glaciated segment of the Alps known as the Jungfrau-Aletsch-Bietschhorn provides a particularly useful model for the study of human adaptation to environmental extremes and climatic transition. The interplay of economic factors with cultural values and conservation issues has long been a central factor in the development of the Swiss Alps, where agriculture, forestry, tourism and trade are the mainstays of local livelihoods.

The Swiss experience in coming to terms with a challenging natural environment is that of an ongoing effort to preserve a delicate balance between the interests of environmental conservation and those of human development. It offers a point

of departure for research exchange and partnership with developing and transition countries in the domain of sustainable development.

Initially, the activities in the Swiss Alps region focused on the part of the Alps which was declared a UNESCO World Heritage Site in 2001. The location of the research has since been extended to include other parts of Switzerland, if the projects are relevant to one of the three lines of research under study. These are: monitoring, planning and decision-making in the interplay of development and conservation; discourses on nature in actor strategies and multi-stakeholder negotiations; and sustainable regional development as a theme for international exchange and mutual learning.

World Heritage

World Heritage Sites are considered sites of outstanding universal value from the point of view of science, aesthetics and conservation. For NCCR North-South research in the Swiss Alps, a central question is how to protect a region which is used by a number of different people, from the inhabitants to winter sports

Research insight

Switzerland may not necessarily spring to mind at the mention of nomads. But a certain form of nomadic pastoralism does exist in Switzerland and the lessons learnt from managing it may also be applied to nomadic communities in places as far afield as West Africa and Central Asia. The Swiss version takes the form of seasonal migration to higher pastures. The farmers involved usually belong to a pasture cooperative ("Alpgenossenschaft"), which ensures the management of the alps and the pastures on which the farmers' livestock graze during the summer. The cooperatives also provide support such as the transport of milk as well as keeping farmers informed of new developments by organising courses and excursions.

The Swiss Alpine region is also characterised by a long and deeply rooted tradition of direct democracy which has helped in planning and managing natural resources. For this reason experiences here can inspire other areas to put in place regulations and mechanisms for sustainable resource management and access to markets.

enthusiasts. Ensuring the sustainable development of the region has become of primary importance, not least because of the responsibility to preserve a World Heritage Site for coming generations.

The core question in this region is to what extent the local population can steer their own development. As a unique site of great geological importance, the region must be protected. As an area where in the last century traditional agricultural activities have given way to industrial developments and tourism interests, ensuring the sustainable development of the region has become more important than ever. The NCCR North-South played a major role in elaborating a management plan for the Jungfrau-Aletsch-Bietschhorn World Heritage Site.

A book on this World Heritage Site was published (in German) in 2007, covering topics such as geology, glaciology, hydrology, natural risks, regional economy and the institutional framework. The book highlights the relationship between development and conservation which can also be found in other protected areas, and thereby contributes to the

On the region

The Swiss Alps are home to the largest and longest glacier in western Eurasia: the Aletsch Glacier. In recognition of its outstanding features, the Jungfrau-Aletsch-Bietschhorn region was designated a World Heritage Site by UNESCO in 2001.

discussion on future management concepts for protected areas. The book will be available in English in 2009.

Extending research elsewhere

While research initially concentrated on the high-Alpine region, the second phase of the programme saw possibilities to extend the research to elsewhere in Switzerland. There are currently three projects underway examining the second research theme in the three-lakes region on the Swiss plateau.

One of these projects examines the implementation of soil protection from the perspective of a social learning and negotiation process between farmers, researchers and experts in public administration. For example, the decision by a farmer to apply a new technology such as no-tillage (growing crops without disturbing the soil through tillage) represents a major cultural change and not just a simple change of method. A lack of social learning processes may be explained by a number of factors including differing perspectives and interests; lacking possibilities for interaction; or a lack of acceptance of farmers' knowledge.

Links to the South

The role of the Swiss Alps partnership region is also to act as a link to partnership regions elsewhere in the world. This enables researchers from the South – in this case, from Kyrgyzstan, Central Asia and Mali in West Africa – to come to Switzerland and conduct research here. One of the topics under study is pastoralism and how lessons learnt from the Swiss approach can be applied elsewhere.

Experiences in the Swiss Alps will also serve in comparative studies with Alaska and Africa. The studies will compare natural resource-based livelihoods in these areas and how they adapt to socio-ecological changes.

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Astrid Wallner
Regional Coordinator
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"Participation of local stakeholders is an approach often used in development projects in the South. Lessons learnt from this approach can also be applied in the North. Getting shopkeepers, hotel owners, trail guides, tourist agents and environmentalists to know and to appreciate each other's interests and to discuss conflicting views is not a simple task – but it is an important step in making sustainable regional development projects work."



Bassirou Bonfoh
Transversal Package
Project Leader (5)
Swiss Centre for Scientific
Research in Côte d'Ivoire
Abidjan, Côte d'Ivoire

"We are interested in different experiences of nomadic pastoralism, such as in Switzerland. In Mali, in spite of a number of unsuccessful attempts before us, we wanted to contribute to pastoral development by promoting the local dairy sector. It's a model that worked for both the transhumant and the sedentary population around cities in semi-arid regions. Now we are testing it in other parts of the Sahel."

Education and Training

The NCCR North-South bases its activities on the premise that researchers need to adapt their skills to fit the problems they investigate. This calls for a combination of disciplinary, interdisciplinary and transdisciplinary methodologies. It also requires that experienced researchers, no less than students, both from the North and from the South, learn new ways of thinking, new ways of organising their research and new ways of presenting it.

The novelty and complexity of the NCCR North-South approach presents researchers who join the programme with a number of daunting challenges. Members of the team come from over 40 countries in Asia, Africa, Latin America, North America and Europe. Together they represent more than 20 scientific disciplines. This cultural and academic diversity makes high demands on the flexibility of all participants and on their willingness and ability to work together towards a common goal. In order to facilitate this process of integration and exchange, the NCCR North-South puts emphasis on education and training activities.



Interdisciplinarity and transdisciplinarity: a little fine-tuning never hurts.

Basic training and regular supervision

While interdisciplinarity and transdisciplinarity are the most prominent features of the NCCR North-South approach, the scientific foundations of the programme require a high degree of competence in the traditional academic disciplines as well. Through our partner institutions, both students and more advanced researchers have access to individualised training and guidance. This helps ensure that they have the theoretical and methodological skills needed to work in the discipline or combination of disciplines involved in their research.

Regional and integrated training courses

In order to help further interdisciplinary communication and cooperation between researchers, the NCCR North-South conducts thematic and methodological training courses that combine workshops with field encounters. These courses are either regional or integrated: the regional courses group those people working in the same geographic region, while the integrated courses involve participants from different parts of the world.

The meetings offer an important opportunity for researchers to enhance their skills in their own areas of specialisation and to familiarise themselves with work in other related fields. In addition, the workshops held during these meetings give the participants the opportunity to share their findings in an interdisciplinary setting – an exercise which helps them improve their communication skills with those who are not familiar with their terminology. Field encounters serve to connect the researchers with other members of society. The courses also reinforce contacts between the North and the South and, perhaps even more importantly, help extend and strengthen South – South research cooperation networks. The courses are supplemented by web-based knowledge sharing and distance learning tools available to all team members.

The long-term objective of the NCCR North-South is to establish a permanent foundation for advanced sustainable development research. In order to achieve this goal, the NCCR North-South is working to strengthen existing research capacities in this area, and to establish new institutional structures for inter-university graduate and postgraduate level education in Switzerland.



“The researchers of the NCCR North-South are working in uncharted academic territory. The novelty of our approach presents us with an extraordinary challenge: developing a methodological framework for practical, high-quality transdisciplinary research based on our own experience in case studies. For this to work, everyone involved in the programme has to learn new ways of thinking. For some this means adapting to the rigours of strict disciplinary scientific investigation, for others it means learning to accept and deal with alternative forms of knowledge.”

Karl Herweg
Education and Training Coordinator

PAMS: Bridging the Gap between Research and Practice

One of the goals of NCCR North-South research is to identify practicable solutions to help mitigate the negative effects of global change in developing and transition countries. By testing theoretical models in actual development contexts, Partnership Actions for Mitigating Syndromes (PAMS) provide a vehicle for validating and evaluating the applicability of research results to practice in the field. Of the sixty PAMS launched so far, most have been completed.

Partnership Actions are projects of limited financial scope, carried out over a fixed time period by local actors in partnership with scientific and non-scientific stakeholders. Each PAMS project is linked to a practical issue arising out of research conducted by the NCCR North-South.

The projects serve to provide empirical evidence as to the comparative usefulness of different methods, approaches and tools considered promising for the promotion of sustainable development. They cover a wide range of strategies for dealing with similar problems, including such things as training courses, policy dialogue, cultural programmes, small-scale infrastructure improvements and the introduction of advanced technologies. One essential element common to all of the projects is that they are individually designed to facilitate and promote the process of mutual learning between the research community and the societies that form the subject of their activities.

The ways in which this component of NCCR North-South transdisciplinary research functions can be seen in the following two examples of PAMS projects, one in Kenya, the other in Nepal.

Stakeholder participation in urban planning

A PAMS project in Kenya focused on the issue of stakeholder participation in urban planning. The idea was to make use of a new geo-processing technology for a dual purpose: providing decision-makers with valuable, up-to-date data while, at the same time, involving the local population in the decision-making process.

For this purpose a “Local Urban Observatory” (LUO) was set up to produce a detailed digital map of the municipality of Nakuru. By training local participants in the use of geographic information system (GIS) technology it was possible to include them in the mapping process. At the same time, it increased the effectiveness and usefulness of the tool for urban planning purposes by making the mapping information more complete. Having participated in gathering the information on which policy decisions were to be based, the local stakeholders were now in a better position to evaluate policy alternatives and thus take a more active role in the decision-making process. Given the rapidity of the



After the participatory mapping exercise (photo), data layers were processed and imported into a GIS-environment by the LUO project technical team.

process of urbanisation currently transforming the globe and the importance of participatory urban planning, the experience of the Nakuru Urban Observatory offers a model which could be applied in other regions of the world.

Radio programmes for migrants

Research results suggest that one of the most serious problems connected with labour migration is the lack of information available to migrants and potential migrants concerning alternative destinations, job opportunities, legal rights and such practicalities as travel arrangements and ways of sending money. How can useful information be transmitted to migrants? A PAMS project in collaboration with the Nepal Institute for Development Studies tested one possibility for addressing this question.

The *Pourakhi Radio Programme* was set up as an information bulletin targeting potential immigrants, most of whom come from poor rural areas, where they have little or no access to formal education or vocational training. The programme presented news and reports on such issues as remittances, labour rights, security and health issues. In order to make the programme available to a larger audience, local “Listeners’ Clubs” were established to provide radio access, collect feedback and encourage wider dissemination of information on migration issues to the listeners’ families and communities. Because of the programme’s popularity, a number of the broadcasts were aired again by regional radio stations. The success of the project confirms its viability for addressing some of the needs of migrant workers in Nepal.

The NCCR North-South is steered by a Board of Directors which meets regularly to decide on the activities of the programme and to formulate overall policy and guidelines. The Board is made up of representatives from the Swiss Partner Institutions. The Extended Board of Directors also includes all Regional Coordinators and meets twice annually.

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