

NCCR North-South newsletter

Research Partnerships for Sustainable Development

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Focus on West Africa



*The Forces Républicaines de Côte d'Ivoire (FRCI). In 2011, post-electoral fighting was particularly intense in cocoa cultivation areas in the west of Côte d'Ivoire.
Photo: Koné Gnangadjomon*

Supporting vulnerable populations

Adapting to climate change in developing countries is difficult enough, but how do population groups without access to information or support from their governments manage? West Africa is home to a great number of mobile communities on whom demographic data is practically non-existent. NCCR North-South research is attempting to fill this gap by collecting demographic data on humans and livestock, with a view to adapting medical, veterinary, and other services to the needs of mobile pastoralists.

Dwindling natural resources – water, pastures, soil – increase the potential for conflict between mobile and sedentary populations. What are the best ways of alleviating resource use conflicts? NCCR North-South researchers have been finding out.

Mobile populations are not the only vulnerable group. Some 660,000 people live on the outskirts of Abidjan, Côte d'Ivoire, in informal settlements, putting them at risk of developing disease – especially malaria and diarrhoea – from poor waste management. Innovative and affordable ways are required to solve this problem; researchers in Cameroon are developing sustainable technologies for treating human waste while growing fodder for livestock.

Editorial



Bassirou Bonfoh

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In recent years, media attention on West Africa has highlighted the many crises threatening the region, including rebellion and religious extremism in Mali and Mauritania, post-electoral upheaval in Côte d'Ivoire and Guinea-Bissau, political unrest in Burkina Faso, and general desperation due to soaring prices for fuel and essential goods like food. In this context of instability, the NCCR North-South continues to conduct research in partnership with the Centre Suisse de Recherches Scientifiques (CSRS), based in Abidjan, Côte d'Ivoire. Despite local interruptions, the researchers have pressed on in their efforts to find solutions to core challenges such as conflict, adaptation to climate change, insufficient agricultural and health systems, and inadequate waste and water management. The NCCR North-South has already seen success in transforming the research landscape in West Africa, training a number of PhD and postdoctoral fellows who have had auspicious starts to their careers at universities and research centres in Africa.

Most recently, researchers in the region have validated the ecohealth and One Health approaches. Looking for innovative ways to transform African cities, household-centred sanitation has been investigated, including strategies for making waste profitable by using its by-products for agricultural applications. Rather than emphasising people's vulnerability, researchers have begun focusing on their resilience, and ways of reinforcing it, as they seek to mitigate teen pregnancy and understand how at-risk individuals successfully overcome environments where violence, infectious diseases, and even natural disasters are commonplace.

Looking ahead, we are confident that the institutional framework established by the CSRS and the NCCR North-South will weather the challenges in the region and that our researchers and alumni will continue to conduct high-quality research there. Ours is a long-term commitment to strengthening individual and institutional capacity in research for development throughout West Africa.

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Focus on West Africa

The human factor in Sahelian environmental conflicts

Recent debates on resource conflicts were dominated by the theory that environmental degradation and scarcity, combined with socio-economic factors, produces human conflict. However, research shows that the link between the environment and conflict is complicated and not a simple causal relationship. When seeking to explain why tensions arose and conflicts erupted in several semi-arid areas, NCCR North-South researchers found that the most decisive factors were human interaction and the formal and informal practices of various stakeholders.

Against the backdrop of concerns about the impact of environmental change on human security, this research project focuses on the human factor. It posits that individual actors and institutions are often the most important causes of violent conflicts. In one example, farmers have been known to set "field traps", prompting compensation payments that are higher than earnings from crops. This confirms the hypothesis that conflicts are not only determined by resource scarcity, but also by institutional regulations. For this reason, the researchers are closely examining the role of institutions in fostering, hindering, transforming, or resolving conflicts.



A water point in northern Côte d'Ivoire: a potential source of conflict. Cattle belonging to mobile pastoralists make their way down "corridors" to drink at the water point. Meanwhile, other farmers plant crops in the corridors, demanding compensation when the cattle eat their crops. The compensation they receive is higher than potential earnings from the crops, prompting farmers to set what have become known as "field traps". Photo: Gilbert Fokou

Looking at cross-border migration, institutional dynamics, and conflicts between Sahelian and coastal countries of West Africa, the project analyses the effect of institutional and policy reforms on resource conflicts between mobile pastoralists and local sedentary populations. In addition to positive examples, there is evidence that certain efforts to establish new policy mechanisms for natural resource management in the region have been counterproductive, exacerbating rather than alleviating resource use conflicts.

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Post-electoral violence in western Côte d'Ivoire: a crisis centring on land?

Despite international recognition of Alassane Ouattara as the winner of the 2010 presidential election in Côte d'Ivoire, the former Ivorian President, Laurent Gbagbo, refused to step down. To neutralise this electoral coup, Alassane Ouattara's new government reorganised part of the army and combined it with former rebel combatants to create a new force called Forces Républicaines de Côte d'Ivoire (FRCI). In March 2011, the FRCI attacked areas under the control of Laurent Gbagbo's forces in the south and west of the country. Fighting between the two factions has been particularly intense in the cocoa cultivation areas in the west, where more than a thousand people have been killed and several thousand displaced.

While some observers see the recent violence as overwhelmingly politically motivated and driven by the FRCI, NCCR North-South researchers are considering its link to local ethnic battles over cocoa land rights – pitting "locals" against "outsiders" – that go back at least a decade. Following the 2002 outbreak of a heavily armed rebellion led by the Patriotic Movement of Côte d'Ivoire (MPCI) in the north, many armed militias emerged in rural areas in the western part of the country, claiming "to defend national institutions against invaders". This "national defence" operation gradually transformed into a massive campaign to expropriate land from migrants. Migrants from neighbouring countries such as Burkina Faso, Mali, and Guinea were its victims. Then, while the FRCI was battling rural militias in March 2011, civilian migrants whose land had been expropriated took the opportunity to attack those indigenous people they held responsible for their plight.

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An ecohealth approach for adapting to climate change

Climate change is causing more extreme weather events such as droughts and flooding, which in turn threaten human health. According to the World Health Organization, threats to human health stemming from climate change will be increasingly acute in poorer areas of West Africa, with diarrhoeal sicknesses and malnutrition causing the greatest regional disease burdens by 2030. NCCR North-South researchers are involved in a project to counter such risks by reinforcing West African populations' adaptive capacities by means of an ecosystemic health approach. This "ecohealth" approach examines health and environmental issues while emphasising transdisciplinarity, participation, gender sensitivity, and equity.

The research project, co-funded by the Canadian International Development Research Centre, is linked to NCCR North-South research in East Africa and North Pakistan. The aim of the project in all three regions is to comparatively analyse whether concepts and indicators of resilience, transformability, adaptive governance, and ecohealth may be effectively used to enhance and measure people's adaptive capacities regarding climate change and other stressors.

In West Africa, five cities (Tiassalé, Korhogo, Sikasso, Ségou, Nema) in three countries (Côte d'Ivoire, Mali, Mauritania) are involved in the project. Korhogo is the principal study site where the ecohealth methodology is being applied. Data collection has been completed there and data analysis is ongoing. Data collection – on sanitary, climatic, and environmental conditions – is taking place in the remaining cities during the first half of 2012.

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Controlling infectious diseases in mobile populations

In Africa and Asia, people whose livelihoods depend on mobility face various challenges. Mobile populations are rarely considered for social service provision, as policymakers' lack of knowledge about their conditions precludes suitable planning. And there are few effective strategies for controlling infectious diseases in mobile populations, since little is known about how pathogens are transmitted in their communities. Interdisciplinary, partnership-based research is the most effective way of responding to these challenges, says Bassirou Bonfoh, Director of the Centre Suisse de Recherches Scientifiques (CSRS) in Côte d'Ivoire: "In order to address the geographical, social, and cultural diversity of mobile communities, there is a need to combine molecular, epidemiological, economic, and social science approaches." Bonfoh is co-leader of a research project on the needs of mobile communities and the barriers they encounter in accessing social services related to health, education, information, and security. Two postdoctoral fellows, two PhD candidates, and a master's student are conducting related research in West Africa, described below.

Zoonoses in Togo: Brucellosis and Q fever are febrile bacterial diseases transmitted from animals to humans. Humans may become infected through contact with sick animals, consumption of contaminated products like meat or milk, or – in the case of Q fever – by means of environmental exposure. In partnership with the Ecole Supérieure d'Agronomie at the University of Lomé, Togo, and regional health and veterinary authorities, researchers from CSRS and Swiss TPH are studying the role of mobility in the occurrence of these zoonoses in Dapaong, a savannah region in Togo.

Improving the effectiveness of TB care:

Fieldwork for this component is taking place in Mauritania, where the prevalence of tuberculosis is twice that of the rest of the world. While treatment is offered free of charge, many nomadic TB patients discontinue their treatments due to the high cost of travelling to health centres, caring for their livestock, and new nutritional requirements. The researchers recently published a policy brief describing how patients are more likely to stick to treatment when they are well informed about the risks of quitting and nutrition is integrated into their regimen. The policy brief, published in French, is available here: <http://www.north-south.unibe.ch/content.php/page/id/305>

Risk of Human African Trypanosomiasis:

Human African Trypanosomiasis (HAT), or sleeping sickness, is a parasitological disease – endemic to humid and sub-humid zones – that is transmitted by the tsetse fly. Considered a neglected tropical disease, it is frequently diagnosed too late for effective treatment. Seasonal workers in Côte d'Ivoire are particularly vulnerable. They come from countries like Burkina Faso to work on coffee, cocoa, and rubber plantations, and return home at the end of the season. They typically don't develop symptoms until back in their home countries, where diagnosis is difficult due to local health professionals' lack of familiarity with the illness. The preliminary results of a study by Mathurin Koffi, NCCR North-South postdoctoral fellow and assistant professor at the University of Daloa (Côte d'Ivoire), suggest that migrants are more susceptible to the disease than local populations, due to their exposure to insect vectors in the fields and during their journey.

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Crowding at Lake Chad

Lake Chad is shrinking, increasing competition between mobile and sedentary communities for the valuable resources of water, pastures, and soil for cultivation. Mobile communities such as cattle herders are at a particular disadvantage due to the temporary nature of their settlements. They are culturally isolated, largely illiterate, and lack political influence – making them unable to negotiate improvements to their situation.



*Mobile populations around Lake Chad. There is little demographic data on mobile populations in West Africa, making it difficult to provide them with social services or control the spread of infectious diseases.
Photo: Vreni Jean-Richard*

“Reliable and continuous data about mobile populations in this area is virtually non-existent,” says Vreni Jean-Richard, who is doing her PhD at the Basel-based Swiss Tropical and Public Health Institute (Swiss TPH). “Having mutual trust between the population, researchers, and the authorities is a precondition to collecting confidential data in these communities.” This trust has been built up in the decade in which the NCCR North-South and its partners have been involved in research in the area. Current research focuses on generating demographic information on humans and livestock, and on determining livelihood priorities. The researchers’ ultimate goal is to adapt medical and veterinary services to the needs of mobile pastoralists, based on a better understanding of demographic dynamics.

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Health risks in informal settlements

An estimated 15% of Abidjan’s population of 4.4 million lives in informal settlements. That equals around 660,000 people who are at greater risk of developing disease from poor waste management, insufficient drainage, and generally unsanitary conditions. In search of ways to improve residents’ health and well-being, researcher Dongo Kouassi began by analysing environmental health risks and people’s perceptions of them. “Most health problems were caused by direct handling of waste,” says Kouassi. People in the poor settlements had

little awareness of health risks related to waste management in their community and generally lacked knowledge about sanitation. According to Kouassi, “This unfortunate combination was the key determinant affecting health and vulnerability, resulting in a higher prevalence of malaria and diarrhoea than in formal settlements elsewhere.” The problem was compounded by a lack of government support, with researchers observing frequent crises of collaboration between the municipality and residents of informal settlements.

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Seeking innovative approaches to faecal sludge treatment

There are few affordable options for faecal sludge treatment in sub-Saharan African countries. One of the most common ways of disposing of faecal sludge is by on-site sanitation devices which collect the sludge and then discharge it, without treatment, into drains, water bodies, and open spaces. But this practice poses huge public health risks due to the pathogens and parasites present in untreated faecal sludge. To reduce the risk of disease in local communities, it is crucial to identify affordable means of treatment.

Researchers in Cameroon are developing innovative technologies for treating human waste, which generate added value by creating products that may be used in agriculture. “Antelope grass, a highly prized fodder for sheep and goats, is perfectly suited to this,” explains Ives Magloire Kengne. The antelope grass (*Echinochloa pyramidalis*) may be grown in “planted sludge drying beds”, sealed shallow ponds in which faecal sludge is diverted for drying and decontamination. Kengne’s research has demonstrated the system’s efficiency in separating the solid and liquid fractions of human waste as well as in reducing pollutants – more than 95% for most parameters. In addition to this, the system is capable of producing between 450 and 750 tons of fresh fodder per hectare each year, as well as a high amount of biosolids rich in nutrients. These products, if well managed, could be used to sustain the technology.

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*A peer interviews an adolescent mother in Accra, Ghana.
Photo: Collins Ahorlu*

Sexual and reproductive resilience of adolescents

“With over half the world’s population aged under 25, today’s adolescents are the leaders of the future,” says Collins Ahorlu, based in Legon, Ghana, and co-leader of a research project on the sexual and reproductive health behaviour of adolescents. His colleague and project co-leader, Constanze Pfeiffer, is based in Dar es Salaam, Tanzania, and investigates the same issues there and in Kenya. The researchers’ core focus is teen pregnancy: sub-Saharan Africa has the highest teen pregnancy rates worldwide.

Teen pregnancy can jeopardise young people’s health, education, and socio-economic well-being. Yet some adolescent girls are more resilient to the possible perils and experience positive pregnancy outcomes. Rather than emphasise young people’s risk and vulnerability, Ahorlu and Pfeiffer have adopted a strength-based perspective of “sexual and reproductive

resilience” in their study of adolescents’ reproductive health. They aim to determine social factors that help teenagers avoid pregnancy or experience a healthy pregnancy and long-term outcome. Following interviews with 2,500 female adolescents in rural and urban Ghana and Tanzania, one key finding was that – especially in Tanzania – teenage girls aged 15–19 years look to youth magazines as a key source of information on sexuality. The study also revealed a need to focus future interventions not only on adolescents, but also on including parents and caregivers, as young people increasingly look to them for sexual education.

The research project has benefited from two PAMS (Partnership Actions for Mitigating Syndromes) projects. A video project in Tanzania, Voices of Youth, gave young people the chance to present and reflect on their experiences concerning sexuality and teenage pregnancy (available at www.socialresilience.ch). The other PAMS project, Youth for Youth, involves creation of a youth magazine by and for adolescents in Ghana. It seeks to provide a forum for young people to exchange helpful information on sexual and reproductive health.

Seven master’s-level students and three PhD-level students, mainly from Africa, are also involved in the research. One master’s student from Tanzania, who benefited from the South–South collaboration of Tanzania and Ghana, has just finished her studies at the School of Public Health, University of Ghana, Legon.

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In a nutshell: NCCR North-South West Africa

NCCR North-South programme activities in West Africa bring together 16 institutions in 10 countries: Burkina Faso, Cameroon, Chad, Côte d’Ivoire, Ghana, Mali, Mauritania, Senegal, Togo, and Sierra Leone. For over a decade, case studies conducted in the region have been supervised by the Regional Coordination Office located at the Centre Suisse de Recherches Scientifiques (CSRS) in Côte d’Ivoire, an organisation with more than 60 years of experience in partnership-based research. Research spans

diverse topics such as health systems, water and sanitation, urban planning, agro-pastoral systems, and social movements. At times, local researchers have had to contend directly with political unrest, civil war, and insecurity while investigating ways of improving people’s well-being and the environment. With the support of the NCCR North-South programme, the CSRS has proven resilient to recent crises and looks forward to sustaining its research network and capacity building efforts for years to come.

Alumni Interview

In this edition of the Alumni Interview we catch up with Moustapha Ould Taleb, a sociology expert at the Mauritanian Institute for Oceanographic Research and Fisheries. He completed his PhD within the NCCR North-South in 2009.

What did you do your PhD on? My thesis was on the perception of tuberculosis among nomadic pastoralists in Mauritania and Chad. I investigated the therapeutic itineraries followed by nomadic people who have TB, how their communities deal with the sick, and the implications of this for their local production system. The Sahel region has seen an explosive increase in TB cases, fuelled in part by socio-economic and environmental crises. Few population groups are more vulnerable to TB in this region than nomadic pastoralists. Their mobility and dispersion makes it difficult for them to begin or complete preventive and curative treatment regimens, and they are generally difficult to reach with information and education on health-related matters.

What has your career path been after leaving the NCCR North-South? After a brief stint at the University of Nouakchott as a vacataire during the introduction of the Bachelor/Master/Doctorate system, I joined the Nouadhibou-based Mauritanian Institute for Oceanographic Research and Fisheries in 2009 as a sociology expert. I also work as a TB control consultant in pastoral areas for the FAO and WHO country offices, Mauritania.

How has your research made a difference – can you give a concrete example? My research on TB perception and treatment emphasised transdisciplinarity. From the beginning, all the stakeholders – including nomadic pastoralists themselves – were involved. In this way, a pilot project was developed for nomads focused on TB education and awareness. Using pictograms with local cultural references, the information campaign sought to correct misconceptions about TB, such as beliefs that it is incurable or inherited. In 2004, a PAMS project – “Innovative TB treatment for nomadic pastoralists in remote areas of Mauritania” – was implemented together with a local NGO, the Mauritanian Association for Fighting against Tuberculosis (MAS). Local men and women from nomadic areas were trained – in TB prevention, recognition, and treatment – and practised as health supporters for over two years under the supervision of the community, research team, NGO staff, and sanitation authorities. Later, in collaboration with Mauritania’s national TB control

programme and health centres located near concentrations of nomads, more community members were trained as “intermediaries” to assist nurses and other health workers in administering the Directly Observed Treatment Short (DOTS) course to nomads sick with TB. This strategy was eventually adopted by health authorities in the district of Hodh Chargui.

What are you currently working on? I am working on social issues related to artisanal fishing, including the social organisation of fishermen, professional organisations, employment levels, the cultural ecosystem services that coastal areas provide, and the networks that link fishing communities.

What, for you, are the greatest challenges in your current work? My colleagues and I are trying to establish a system for monitoring the management needs of artisanal fisheries, using socio-economic indicators. Key challenges include the project’s geographic scope – it is aimed at the national level – and the complexity of the social context, which is characterised by diverse stakeholders, an important informal market, and ongoing policy changes. Our main objective is to help reduce poverty in the country.

What would you change, if you could? In my country, Mauritania, as in other parts of the global South, there are many issues that need to be understood and tackled using evidence-based methods. Yet there isn’t enough local demand for scientific knowledge. Despite their contributions, the social sciences are still somewhat neglected. For my part, I would like to bring a positive attitude to social research, increase its quality, and encourage effective collaboration with natural scientists.

I would also like to contribute to social cohesion in my country. Mauritania currently faces many uncertainties and tensions, and the social sciences can and must explore ways of enabling people to live and work together in peace and fraternity – based on shared ideals – just as they did for many centuries before.

Where do you see yourself in ten years’ time? I have no idea. I don’t have a pre-established career plan, but I hope that development research will be more institutionally established in Mauritania and West Africa in ten years.



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NCCR North-South News and Events

NCCR North-South policy briefs

Several new regional and global editions of *evidence for policy* have been published recently, featuring research and development policy recommendations aimed at decision-makers active in each partnership region. To date, one policy brief has been released that focuses on West Africa: "Including nutrition helps tuberculosis patients stick to treatment". A second brief drew on research from the region to make recommendations in another corner of the globe: "It's time to control brucellosis in Central Asia". These and others are available for download at: <http://www.north-south.unibe.ch/content.php/page/id/305>

The three latest global policy briefs tackle the following topics: "The pyramid of business and peace", "State-building, legitimacy, and development in fragile contexts", and "Ensuring land rights benefit the poor". They are available for download here: <http://www.north-south.unibe.ch/content.php/page/id/250>

Outcome Highlights

Visit <http://www.north-south.unibe.ch/content.php/page/id/315> to download the NCCR North-South's *Outcome Highlights* series. One edition of *Outcome Highlights* spotlights West Africa: "Human and animal health specialists: making use of synergy".

3rd ICRD: Research for Global Transformation

The 3rd International Conference on Research for Development (ICRD) takes place 20 – 22 August 2012 at the University of Bern, Switzerland. The conference will offer participants an opportunity to discuss their experiences with research partnerships. Its objectives are to:

- share and discuss most recent insights into development-oriented research conducted in North-South partnerships;
- outline an agenda for research partnerships with developing and transition countries in support of more equitable and sustainable global transformation.

The conference will have a strong focus on the global South, but the role of the global North will also be addressed. For more information: www.icrd.ch

Partnership Regions



Programme Management

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

Swiss Partner Institutions

- Centre for Development and Environment (CDE) University of Bern
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- Development Study Group (DSGZ)
Institute of Geography, University of Zurich
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