

University training in Mekelle, Ethiopia

Many educational institutions in the global South lack the means, personnel, and access to information needed to provide the high-quality inter- and transdisciplinary research crucial for sustainable development policymaking. ESAPP and CDE worked with institutions such as Mekelle University to help fill the gap, especially by training trainers to ensure continued capacity development.

Sustainable development challenge

Many academic and tertiary education institutions in the global South struggle to fulfil the quality criteria in research and publishing set by the North. They lack the necessary means, personnel, and access to information. This also makes it difficult to adequately address development-related problems, which often require inter- and transdisciplinary research approaches. And yet, high-quality research is crucial for sustainable development policymaking.

Mekelle University in northern Ethiopia was founded in the 1990s as part of a programme to decentralize higher education in the country. A few experienced lecturers soon faced the challenge of providing training to a rapidly growing number of students. Fresh graduates had to take on teaching assignments without experience or a chance to practise what they had learned. Master's and PhD graduates assumed administrative positions as department heads or deans soon after completing their degrees. As a result, scientists had little choice but to pursue disciplinary research, with little scope for developing the inter- and transdisciplinary approaches essential to addressing sustainable development issues.

ESAPP's response

North–South research partnerships can help research institutions in the South respond to these challenges and contribute to a more sustainable development. ESAPP supported academic partner institutions in the South in becoming competent centres of research for sustainable development, change agents in knowledge production, and forerunners of institutional networks. Within this process, training of trainers is key to ensuring continued capacity development.

From 2004 to 2011, ESAPP and the Land Resource Management and Environmental Protection Department of Mekelle University worked to fill the training gap. Researchers from the University of Bern, with many years of experience in Ethiopia, provided training content highly relevant for the context in which Ethiopian students and instructors work. Developing and implementing innovative student-centred training was a core aspect of this approach. It made the courses attractive for students and provided instructors with a mix of didactic and methodological tools to improve their own training. Finally, the use of inter- and transdisciplinary research methods made it possible to introduce an integrated approach, which is essential for investigations in the context of sustainable land management.



Main messages

- A learner-centred approach actively involving students through a combination of classroom and field exercises deepens their knowledge and better enables them to recall and apply their knowledge later on.
- Innovative training material and didactic-methodological coaching helps participants change from top-down teaching to a learner-centred approach.
- A holistic approach integrating natural and social science perspectives makes it more likely that students will contribute to finding ecologically sound, socially acceptable, economically viable solutions.
- Not providing blueprint solutions makes students more flexible in negotiating with local actors, integrating expert and local knowledge, and increasing the applicability of solutions.



The Gergera watershed in Tigray, Ethiopia, is ideal for study and training. It is located in a semi-arid area bordering Ethiopia's Afar Zone, an hour's drive north-east of Mekelle. The watershed was treated with a number of soil and water conservation measures, allowing students to study the effects of the measures and their acceptance by the local population. (Photo: Karl Herweg)



Top: Gegera is within convenient distance from the university, but the watershed is not easily accessible by car. At its lower end, visitors have to cross the small river on foot, mostly under the eyes of farmers and curious children. Crossing the river implies overcoming a small “inconvenience” for students mostly working in the classroom, and gives them a first feeling of being in the field. This little exercise makes it easy to interact with the local population and impressively demonstrates an important effect of soil and water conservation measures further upstream – that there is still water in the dry season! (Photo: Asmamaw Tenko)

Bottom: In 2011, the transdisciplinary training course involved both Mekelle summer-school students and lecturers from various Ethiopian universities as well as from Kenya, Tanzania, and Madagascar. Confronting both groups with real-life situations helps to ground research and education ideas in the reality of the rural people who make up 80 per cent of the Ethiopian population. The most common form of teaching at university level is the classroom lecture, which mostly relies on academic papers describing case studies conducted in other parts of the world. At the same time, rural Ethiopia provides numerous study topics and would benefit from the assistance of researchers as it strives to achieve a more sustainable development. (Photo: Asmamaw Tenko)

The project story

From 1981 to 1997, the University of Bern’s Centre for Development and Environment (CDE) carried out the Soil Conservation Research Programme (SCRP) together with the Ethiopian Ministry of Agriculture, and supported by the Swiss Agency for Development and Cooperation (SDC). As the Ethiopian Government introduced decentralization policies, the SCRP was handed over to regional agricultural research institutions which still maintain most of the seven research stations established under the programme. A large share of the data measured at these stations was used to develop training material on sustainable land management at the School of Agricultural, Forest and Food Sciences of the Bern University of Applied Sciences. This training material was later adapted to the needs of Mekelle University, tested several times, and included in undergraduate courses. The cooperation between CDE and Mekelle University within ESAPP resulted in four distinct outcomes:

- (1) In 2004, CDE and Mekelle University worked together to produce a textbook entitled *Sustainable Land Management: A new Approach to Soil and Water Conservation in Ethiopia*, published in 2006 (Mitiku et al. 2006).
- (2) An ESAPP project was designed to update Bachelor’s-level course material of Mekelle University, and to design and conduct a Master’s-level course on “Advanced Approaches to Sustainable Land Management”. This course was conducted twice a year for regular students by Mekelle University staff. From 2005 to 2011, CDE staff taught the course once a year for summer-school students.
- (3) The final summer course in 2011 was simultaneously offered as a training of trainers with more than 20 participants from Ethiopia, Kenya, Tanzania, and Madagascar. The trainers attended the entire course, which was supplemented by reflections, didactic and methodological inputs, and coaching. They converted their own case study material into a case study exercise for their students.
- (4) The course material and the collection of case studies together provide a sound training package for all trainers of trainers in the field of sustainable land management. Since 2012, the Master’s course is conducted by Mekelle University staff only.



Innovation and relevance

Ethiopian students in the field of sustainable land management until recently largely relied on training material from abroad, requiring a “translation” effort to apply it to their own context. Local case studies and research results better reflect the actual biophysical, economic, and sociocultural working background in Ethiopia. In contrast to previous, mostly text-based disciplinary training, the Master’s-level course developed with support from ESAPP takes an integrative inter- and transdisciplinary perspective, introducing a number of visual elements (photo interpretation, transect walks) and encouraging students to prepare well-illustrated presentations. Traditional lectures are very common in Mekelle University. By contrast, the new Master’s-level course in sustainable land management comprises a series of four-hour sessions beginning with an introductory presentation and continuing on to group work. The course tutor sets a clear task which the students have to tackle in self-organized groups. At the end, each group presents their results, followed by a discussion of all group work results; a final session comparing group results with SCRPs outcomes provides students with a benchmark to assess the quality of their own work. While many courses remain on a theoretical level, this course also includes a field day, where classroom knowledge can be applied in a real-life situation.

Participants said they learned more through the learner-centred approach than through top-down lecturing, and expressed the intention to adapt their own teaching practices. Supplied with many didactic-methodological hints and relevant materials, participants can thus create a multiplier effect. In encounters with local villagers and farmers, students come face-to-face with indigenous knowledge and technologies: an essential experience that prepares them for their future task of developing solutions that are relevant and applicable to the local context. Sustainable land management requires solutions that are environmentally sound, socially acceptable, and economically viable. Only inter- and transdisciplinary training can teach people how to work with local actors to develop solutions that fit the context.



Top: Students and lecturers engaged in role play, putting themselves in others’ shoes. It enabled students to sense how local farmers or decision-makers may feel when they meet researchers and face the impacts of research outcomes on their lives. The role play can be done either before or after fieldwork. Done before, it enables students to critically revise their assumptions about other actors during fieldwork; done after, it allows students to apply what they have learned in the field. (Photo: Karl Herweg)

Bottom: Visiting local people in their environment and talking with them about their situation, fears, and desires provides young students – future researchers – with first-hand information. They learn that there are other sources of information than books and academic articles, and that other parties involved in natural resource management may have different perspectives than researchers on issues of resource degradation and conservation. They learn to critically reflect on these different perspectives, including their own. Young students must be highly motivated to seriously engage in research or education that aims to create a significant impact on their country and society. Personal contacts with local actors help create empathy for their conditions and are an important source of motivation. (Photo: Karl Herweg)



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References and further reading

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Highlight profile

This highlight is based on the achievements of 4 ESAPP priority action projects.

Implemented during:

2001–2011

Total funds contributed by ESAPP:

CHF 274,500

Implemented by:

Mekelle University, Mekelle, Ethiopia

In collaboration with:

Centre for Development and Environment (CDE), University of Bern, Switzerland

Main beneficiaries:

Mekelle University and its faculty and students, as well as lecturers in sustainable land management at other Ethiopian universities

This highlight

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What is ESAPP?

The Eastern and Southern Africa Partnership Programme (ESAPP) is a research implementation programme funded by the Swiss Agency for Development and Cooperation (SDC), coordinated by the Centre for Development and Environment (CDE) of the University of Bern, Switzerland, and implemented jointly by CDE and a network of partner institutions in Eastern and Southern Africa. Launched in 1999 and completed in 2015, ESAPP implemented over 300 priority action projects in the programme region, which included Eritrea, Ethiopia, Kenya, Tanzania, Mozambique, and Madagascar.

What are ESAPP Highlights?

ESAPP Highlights are a series of 24 project descriptions providing insights into ESAPP's research and implementation partnerships. Each Highlight describes a succession of demand-driven priority action projects addressing local and regional sustainability issues. The 24 Highlights are collected in a publication that includes additional background information on ESAPP (see citation above). The individual Highlights and the entire publication are also available for download on CDE's website: www.cde.unibe.ch (keyword search: "ESAPP").

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