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A field course at Wondo Genet College of Forestry and Natural Resources, Ethiopia, in the 2000's. Photo Mats Sandewall.

Swedish support to forestry education in Ethiopia – what was the outcome?

- Sweden and other Nordic countries have invested a large sum of aid-money to build up forest academic education in Africa. The Norwegian support to Sokoine University of Agriculture in Tanzania and the Swedish investment in Wondo Genet College of Forestry and Natural Resources in Ethiopia are the foremost examples.
- The purpose was to build forestry competence in order to strengthen the country's forestry sector. In recent years there has been an increased emphasis on institutional development and integration in the national university system.
- The number of students attending the various courses at Wondo Genet has increased in line with educational policy initiatives, but the competition for available places in the forestry programmes has decreased in recent years.
- The forestry competence has increased at all academic levels in the country as a result of the Sida/SLU support programme. The proportion of female graduated students, which was previously very small, has increased but it is still rather low.
- Increased globalisation, integration of the College into the educational system of the country and the phasing out of the Swedish bilateral aid-programme has shifted the focus from large-scale production forestry towards other values of the forest, and increased the emphasis on a sustainable management of natural resources.
- The landscape around Wondo Genet has been drastically transformed. A new insight, that trends in society influence forest status and living conditions, has been created as a result of various factors such as deforestation, increased population pressure, land use conflicts, changing farming systems, urbanization and climate change. As a consequence, the research direction has partially changed.

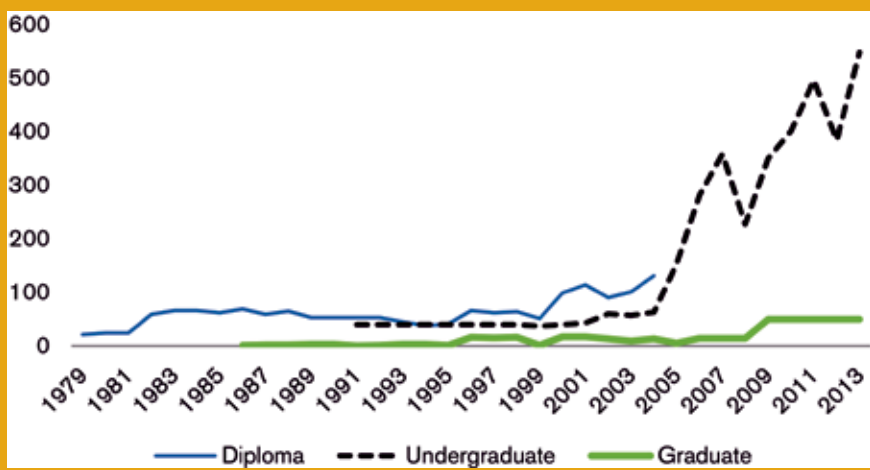


Figure 1. The number of students annually graduated at Wondo Genet College of Forestry and Natural Resources. Forestry students (BSc) graduated at Alemaya University 1990–97 are included, as well as Ethiopian forestry students on MSc scholarships graduated overseas until 1997.

■ Since late 1970's and several decades thereafter, Nordic countries have invested considerable aid funds in African forestry education. The purpose, often, was to strengthen the forest sector nationally, and its ability to control deforestation and contribute to economic development. During the period of 1973–98, Norway invested approximately 250 MNOK to strengthen the capacity of Sokoine University of Agriculture in Tanzania, whereas Sweden provided nearly 250 MSEK (1987–2009) for building up Wondo Genet College of Forestry and Natural Resources at Hawassa University in Ethiopia. The Faculty of Forest Sciences at SLU was a direct collaboration partner of Wondo Genet. By then, Sweden also contributed developmental aid in forestry to Lesotho, Mozambique and Tanzania, in addition to its research cooperation with several other African nations. However, the Ethiopian collaboration was by far the most long-term and the biggest Swedish aid program within forestry education.

In the meantime, the role of forestry in

society has been re-evaluated worldwide. Issues such as poverty, environment, climate and the role of local communities have gained an increased weight, and “sustainable use of resources” has emerged as a concept. The role of governments has been changed through privatisation reforms in many countries, while globalisation and other trends have changed the conditions for forestry. We have studied: (1) the effects of the foreign investment in forestry education; (2) how the education has been adapted to societal changes; (3) what has happened when development aid has been phased out.

Increased number of professionals

Since the 1980's, the number of graduated BSc, MSc, and PhD students has increased continuously at Wondo Genet (Figure 1). Forestry education at the BSc level in the country was started in 1987. About 15 students graduated annually from the first three batches and the programme included some courses at SLU. During the 1990's around 40 BSc's gra-

duated each year. The number increased rapidly through policy decisions and has since 2010 been approximately 400–500 per year. At the MSc level, there was no forestry education in the country before 1995, and the inflow of Ethiopian graduates with a foreign MSc exam was about 2–3 per year. The following ten years, around 15 students graduated annually in the Sida-SLU programme. Presently, about 60 MSc's graduate every year at the College. Doctoral training of Ethiopian foresters was until recently based on scholarships overseas, predominantly from Sida but also other countries in Europe and the United States contributed funding. The first PhD programme at Wondo Genet was initiated in 2012. That programme (still ongoing) is focused on forest, development, climate and bioenergy and includes 11 students. It was started without foreign funding and with limited teaching resources, but it expresses a strong ambition to build national competence.

Integration in the national education system

Academic education in forestry emerged as an initiative of developmental aid, but it has since been integrated into the Ethiopian education system and thereby influenced by an expanding education policy. There has been a strategic investment in development of new curricula, since the old ones were not considered to be able to fill today's requirements. During 1991–2008 the number of universities in the country has increased from 2 to 22. The annual intake to universities and colleges in the year 2010/11 was 460 000 students (95% of those were at BSc level with some 26% females). The attraction of forestry education has, however, decreased in favour of more urban related educations. The number of first-hand applicants in forestry is presently less than 50% of the



The densely populated agricultural landscape around Wondo Genet Campus, and its plantations, reflects common landscape trends in Ethiopia. Formerly forest-covered hills have been deforested as a consequence of expanding agriculture and firewood cutting, while cash crops have replaced subsistence farming. Photos Mats Sandewall.



At Wondo Genet, the collaboration in education and research with the local communities as well as with local/regional stake holders including NGOs has increased. Photos Mats Sandewall (left) and Mersha Gebrehiwot (right).

FACT BOX

The support to Wondo Genet

In 1978, a forestry institute was started at Wondo Genet, in southern Ethiopia, with support from Sida. Over a period of 26 years, a **two-year diploma-programme** was executed and more than 1 600 forest engineers were educated. In 2004, the diploma-programme was re-located to other parts of the country while Wondo Genet remained as the base for academic programs in the area of forest and natural resources.

Forestry education at BSc-level in Ethiopia started in 1987. Totally 44 students participated in the initial programme, of which some courses were localised to Sweden. By the time, a BSc in Forestry programme was started at Alemaya University of Agriculture in south-eastern Ethiopia. At Alemaya, there was, however, virtually no forest. As a consequence, the entire BSc programme was transferred to Wondo Genet in 1995, where competence had been built up and forest issues were more present. Wondo Genet was then included as a faculty within Hawassa University, of which the main campus is situated in the town of Awassa, 20 km away from Wondo Genet.

In 1995 an **MSc in Forestry programme** was started at Wondo Genet. During the first years, it included one semester in Sweden and the rest in Ethiopia and students were graduated by SLU. Since 2003 Wondo Genet has had the full responsibility. For some years SLU contributed complementary teachers and thesis supervisors, until the Swedish aid was entirely phased out in 2009. Besides course works and students' research, a development-oriented thematic research programme was executed by the faculty staff of the college, in collaboration with the adjacent villages and with technical support by SLU and CIFOR.

During 1995-2009 around 25 teaching staff of the college graduated with a **doctoral degree** from a scholarship-based programme. This type of education is however costly, and during the final years, a locally based PhD-education was planned at Wondo Genet. It was not started during the Sida period but was initiated in 2012, organized by the College.

available number of study places, which has led to problems with the motivation and preparedness to study among students.

New themes in education

The content of the education has gone through radical changes during the past 25 years. Initially, the "Nordic subjects", directed towards economic forest production, dominated. It mirrored the background of the faculty staff and trends in time. Later, issues related to tropical and local conditions along with new global trends (e.g. biodiversity, poverty, climate change, and the wider roles of forests) have gained more space (Table 1). This trend has been accentuated when the education has been taken over by the Ethiopian management.

Trends in the surrounding landscape and society have influenced education and research

The forest cover in the Wondo Genet area decreased dramatically during 1972-2000 from 16 % to 2.8 % (the figures could be contested). Fragmentation and deforestation have continued while the population has increased by 2-4 % annually. Simultaneously, there has been a change of cultivation systems from subsistence to cash crops, such as khat and eucalyptus. Despite

economic growth, many farmers still live in poverty. With that background a "development-oriented thematic action research programme (DOIT-AR)" was initiated. It was implemented by the College in close collaboration with local households and support from SLU and the Center for International Forestry Research (CIFOR). The initiative contributed to the insight that forest status, local living-conditions and societal changes strongly influence one another and it also improved relations with the communities. As a result, cross-disciplinary initiatives have been included in education and research. At the same time, field applications in the education, which were emphasised during the SLU period, have decreased.

Wondo Genet has been successful in phasing out the Swedish aid

When the Swedish aid was phased out in 2009, the teaching staff was pessimistic about the future of the college and how the college would sustain by itself. That pessimism has later mostly waned. The expansion of the education has resulted in job opportunities and maintaining of competence at Wondo Genet. Cooperation with foreign universities (Netherlands, USA, Germany, Finland etc.) has enabled some teachers to proceed with PhD-studies. The investment in a domestic PhD program is a sign of in-

Table 1. MSc programmes offered at Wondo Genet in 2003 and 2013, and the number of registered students (2 years).

MSc-program 2003	MSc-program 2013
<ul style="list-style-type: none"> • Production Forestry (15) • Farm Forestry (15) <p>(Totally 30 students)</p>	<ul style="list-style-type: none"> • Agroforestry and soil management (21) • Production Forestry (8) • Wildlife management (5) • Natural resource economics and policy (28) • Watershed management (23) • Climate change and development (34) <p>(Totally 119 students)</p>

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Not only deforestation and soil erosion, but also increased tree planting are seen in many parts of Ethiopia. Photo Mats Sandewall.

creased forward-looking. Improved publication rates by the faculty staff indicate stronger links to the global research community. At the same time, Sida's earlier investments in infrastructure and teaching capacity-building have been well utilized. There is, however, lack of maintenance of technical investments and laboratories. The political pressure towards "mass education" has led to a lack of resources and a worry for decreasing quality in education. PhD studies at Wondo Genet, including supervision and dissertation work, are also under risk from a decrease of resources. The efforts to attract investors and donors along with other universities in this field continue.

In Ethiopia, lacking sustainability in the use of forest and other natural resources has for a long time been highlighted as a problem. The forest sector is still fairly weak, measured with earlier standards, but it has changed in character. The relevance and capacity of education have developed. It has occurred in pace with trends in the surrounding world in order to meet the challenges of the 2000's.

A comparison between the Swedish aid to Ethiopia (1987–2009) and the

Norwegian aid to Tanzania (1987–2009), reveals similarities in setup, execution, and experiences. That includes the successive change over time from capacity-building at an individual level, towards institutional development and take-over of responsibility by the respective African partners. Another similarity is the initially strong emphasis on plantation forestry which over time has changed into more locally important roles of the forest. The last phase in the aid to Ethiopia concerning research in collaboration between teachers and the local population was unique. Ethiopia benefitted substantially from the Swedish aid in building up its own education. With the exception of a few individual initiatives by SLU researchers, Sweden had not yet by 2014 (in the way Norway did in Tanzania) continued the collaboration in e.g. forestry research with its former partner after the phase-out.

Read more

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