DEVELOPMENT DISSERTATION BRIEF

EXPORTING AGRARIAN EXPERTISE: DEVELOPMENT AID AT THE SWEDISH UNIVERSITY OF AGRICULTURAL SCIENCES AND ITS PREDECESSORS, 1950-2009

Karl Bruno

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Preface

This Development Dissertation Brief is a summary of my doctoral dissertation in agrarian history, which I defended in June 2016. As a historical study, it was not intended to produce explicit policy inputs, nor was it written with the aim of evaluating the projects and processes it analyses. I nevertheless think it is of some interest to policymakers and other stakeholders in Swedish development aid, as many of the themes and tension points I analyze arguably remain of high relevance today, particularly in rurally-oriented aid. My findings also throw new light on formative episodes in Swedish rural development aid history. This is of general historical interest, but might also challenge some received understandings about the institutional and ideological heritage of today's policy and implementation context.

Some terminological issues need to be addressed: I consistently use the term "development aid" throughout even if the Swedish-language terminology has shifted, so that *tekniskt bistånd*, *utvecklingsbistånd*, *u-hjälp*, *utvecklingssamarbete*, etc., are all translated as development aid. Similarly, I use "developing country" or "developing countries" for both *underutvecklade länder* and *utvecklingsländer* (or *u-länder*). Composite terms like *u-landsforskning* are translated according to the same principle; in this case "developing-country research." Organizations are referred to with their official English name if one exists, and otherwise with a translation of the Swedish name. Short forms are sometimes used if there can be no misunderstanding. In certain cases, an organization's acronym is conventionally used as the de facto name of the organization, and I have followed this usage as deemed appropriate, with the most prominent examples being SIDA and SLU.

I have chosen not to include any references to literature or source material in this brief; I refer to the full dissertation for that information.

Stockholm, 27 September 2016

Karl Bruno

Introduction

In August 1962, the Congress of the International Association of Agricultural Students was held at the Agricultural College of Sweden. Arne Björnberg, secretary-general of the newly founded Swedish Agency for International Assistance (Nämnden för internationellt bistånd, NIB), gave the opening address. Speaking about the risk of a global food crisis, Björnberg stated that agricultural productivity would have to increase throughout the world. While he also suggested that population control would be a necessary part of any solution to global nutrition problems, his talk primarily called on current and future agricultural expertise to act. Dealing with the looming food crisis was in a sense, Björnberg argued, "the responsibility of all of us," but in particular, it was a problem to be solved by a certain group of specialists: "agronomists and agricultural experts of aid-giving and aid-receiving countries."

Western-trained and Western-funded agriculturalists and other agrarian experts did descend upon Africa, Latin America, and Asia in the years before and following Björnberg's speech. The most well-known instance is the large-scale application of plant breeding, fertilization, and irrigation knowledge and techniques that later became known as the Green Revolution. It brought mixed results. The new technologies and methods produced large, if uneven, yield increases, and global food production rose markedly. But social unrest often followed in the wake of increased production, and while growing harvests of wheat and rice made a number of hitherto food-importing states self-sufficient, rural poverty and hunger remained. New scientific and technological approaches to agricultural development were developed in response to these equivocal early results, but malnutrition and hardship are still common characteristics of rural life throughout many parts of the world.

Conceptually, the notion of the Green Revolution suggests a radical break. As the term tends to be applied specifically to postwar, science-driven interventions in developing-country agricultures, it also suggests that this radical break took place only after World War II. But historians have argued that the Green Revolution is better understood as part of a longer historical trajectory of agricultural technoscience, starting in the late nineteenth century and extending to the present. This understanding has ramifications beyond the Green Revolution itself. By extension, it suggests that most of the history of postwar agrarian development aid can be seen as an integrated part of the longer history of the agricultural and forestry sciences. This makes the promotion of agricultural science and modern agricultural technology in new areas come across more as evolution than revolution, reflecting intrascientific continuities as well as discontinuities and changes. This is also the perspective taken in my dissertation, in which I aim to contribute to the history of science- and technology-driven agrarian development, situated in the context of the history of agricultural, forestry, and veterinary science. More specifically, what I set out to do is to analyze why and how Swedish agrarian experts engaged in postwar development work abroad.

The study is organized around the central institutions for the agrarian sciences in postwar Sweden: the Agricultural College (Lantbrukshögskolan), the Veterinary College (Veterinärhögskolan), and the College of Forestry (Skogshögskolan), which later merged to form the present-day Swedish University of Agricultural Sciences (Sveriges lantbruksuniversitet, SLU). They all played prominent roles in Swedish development aid. As early as the mid-1950s, the Veterinary College became involved in an aid project supporting veterinary education in the developing world. The Agricultural College, where Björnberg gave his speech in 1962, became a crucial actor in Swedish agricultural development aid in the mid-1960s, supporting a major science-driven rural development project in Ethiopia as well as becoming an institutional consultant to the Swedish aid authorities. The College of Forestry also began to engage in forestry development abroad shortly thereafter. The three colleges were thus not only key institutions for agrarian research and education in Sweden during the first postwar decades but also began to turn their attention to the developing world at an early stage. All three colleges also eventually signed long-term agreements with SIDA on institutional cooperation. This cooperation deepened further with the creation of SLU in 1977 and its International Rural Development Center (IRDC) in 1978, the latter being an organization created with the explicit purpose of facilitating SIDA's access to agrarian expertise.

Against this, my dissertation considers three broad research problems:

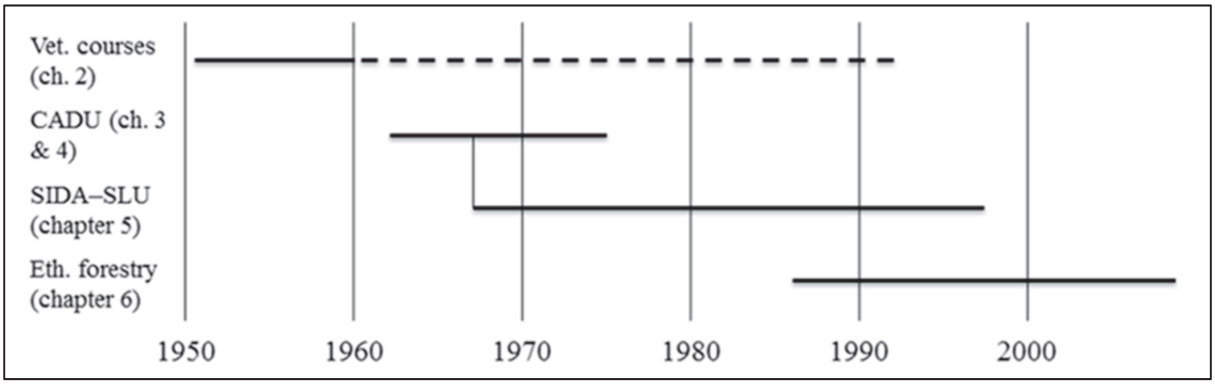
- How and why did the institutions of agrarian higher education secure central roles in Swedish agrarian and rural development aid?

- How did the involved experts approach the problem of transferring their knowledge to wholly new settings, and how did this shape the strategies and effects of Swedish aid?
- How and why was a long-term institutional coupling created between SIDA and the institutions of agrarian higher education, and what effects did it produce?

There are also further delimitations with regard to the study's chronological and topical design. The first significant aid endeavor at any of the three colleges was a course in animal reproduction for veterinarians from India and Thailand, given by Professor Nils Lagerlöf at the Veterinary College in 1954 and 1955. My chronology starts with this course and its background. In order to be able to study long-term developments and cover a range of activities, I end the study as late as 2009, when SLU's administration of Swedish support to forestry education in post-revolutionary and then post-Mengistu Ethiopia ended. This was the last—to date—major field effort in which SLU served as a consultant to the Swedish aid authorities.

The significant length of this chronology means that it has been impossible to examine and analyze every actor and activity of relevance. I have chosen to focus on those processes and courses of events that, in my opinion, have exercised the most significant influence on the general historical trajectory. Besides the veterinary courses and the support to forestry education in Ethiopia, this includes the Agricultural College's role in planning and executing the Chilalo Agricultural Development Unit (CADU) in Ethiopia in the 1960s and 1970s and the institutional collaboration between SLU and SIDA as it played out between 1966 and 1996. I have studied these more formative or significant events in detail while leaving other developments—including such aid activities in which SLU worked with other partners than SIDA—outside the scope of the study. The topics of the individual chapters, and what part of the chronology they cover, are presented in the figure below.

Figure 1. Schematic overview of the chronology of the dissertation.



Note: The dashed line indicates that the courses continued until 1993 even though my chapter is concerned primarily with the first decade. The vertical line between CADU and SIDA–SLU depicts the fact that the latter came about as a direct result of the former.

There are also two particular delimitations on an analytical level that I want to make explicit here. First, I make no claim to present exhaustive histories or evaluations of the development projects that figure in the dissertation. They are not my objects of study as such. Rather, my purpose is to understand some aspects of these projects in the context of Swedish agrarian science and technoscientific expertise, and, conversely, to understand the agrarian experts through examining the development projects they created. Second, the empirical and analytical focus is on Swedish agrarian expertise. On occasion, I bring in expert perspectives from recipient countries and the voices of the people who participated in projects as developees, but I have not attempted to write an account which is symmetrical with respect to Sweden and the countries in which her experts have been engaged. This opens up the study to criticism for upholding Eurocentric and expert-centric biases as it unavoidably leads to a de-emphasizing of local agencies and to a lack of focus on the interaction between ideology and practice, and I discuss this problem more extensively in the dissertation itself.

My primary theoretical starting points relate to two different areas of work. One has to do with the nature of experts and expertise in socioeconomic development in general, and agrarian development in particular. I present literature that portrays development experts as reductionist and anti-political, whose interventions—however well-intentioned—tends to have destructive or at least ambivalent effects. Against this, I also bring in literature that problematizes this view in the agrarian domain by showing how many agrarian experts, in various settings, have rejected reductionism and emphasized the need for adaptations of knowledge and technology. Using terminology earlier applied in the aid context by Veronica Brodén Gyberg (see DDB 2015:02), I argue that agrarian development ideologies can be characterized on a spectrum ranging from universalistic (emphasizing knowledge transfer and universal knowledge) to localistic (emphasizing local knowledge production and the development of indigenous capacities), but also acknowledge that in development contexts, both localistic and universalistic strategies have often been subsumed under a technoscientific understanding of development that, at least implicitly, has assumed the superiority of Western knowledge.

In order to characterize and explain the SIDA-SLU relationship, I also draw on theories that consider the role of experts in organizations and the provision of expertise across organizational boundaries. I argue that the long-term and highly personal nature of the SLU-SIDA relationship in the agrarian domain means that it shares certain characteristics of what historian of technology Mats Fridlund calls a development pair, and I accordingly discuss the relationship in terms of a "rural development pair." Furthermore, in order to get closer to the practice of organizational collaboration I use the notion of a boundary organization, a concept used to describe organizations with the goal of facilitating cooperation and flows of information between the academy and external stakeholders. The International Rural Development Center at SLU, the topic of chapter 5 in the dissertation, was intended to fulfill such a function.

Chapter summaries

Chapter 2 – Practical Training for Modern Practitioners: Nils Lagerlöf, India, and Early Swedish Development Aid at the Veterinary College, 1950–1960

Chapter 2 of the dissertation analyses the first development aid activity of significance at the agrarian colleges. The topic is the special training course in animal reproduction that the Veterinary College's professor of obstetrics-gynecology, Nils Lagerlöf, initiated in 1954 with funding from FAO and the Central Committee for Swedish Development Aid to Less Developed Areas (Centralkommittén för svenskt tekniskt bistånd till mindre utvecklade områden), an early predecessor of SIDA. Similar courses then continued to be arranged up until the mid-1990s. The chapter situates Lagerlöf's initial activities in the context of 1950s development aid, with its general emphasis on technology transfer as a modernizing instrument. During a mission to India as an FAO expert, Lagerlöf had reacted against this approach, which he perceived as misguided, as it manifested in attempts to rationalize Indian cattle breeding through the introduction of artificial insemination. He considered this a technology ill-suited for the prevailing conditions in India, and argued that reforms of the Indian veterinary education had to precede any introduction of new insemination techniques. The courses he came to arrange in Stockholm were, at the outset, seen as a part of these reforms, and were intended to create a new corps of Indian veterinarians with specialized training in reproduction.

Lagerlöf thus resisted what he saw as universalizing tendencies in the project of transferring knowledge and technology to the developing countries, and instead promoted local capacity-building. He was also strongly oriented to agricultural production and explicitly argued that the development of veterinary expertise presupposed an interactive relationship with farmers and their local knowledge. At the same time, his engagement was rooted in his strong interest in exporting the Swedish, practically-oriented model for obstetrical and gynecological training that he himself had developed at the Veterinary College, and though oriented to local problems, his aid project remained steeped in ideas of the ultimate superiority of the science and modernity that he himself represented. So while his emphasis on adaptation and on the need for local capacity-building suggests that he advocated a localistic development strategy, it was at the same time universalizing on a higher level: though Lagerlöf consistently argued for local knowledge production and the development of local capabilities, he had no particular interest in changing the contents of the model he wanted to export in response to what he encountered abroad.

The “universalist localism” of Lagerlöf’s aid strategies thus combined a commitment to local adaptation with a form of thinking that set strict limits on what he understood as relevant to take into account. This illustrates the difference between recognizing the need to adapt to local contexts, problems, and obstacles on the one hand, and being open to change in response to new cultures and knowledge systems on the other. The same amalgamation of production-oriented localism with centrist thinking also returns as an important feature of Swedish agrarian expertise abroad in subsequent chapters. Lagerlöf’s project differ from those outlined there, however, in the sense that he was driven primarily by individual motives and interests, whereas the later projects can only be understood in relation to institutional interests of Swedish agrarian expertise and to the creation and expansion of the Swedish development aid bureaucracy.

Chapter 3 – The Formative Moment: The Agricultural College and the Formation of Swedish Agricultural Aid, 1960–1965

Chapter 3 considers the formation of a development aid engagement at the Agricultural College in Uppsala during the first half of the 1960s. At this time, the college secured considerable influence over the planning of Swedish agricultural and rural development aid. Against the background of an increased focus on agriculture in the international development debates and the creation and subsequent crisis of a Swedish government agency for development aid (NIB, replaced by SIDA in 1965), I analyze how a link between the college and the Swedish aid authorities took shape and discuss the views on agricultural development that the former advocated. I show how interested actors at the college, most prominently its vice-chancellor Lennart Hjelm, actively sought to link the college’s work to the growing Swedish development aid as well as to the international, science-based agricultural development activities that later became known under the umbrella term of the Green Revolution. I argue that this was part of an attempt to secure a broader social and political legitimacy for the college, which was beginning to perceive the gradually decreasing importance of the Swedish agricultural sector as a threat to its institutional interests, but that it was simultaneously driven by professional and scientific interests as well as a genuine desire to provide aid.

The strategy that the college put forward, and which the aid authorities eventually accepted, built on scientific interventions in small-farm agriculture, with the stated purpose of stimulating development through the increase of staple crop production—leading to increased incomes—without reducing labor demands in rural areas. This was to be achieved through research that would adapt knowledge and innovations to local environments. The college's premise was that the lack of proper local adaptation was at the root of most earlier failures to stimulate agriculture in developing countries, whereas once the proper localized research had been performed, new innovations would be welcomed and highly effective development incentives. As they conceptualized it, agricultural development thus became primarily a problem of agricultural experimentation. This approach was the basis of the Green Revolution projects that had been going on since the 1940s. But the college appropriated the Green Revolution in its own way: though committed to the basic premise of applying agricultural science to the problem of raising farm productivity in developing countries, its representatives resisted the universalism shared by most Green Revolutionaries at the time. Although they asserted the primacy of science, they did not hold a universalistic view of easily transferable knowledge but rather argued that agricultural knowledge production to a considerable degree had to be applied and localized in order to produce usable results in new settings.

In 1964, NIB elevated a group of professors from the college, led by Lennart Hjelm and his student Bengt Nekby (both agricultural economists by training), to a working group formally tasked with drawing up guidelines for Swedish agricultural aid. They sought inspiration primarily from a regional development effort in East Pakistan (present-day Bangladesh) known as the Comilla project, the strategies of which they fused with their own understandings of agriculture. But they did not seriously consider how these methods would function when transposed to new natural or social settings. This lack of attention to the consequences of transferring an overarching strategy for development to a new location contrasts sharply with the strong awareness the group demonstrated of the problems involved in transferring agricultural knowledge, and provides important clues to the understandings that shaped early Swedish agrarian aid. While the college's professors promoted an ideology of agricultural research that prioritized what might be described as ecological particularism over scientific universalism, they remained committed to a strategy that did not particularly concern itself with social development as something else than an effect of agricultural progress. This can arguably be said to reflect how the college, in its relation to domestic agriculture, represented a kind of Swedish agricultural modernism that paid very close attention to local conditions of agriculture and to the mechanisms of agricultural change but which was much less oriented toward analyzing the social conditions of farming and the social effects of agricultural change. Stated somewhat bluntly, this modernism can be understood as an expression of a particular development ideal geared much more to serving agricultural production than to serving rural communities. The same modernism, which had room for the local but not for the social to the same extent, also shaped the planning of early Swedish agricultural aid. So even if the Agricultural College's approach to development was more technocentric, it still parallels Nils Lagerlöf's knowledge transfer project in an important respect. It is a second example of how Swedish agrarian expertise advocated a local, farmer-, and productivity-oriented approach that was nonetheless still embedded in a mode of thinking that tended towards universalizing own experiences.

Chapter 4 – Bringing Ultuna to Addis and Arussi: The Agricultural College and Swedish Rural Development Aid to Haile Selassie's Ethiopia, 1965–1974

Chapter 4 continues where chapter 3 ends, and analyses the consequences of the Agricultural College's development strategy as it was implemented in the SIDA-funded Chilalo Agricultural Development Unit in Ethiopia. I also consider how the work in Chilalo affected the college, and how it established a permanent coupling between the college and SIDA. CADU is a famous (to some infamous) rural development project which has been the topic of a number of earlier studies. My historical perspective, which clarifies its origins at the Agricultural College, is however new. It nuances the earlier work, particularly by its elaboration of the way in which the college's interests and specific forms of expertise shaped what happened in Chilalo.

As noted, the Agricultural College's development and technology transfer strategy was characterized by a strong commitment to the application of agricultural science to the problem of developing agrarian societies. It was founded on a conception of applicable knowledge as highly localized, and so the project aimed to adapt knowledge to contexts rather than contexts to knowledge. But for all this attention to the local, the planner's perspective was limited by certain technocentric biases that came with their background as experts in agricultural production and economics. They downplayed how social aspects would shape the uptake and effect of the new technologies utilized within the project. The very choices of Ethiopia and Chilalo as the location of the project were in important respects based on agronomic factors, in the face of socially disadvantageous conditions. And while the planning group—SIDA-employed but dominated by Agricultural College experts—were aware of the risks inherent in economic development that had not been preceded by land and tenancy reform, the vested interests of the Agricultural College and the planners' belief in science as a positive social force meant that they were ready to initiate the project even before any real reform progress had been made. The chapter thus shows how the Agricultural College's proposed development strategy, which rested on a kind of localism embedded in a universalistic and centrist framework, went on to shape CADU as well.

Its most clear expression, which is central to any understanding of CADU, was the gradually apparent imbalance between the in parts very successful knowledge production and the much more ambivalent knowledge dissemination. The project's research activities were able to lay the foundation for very impressive cereal and milk yields in the area. But while these new seeds and cows had the potential to lift participants out of poverty, much of the benefits in fact went to farmers that were already better off. These problems with CADU's knowledge transfer mechanism partly resulted from rigid social structures that could not be overcome, and partly from the fact that over time it became less sharply focused on local adaptations. Even when cognizant of the need for adaptations and explicitly committed to this as a strategy, the Swedish experts easily fell back into their habitual patterns of relating to an agricultural environment. This is symptomatic of a more general problem, namely that they were unlikely to have fully understood that adaptation of technologies, in its strong sense, implied an extensive mobilization of local people in the adaptation process and the use of methods beyond the standard repertoire of experimentation and extension.

Another expression of the centrist localism is the project planners and managers' underestimation of the extent to which different parts of Chilalo society would be able to actively appropriate selected parts of the project's message. The clearest example is that while the project attempted to spread knowledge using model farmers and demonstration plots, the idea that the project's own mechanized seed production farm could also function as a model to another group of actors was seemingly never taken into account. Ultimately, this meant CADU came to fuel a rural transformation that looked different from the one envisioned and intended. Though I show that some negative social consequences, including evictions of tenants, must have been expected, the speed and scale of the transformation caught the project off guard. The obvious and well-publicized negative impact on some of the poor farmers in Chilalo, who were forced off their land, then problematized CADU's status in the context of an increasingly activist Swedish aid program, and the project narrowly escaped cancellation in 1970.

In the chapter, I thus argue that both CADU's successes and its failures can be understood as consequences of the encounter between the overall strategy developed at the Agricultural College and the Ethiopian natural and social environment. Under the prevailing conditions in Chilalo, this strategy stimulated a socioeconomic change that in several respects diverged from the one intended. This is not to say that the original idea of development through the creation of economic incentives for small-holding farmers was necessarily flawed as such, but once committed to this strategy and to the Ethiopian location (which, to some extent, was necessary for its technically successful implementation), there was probably little the project could have done to avoid negative social effects. And from the perspective of Hjelm, Nekby, and their colleagues, their help to self-help strategy was the only viable road toward development. It was also, as they clearly appreciated, necessary in order to legitimize the central role of the Agricultural College in a field project.

Chapter 5 – The Rise and Fall of the Rural Development Pair: The Institutional Collaboration between SIDA and SLU, 1966–1996

In chapter 5, I consider the institutional collaboration between SLU and SIDA that grew out of the Agricultural College's engagement in the CADU project. This collaboration was of particular significance in the 1980s, when SLU's International Rural Development Center functioned as a permanent institutional consultant to SIDA's agricultural division (Lantbruksbyrån). I describe the SIDA-SLU relationship in terms of a "rural development pair," which plays on historian of technology Mats Fridlund's research on the relationship between major Swedish industrial companies and government agencies during the twentieth century. The term is intended to highlight the relatively long existence of the SIDA-SLU relationship and the importance of interpersonal relationships in upholding it, but also to indicate the constitutive role it played in Swedish agrarian and rural development aid. The recruiting, documentation, consulting, education, and other functions of IRDC were, for some time, highly important to the realization of Swedish aid in this domain. Significant parts of this aid were in fact co-produced by SLU and SIDA, from the CADU project and through the 1980s. But this came at a cost of an increasingly diffuse boundary between the two and a mix-up of the respective roles as principal and agent that, from SIDA's perspective, became increasingly problematic. In the 1990s, the relationship was reconfigured and then came to an end, although other parts of SLU continued to function as consultants to SIDA (see next chapter).

The rise and subsequent fall of the rural development pair illustrates general changes in Swedish development aid and in the organizational landscape of the Swedish agricultural sector. The pair came about in a context where Swedish development aid was new and mostly administered by SIDA directly, where an older ethos of mutual support still existed among government agencies, and where the number of commercial firms offering expertise relevant to agrarian development aid was limited. By the early 1990s, this context no longer existed. Having gained more experience of aid, and as a response to changing trends in the international aid debate, SIDA began to focus less on directly production-oriented efforts and also largely withdrew from the direct administration of field projects. At the same time, the increasing emphasis on procurement routines and formalized relations that came with the growing influence of New Public Management left no room for arrangements such as the permanent connection between SIDA and IRDC, which built on long-term financial commitments that were difficult to change in response to shifting needs. IRDC, which had largely failed at selling its services to other clients than SIDA, then saw its financial base disappear. But as the relationship with SIDA fell apart, SLU was able to draw on its long experience with international development to secure money and instructions from the government to realize another long-standing goal, namely, the creation of a department of rural development and the appointment of three professors responsible for research and education in the field.

These developments can be described in terms of academic drift. Contextual changes led to developing-country work at SLU losing its close ties to the practice of rural development aid. Instead it became associated with academic practices and value systems, so that in the 1990s, SLU became more concerned with teaching and studying rural development rather than participating in it. This implies that SLU lost the practice-based agrarian expertise that had been gathered at IRDC, but which by the mid-1990s was in much less demand in the context of Swedish development aid. In this respect, the closure of IRDC marks a breaking point: Nils Lagerlöf's courses, the Agricultural College's support to CADU, and most of IRDC's consulting activities had all been closely bound up with practical expertise and had emphasized direct connections with agricultural production. This lost institutional ground when academic activities became more important. These developments also mirror those at the university as a whole, which was—and, to a degree, still is in the twenty-first century—likewise struggling with the tension between the ideal of direct service provision on the one hand, and its academic identity on the other.

Chapter 6 – Silvi-Cultural Encounters: SLU and Swedish Forestry Aid to Ethiopia, 1986–2009

In chapter 6, I analyze the SIDA-funded support SLU provided to the development of higher forestry education in Ethiopia during the 1980s, 1990s, and 2000s. SLU's Faculty of Forest Sciences became involved with SIDA's support to the Ethiopian forestry sector in the mid-1980s, and a more thorough institutional cooperation with Ethiopian education and research establishments started after the fall of the Mengistu regime in 1991. This continued until 2009, when SLU concluded its engagement in the Wondo Genet College of Forestry, which by then had developed from a small forestry institute to an academic institution independently providing bachelor's and master's degree education in a broadly defined field of natural resources management.

The most characteristic feature of SLU's attempt to teach forestry in Ethiopia was an emphasis on forestry education as a partially practical activity. This clashed with natural conditions in deforested Ethiopia, where there were few areas of continuous forests suitable for the practical training SLU considered crucial. This was particularly problematic with regards to SLU's proposed support to the new forestry faculty at the Alemaya University of Agriculture (AUA). Alemaya had no forests at all and thus afforded little opportunity for on-site exercises. This was not a problem for the Ethiopian policy-makers, who conceived of the forestry degree as theoretical as well as general enough to be co-read with agronomy students during the first two years. Nor was it a major issue for AUA's dean of forestry, who believed that Ethiopia was better served by another kind of forestry education that was more geared to agroforestry. But it was a problem for SLU, which was never fully satisfied with Alemaya as a location for forestry education as its experts understood it.

This reflects how the Swedish model of such education, which shaped most of SLU's work in Ethiopia, had developed in a context where forests were an important economic resource and where easy access to forests was available to all who were interested. It rested on the belief that familiarity with practical forestry work was important on all educational levels and so required some practical experience for admission even to the five-year forester course. Consequently, most applicants to academic forestry education in Sweden had had early exposure to forest environments and were interested in outdoor activities. The situation in Ethiopia was completely different. There was little forest industry to speak of, no history of forestry education, and generally a strong focus on theory over practice in related applied science fields like agriculture. Thus, SLU's involvement in Ethiopian forestry provides another example of the approach to development that we encountered in the earlier chapters. Though it strived to build local capabilities and was practice-oriented, it rested on a form of universalist thinking that manifested as clear limits on what could and ought to be adapted.

The particular example of forestry deserves some further attention because Swedish authorities have been very explicit in promoting the Swedish forestry model as relevant to the developing world. Success narratives of forestry as key to last century's rural development in Sweden have functioned as a basic ideological premise of Swedish forestry but have also legitimated the export of Swedish forestry knowledge to the rest of the world. This was made explicit in the Swedish government's 2011 forestry sector action plan, called *The Forest Kingdom – With Values for the World*. It updated older success narratives with the balance between production and environmental goals that characterizes the current national forestry policy. In addition, it stated as an explicit goal that "Sweden will spread knowledge [globally] about the Swedish model and sustainable forestry and thus contribute to increased poverty reduction and the fight against global warming." My dissertation demonstrates some characteristics of this Swedish model as applied abroad in the decades before The Forest Kingdom, and arguably highlights some risks inherent in this kind of ideology.

During the 1990s and beyond, SLU increased its efforts to take the local context into account when designing its training programs. But the tension between the Swedish education model and conditions in Ethiopia nevertheless proved impossible to resolve. As the academization in Ethiopia continued and the forestry education moved to Wondo Genet, the gulf between practice and theory grew rather than shrank. By the early 2000s, Swedish visitors and staff were distressed at the inadequate attention paid both to practical education and to the practical management of the college's forest resources. In the final stages of the aid program, SLU then somewhat belatedly pushed for the implementation of a stakeholder-mobilizing action research project, which in many ways was pioneering but got off to a slow start and was then phased out when Sida's support ended in 2009. Though an original approach within the project and a reflection of contemporary priorities for Swedish forestry aid, it also drew on older Swedish ideals of science as service provision. But its implementation, in part as a response to forest management issues, reveals that the aid program had generated results never intended by SLU, which had always promoted a vision of academic forestry education based on a combination of theory and practice. In the end, SLU's experts found themselves in a paradoxical situation: they were in favor of both academization and practical training, but these were two goals that turned out to be very difficult to combine under the conditions of their Ethiopian encounters. Thus, in retrospect, SLU's push for academization can be judged to have been successful in the sense that it constituted a crucial part of the creation of an academic forestry education and research environment in Ethiopia. But in terms of creating a faculty founded on the forestry education values SLU had championed throughout the project—and this was in a sense the more important goal from SLU's perspective—it was less successful.

Conclusions and implications

At the present moment, there are indications that agrarian questions are returning in force to discourses on global development. Agriculture is afforded a prominent role in the new Sustainable Development Goals that the United Nations is spearheading, and a recent report by the World Institute for Development Economics Research establishes the centrality of agriculture for economic development in Africa. Significant space is also devoted to agriculture in the recent proposed policy framework for Swedish development aid drafted by the Ministry for Foreign Affairs. These developments all call for insights into the institutional and ideological background of agrarian development, such as the ones provided by my study for the particular cases of SLU and SIDA. This is particularly so, I would argue, as the main thrust of earlier historical research in this field is directed towards colonial agrarian development. This means we have little direct insight into the relationship between the development ideologies promoted by Western corps of experts and the more recent transformations of agrarian problems in the West itself, with a new diversity of values encapsulated in notions of sustainable management of natural resources, ecosystem services, and the like, that has replaced earlier, more straightforward production-and-profit approaches to agriculture and forestry.

The findings that I have summarized above add up, I argue, to a new and more nuanced understanding of agrarian expertise in postwar development aid. They demonstrate how closely such aid, at least in the Swedish context, was bound up with institutional concerns over the future of agrarian expertise, but also how much of the expertise nevertheless failed to reinvent itself as agrarian as well as bureaucratic contexts changed. They also show how the experts that planned and implemented much Swedish agrarian aid, though characterized by a strong attention to local environments, were caught up in a more general form of universalist thinking that made them ill-prepared to recognize the intrinsic connections between the natural and the social. On a more general level, my dissertation thus also reads as a demonstration of what tends to happen when scientific rationality is efficaciously put to work in a new environment. Its effects then are often simultaneously productive and destructive.

I will conclude this brief by moving beyond these more general conclusions to a slightly more detailed discussion of two aspects of my findings that I think can be particularly relevant also to present-day policy-making: the nature and relevance of different kinds of rural development expertise, and the way in which the boundary between SLU and SIDA was set up and managed.

Agrarian development expertise and strategies

The development strategies advocated within the three projects I have studied shared enough characteristics for me to propose that they manifest an underlying ideology of agrarian development, linked to and dependent on what I earlier described as a Swedish agricultural modernism, that was shared in and reinforced by the rather close-knit networks of experts associated with SLU. Its core components were a practical, productivist orientation and a local focus combined with a comparative inattention to social concerns and a tendency to universalize Swedish experiences. The focus on the local and the practical contributed to the many technical successes the three projects achieved. Most notably, CADU's bringing about of a local Green Revolution in Chilalo was directly due to the importance that the Agricultural College afforded to local, applied, and adaptive research work.

I believe there are two clear lessons that can be drawn from my findings as pertains to this ideology. First, if science-driven agrarian development assistance is to be provided, then my findings suggest *that local and practical perspectives are of central importance*. For example, a project like CADU can be justifiably criticized in a number of ways, as indeed it was in its own time and occasionally still is today. But however much its top-down approach and technocentrism made it problematic and led to negative consequences incompatible with the stated goals of Swedish aid, its fundamental premises of poverty reduction and support to small farmers through self-help by means of carefully adapted interventions still made it a more positive project than many, perhaps most, other attempts at the time. This crucially hinged on the importance afforded to the local by the designers at the Agricultural College. And local and practical perspectives will be as important, if not more, if new development strategies move away from highly fossil-fuel-dependent strategies to more ecological and energy-sustainable approaches.

But at the same time, this calls for *strong commitment to a thorough form of self-reflection over the limits and lacunas of one's expertise*. I do not wish to suggest that it per definition is a bad idea to promote Swedish models abroad, as, for example, with the case of the Forest Kingdom. On the contrary, it is necessary to choose the model one is familiar with as a starting point for a knowledge transfer effort (and it also seems clear from my findings that Swedish agrarian experts historically have promoted development strategies they genuinely believed were better than alternative approaches). My point is rather that it can be very hard to critically examine and adjust the fundaments of one's own professional identity and knowledge base and that this needs to be taken into account as much as possible, both by the experts themselves and their principals—who arguably will also be in a better position to consider the possible effects of vested institutional interests of the kind that shaped much of the aid I analyze in the dissertation.

My emphasis on the importance of localized and practical knowledge should not be taken as an argument against more academic forms of aid at universities like SLU. It is not an inevitable conclusion that academization precludes a focus on the practical and the local. However, the more academization becomes a matter of ideology, the more cause for concern there is about the possibilities of uniting a very strong academic focus with a practical, local, and utilitarian orientation. The example of Wondo Genet demonstrates some of the problems that could conceivably arise. Though I have not discussed it in this brief, at present there is a pronounced academic focus of SLU's ongoing development cooperation activities that also reflects an accelerating, though not uncontentious, academization of the university as a whole at present. This process ultimately makes it an open question as to what extent local and practical perspectives will remain strong enough at SLU to exert any influence over future development-related activities. On a more general level, it points to the need for coherence: SLU is the central institution for the creation of agrarian expertise in Sweden. If parts of Swedish development assistance are to be geared to agriculture and forestry, then SLU also needs to be able to supply relevant expertise, and this calls for an open discussion on the nature of such relevance.

Boundary management

The relationship between SLU and SIDA was a defining characteristic of Swedish agrarian aid up until the early 1990s, but it was fraught with problems that resulted from the fact that both parties had entered into the collaboration strongly motivated by their own institutional interests even as the relationship could not be but fundamentally uneven.

There are, I believe, lessons that can be learned from this that are relevant for Sida's work with consultants today.

My characterization of the relationship in terms of a rural development pair highlight the positive way in which it undergirded much of Sweden's agrarian aid, but draw attention to more problematic aspects of the relationship as well. One such aspect is the close interpersonal relationships that existed between staff at IRDC and at SIDA's agricultural division, often going back to CADU or even to the student life at the old Agricultural College, where many of the agricultural division's decision-makers had also been trained. The general closeness of the relationship, drawing on experiences from CADU and reinforced by SIDA institutionalizing SLU as a major and permanent consultant, created a situation of mutual dependency in which the agricultural division was reliant on SLU's expertise, and SLU was dependent on SIDA financing its developing-country-related work. An external review of the relationship, published in 1990, was fiercely critical of this, and particularly of the informal contacts between IRDC and SIDA and the mixing up of roles that these contacts led to. "SLU had become," the reviewers noted, "a general resource base from which, for example, staff were recruited or 'borrowed' to posts at LANT [the agricultural division] or as field personnel at various SIDA offices, while being continuously employed by SLU." They further noted that it was difficult to get an "overview of a cooperation which is largely unspecified and concerns a large number of often small, nonformalized assignments," and considered it a serious problem that it "is often impossible to discern SLU's position and role in different types of commissions." They especially disapproved of what they understood as instances in which SLU designed and planned projects that it then secured a commission to manage, and used the forestry education project in Ethiopia which had started in 1986 as a principal example.

It is perhaps not very original to conclude that *such mutual dependencies ought to be avoided between Sida and its consultants*. More interesting, I think, is that my findings show how they, in this case, developed out of strong institutional interests on both sides. As I discuss primarily in chapter 3, the Agricultural College (and later SLU) had their own reasons to want to claim a role in Swedish development aid. SIDA, for their part, needed access to external expertise to realize its own objectives as a government agency (which I discuss primarily in chapter 5). As long as these interests were reasonably congruent, the cooperation proved beneficial to both sides: SLU could expand its developing-country activities, and SIDA got easy access to the expertise it needed to carry out and expand Swedish rural development aid. But when the interests no longer were congruent, the collaboration imploded in way that, arguably, created a long-term counterproductive lack of trust between SIDA and SLU.

I have already hinted as the reformulation of agrarian problems as causing the lack of congruence, but this now needs to be addressed in slightly greater detail. After the global yield increases effected by the Green Revolution in the 1960s, rural poverty largely replaced the food crisis as the overarching challenge agrarian development aid was to meet. Stimulating the production of food as well as other crops remained, however, centrally important to the poverty-focused rural development programs of the 1970s and 1980s. But the late 1980s then saw a shift away from rural development toward environmental goals. In 1983 the Brundtland Commission's report made environmental challenges an important part of the international development debate. It popularized the notion of sustainable development, which soon became integrated into the aid discourse. Subsequently, in 1988, the parliament introduced an environmental objective for Swedish development aid. As a consequence, environmental issues came to eclipse agrarian questions on SIDA's agenda, and LANT gradually changed its orientation and eventually also its name, becoming the Natural Resources Management Division (Naturbruksbyrån or NATUR). This reorientation was not limited to the aid context but is best understood as a broader trend in Western countries, in which older agrarian problems—focused primarily on production for profit—were eclipsed by new and broader ones that called for novel forms of expertise. An important turning point came in 1993, when the government bill on research gave SLU new goals coached explicitly in sustainability and simultaneously divested it of responsibility for the task of closely production-oriented experimentation. The contemporaneous decline and fall of the SIDA-SLU institutional cooperation was, at least in part, a reflection of the same broader process of reconfiguring agrarian expertise in Sweden. In this sense, SIDA's 1988 environmental goal is mirrored in SLU's 1993 goal of contributing to the sustainable use of natural resources.

In operative terms, this shift meant that Swedish rurally-oriented aid began to leave its earlier productivist inclination behind. With the shift toward explicitly environmental goals from the end of the 1980s, the problems SIDA wanted to solve became increasingly distant from agricultural production. Yet the consultants at IRDC were unable or unwilling to reframe their expertise to meet these new demands, and this undermined SIDA's general interest in the rural development pair and in working broadly with SLU (though the major forestry education project in Ethiopia, organized in collaboration with the forestry faculty rather than the central IRDC, continued). SIDA, of course, had to turn to new partners when concluding that SLU no longer could meet its needs, but to some extent this also amounted to throwing the baby out with the bathwater. The end result was that the practical consulting competence that had been gathered at SLU was dispersed, and that the relationship between SIDA and SLU deteriorated and has since struggled to recover. Especially the latter has been unfortunate, given that SLU remains a crucial center of expertise in the agrarian domain.

In conclusion, the principal problem with the rural development pair was its absence of clear boundaries, resulting from good interpersonal relationships going back to CADU and from a particular organizational setup in which IRDC at SLU was to a considerable extent conceptualized as a branch of SIDA rather than as an independent organization. Such boundaries need to be upheld and managed better. The findings thus suggest that while *long-term capacity building relationships between Sida and external consultants has the potential to be very valuable*, such relationships *need consistent boundary management*.