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FSS MONOGRAPH SERIES 2

**ENVIRONMENTAL CHANGE AND
STATE POLICY IN ETHIOPIA:
Lessons from Past Experience**

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Preface

The essays collected in this volume were written between the first half of 1997 and the end of 2000. The first chapter is a slightly revised version of an article I published in the special issue of *Journal of Ethiopian Studies* (Vol. XXXI, No.1, 1998), which was devoted to the subject of environment and social change in Wollo. Most of my research on the environment was carried out in Wollo between 1994 and 1997 as part of a major collaborative research project funded by the MacArthur Foundation and sponsored by Addis Ababa University and the University of Illinois at Urbana-Champaign. Earlier drafts of Chapters 2 and 3 were presented at the University of Illinois' spring symposia in 1998 and 1999 respectively. The last chapter is a revised version of a paper delivered at the International Conference of Ethiopian Studies held in September 2000 in Addis Ababa, and written as part of my contribution to the debate on the environment which the Forum for Social Studies is promoting at present. Except for the first one, none of the other chapters have previously been published. I have reworked all the chapters to make them relevant and meaningful to the general reader.

There are three main reasons why I decided to publish these studies now. First, I am rather disappointed by the quality of the local debate on the changing environment in this country. There is so far no serious attempt to examine the subject critically and in depth, and all too often what passes for analyses are superficial discussions based on ideas borrowed indiscriminately from other experiences. There is very little effort to adapt new ideas to Ethiopian reality. Secondly, there is a tendency in the existing debate to put the blame on the land user for the growing problem of environmental degradation. As I try to show in the pages that follow, this is unjustified though I do not wish to suggest that the land user is blameless or that indigenous knowledge alone is capable of reversing the degradation process. The frequent assertion that if only the farming population would give up its "traditional" practices and adopt modern technology all our problems would be solved is shallow and unconvincing. Thirdly, I strongly believe that without an extended pub-

lic debate on the environment the chances for sound policies and effective programs will be very small. There is so far only limited public debate on the subject and, while I recognize the attempt of the small but growing number of advocacy organizations as well as the Environment Protection Authority, I am not convinced there has been sufficient effort to promote public awareness and to mobilize public concern.

Let us hope that in the years to come the environment will become a critical issue of national concern and that civil society as a whole will actively take up its cause. This short study is meant as a modest contribution to that endeavor.

Note

Acronyms and references are given at the end of each chapter.

Chapter 1

Changing Landscapes and Environmentalism in Wollo before the Revolution

Introduction

There has not to my knowledge been a serious attempt in this country to establish an indigenous tradition of environmental thought and to examine it critically and in depth. While the debate on the Ethiopian environment has been going on since the early 1980s, there are as yet no local environmental historians and no effort to document the intellectual and physical response of the literati or the land user to the changing environment. Such a task would be long and painstaking and would require not just reading all sorts of local documents and hagiography, but also examining the oral literature and interpreting the practical knowledge of the rural population. This short study is a modest contribution to the debate on Ethiopian environmental thought.

The influence of Western ideas in shaping environmental thought and policy in this country is fairly well known and needs no retelling here. These ideas were filtered through the major donor agencies that were associated with the country since the 1950s. Coupled with this influence has been the view, expressed in a variety of ways by donor-sponsored specialists, academics and others, that there is no tradition of environmental care in the country, and that, on the contrary, there has been a long history of reckless natural destruction and mismanagement of land resources. The literature emphasizes the immense loss of the vegetation cover in the Ethiopian highlands brought on by wanton misuse, with hardly any reference to the countless peasants and concerned individuals who have made efforts to care for the soil and the landscape in their own way.

This chapter will present a different argument, namely that there was an indigenous tradition of environmental concern

and conservationism, and that this tradition, though rudimentary and often over-shadowed by the opposite, anti-conservationist tradition, was strongly grounded in pragmatic considerations. I shall examine the conservation efforts of a few individuals in Wollo in the 1960s, at a time when neither the imperial government nor the donor agencies providing development assistance to it had shown any serious interest in environmental management programs. The overriding concern of these "conservationists", who I consider to be part of the nativist environmental tradition, was the danger posed by natural degradation and the loss of valuable resources. While the work does not provide the full flavor of local environmentalism, it is useful both for its own sake and as a contribution to the construction of an indigenous environmental thought.

The study is based on archival sources, written evidence, and interviews with a number of key informants. I have not attempted to explore the environmentalism of peasants as reflected in local farming and land management practices, or expressed in oral tradition. Such an undertaking, while essential for a deeper understanding of local environmentalism, is beyond the scope of this paper. I have relied heavily on the work of *Dejazmach* Mammo, who was the chief *Enderassie* of Wollo¹ in the period under discussion, and who is the chief protagonist in this work. The archival records of the Ministry of Interior, and of the provincial office of the Ministry of Agriculture in Dessie have been very valuable. I have also made use of some of the findings of the field work which I conducted in three sites in what was then Ambassel *awraja* in 1995 and 1996. These three sites, which were selected as part of the project entitled "Environment and Social Change in Wollo", a multi-disciplinary research effort which was undertaken between 1994 and 1999, consisted of Boru Selassie (a *degga* area north of Boru Meda), Gobeya, near Lake Haiq (a *woyna-degga* area), and Gerba (a *qolla* area on the Kombolcha-Bati road, some 30 kms from Kombolcha). Much of the fieldwork consists of extended interviews with key peasant informants.

¹ For Wollo's provincial administration before the Revolution and the work of the *Dejazmach* as chief executive there, see Dessalegn 1996.

The archival records used here will be deposited with the IES Library when the Wollo project is completed.

The Physical Profile of Wollo

Wollo province² is bisected by the Rift Valley, to the west of which lie the rugged terrain of the *awrajas* of Wadla Delanta, Wore Himeno, Borena and Wore Illu; to the east, beyond the bottom of the escarpment, are the dry lowlands which are used mainly for grazing purposes. In broad terms, the province is drained in a westerly and easterly direction. The Beshilo River and its tributaries cut through the highlands of the western *awrajas* to join the Abbai River on the southwestern border of the province, while in the northwest, the province is bounded by the Tekezze River. On the other hand, the Awash River, with its tributaries flowing from the escarpment, drains eastwards into the Danakil desert. High plateau, rugged mountain chains, and steep slopes are characteristic of northern, western and central Wollo. In the 1960s, the natural vegetation of the province consisted of isolated pockets of forests in Borena and Wag *awrajas* on the one hand, and in the central *awrajas* of Ambassel, Dessie Zuria and Qallu on the other; patches of acacia woodland were also to be found scattered in many areas. Wollo has only a few large forests, and the vegetation cover, especially in the higher elevations, has almost completely been removed (for more on the vegetation and ecology of Wollo, see Dessalegn 1991: Ch. 3, and the bibliography in it; what follows is also based on "SIDA Welo" mission reports of 1987.)

Some 25 percent of the land area of Wollo consists of very steep slopes, with gradients of 50 percent or more; another 30 percent is land with slopes of 25-50 percent. In contrast, only about 15 percent of the province is made up of bottom land and level plateau where the bulk of the farming activities takes place (SIDA). Given such rugged landscape, slope cultivation is unavoidable and has been practised for many generations. With growing land scarcity, more and more hillsides have been cleared of their vegetation cover and turned into farms; cultivation has even been pushed up into the high *wirch* zone: farm plots are to be found at altitudes of 3500 meters above sea level

² The administrative division of the country has been changed numerous times and this has created problems of identification. I shall use the administrative division employed in the early 1980s. Wollo refers to both north and south Wollo, with Dessie as the provincial capital. See Dessalegn 1996 for more details.

(*masl*) or sometimes higher. However, in the 1960s, the great majority of the population was settled on the highlands between 1800 and 3000 *masl*, with the greatest concentration in the middle range of these altitudes. The cultivated area of Wollo constitutes less than 10 percent of the total area of the province; this compares unfavourably with the high population density of the area. Much of the cropped land is located in the high plateaux of the western and northern *awrajas* (the latter being Wag and Lasta), and in the gentle slopes and bottom land of the Rift Valley.

The Wollo highlands are on the leeward side of the main rain-bearing winds and thus receive much less precipitation than the highlands in western Ethiopia on the same latitude. In favorable years, Wollo has two rainy seasons, *belg* and *meher*. However, rainfall is frequently unreliable, especially in the northern and eastern *awrajas*, and on many occasions the *belg* rains may fail completely, and the *meher* rains may be short. This has been the process by which droughts and famines have been triggered for countless generations. Rainfall variability increases from west to east hence the most drought-prone areas of the province are frequently the central and eastern *awrajas* (SIDA 1987). In the middle and higher altitudes, the main crops grown are teff, barley and wheat. These crops require high inputs of labor and involve farming practices that tend to induce soil erosion. On the other hand, sorghum and maize, the major crops cultivated in the middle and lower altitudes, require less labor, are more soil-friendly, and give rise to less erosive action.

The population of Wollo was estimated to be 2.2 million in the mid-1960s (CSO 1967), with Lasta *awraja* the most populous, followed by Borena and Ambassel. These three *awrajas* were also found to be the most intensely farmed. Average holdings in the province as a whole at the time was less than one hectare, though in some of the western *awrajas* the figure was slightly higher. CSO's survey indicates that share tenancy was widespread, and the most common form of tenure at the time was *gebbar* tenure. The local gentry, a class of landed interests which were firmly entrenched in *woreda* and *awraja* administration before the Revolution, were a dominant force in rural Wollo (Dessalegn 1996). Some of the more powerful gentry had a strong penchant for appropriating common property resources

such as woodland and pasture, which may explain the breakdown of the tradition of community management of such resources.

Environmental Degradation

The archival evidence shows that pandemics and widespread cattle disease were frequent occurrences in Wollo in the decades of the 1950s and 1960s. In the 1950s, for example, recurrent pandemics and cattle disease took a heavy toll of human life and livestock in most parts of the province, while in the 1960s, the population continued to be exposed to serious health hazards, and deaths from epidemics were high (Dessaiegn 1996). Similarly, drought and famine have devastated the population on numerous occasions since the 1930s (see Dessaiegn 1994). The famines of 1957/58, 1964/66, and 1973/74, to mention only those relevant to us here, brought serious suffering to the Wollo peasantry. The consequences of widespread and recurrent health and food crises on the social and economic fabric of rural society are too well known to need recounting here. Apart from large-scale human tragedy and the destruction of property, such crises often led to environmental degradation and the loss of valuable natural resources.

Wollo's recurrent environmental crises have been attributed to deforestation and large-scale land degradation. Furthermore, poor farming practices, and reckless destruction of the natural vegetation have been identified as significant causes of degradation. To this has been added the demographic argument, namely that population growth, which in Wollo is believed to have been going on since the beginning of this century, if not earlier (McCann 1987), and the consequent increase in the demand for food, has pushed cultivation into the more marginal and more fragile ecosystems; the same processes, it is argued, has led to the shortening or abandonment of fallow. The result is greater exposure of the land to the forces of erosion, and greater loss of soil fertility. The demand for more animal fodder, and more fuelwood and timber, the argument goes, put more pressure on the remaining forestry, accelerated soil erosion, and gave rise to changes in micro-climate (McCann; EHRS 1984). These arguments were the basis for the environmental policy of the Derg, and the massive mobilization of resources for land re-

habilitation and resettlement in the 1980s.

According to EHRS estimates, the Wollo highlands lose 0.5 percent of their soil annually through erosion; this translates into a 3 percent reduction in annual crop yield. The Soil Conservation Research Project (SCRP), a Swiss funded project attached to the Ministry of Agriculture, had an experimental research station in Maybar, some 50 km south of Dessie. Here it carried out soil erosion tests from the early 1980s to the early 1990s. According to its findings, soil loss in this moist *degga* area was in the range of zero to 119 tons per hectare per year, depending on slope gradient and vegetation cover. On medium to high slopes, untreated plots showed high rates of erosion while erosion rates were below the tolerance level on the same plots when they were covered with vegetation (SCRP, annual reports).

However, as Sutcliffe has shown in a recent study, neither the EHRS figures nor those of the SCRP are fully credible. The data from the former source are based on questionable estimates, while the latter's findings are based on micro-plot tests which are then extrapolated onto a larger catchment area; this gives an unfounded and exaggerated impression of the magnitude of the problem. This does not mean that land degradation is not a serious problem in Wollo. It certainly is and has been for many decades, but the problem is a complex one, and the simple attempt to quantify it, while useful in itself, tends to distort the picture and lead to unsatisfactory conclusions.

The conventional literature on the subject holds the peasant responsible for land degradation and the environmental crises that have devastated Wollo in the past. The standard argument linking degradation with the actions of rural households has been summarized above. Some sources, such as SCRP, have further argued that peasants are ignorant of the processes of degradation and are unwilling to adopt conservation measures, thereby aggravating the loss of environmental resources. I shall argue instead that in the 1960s the forces behind large-scale land degradation in this country were many and varied, and to hold the peasant responsible is both one sided and unjustified. Indeed, a significant player in the degradation process, one that is frequently and conveniently ignored, was the govern-

ment itself. I submit that government rural policy at the time, in particular policy related to rights to land and environmental resources, has contributed significantly to environmental degradation. Indeed, it may even be argued that the worst enemy of environmental protection programs in this country, was not peasant agriculture, nor population pressure, but the government itself.

The question of environmental degradation cannot be examined adequately without looking at land tenure issues, however to try to discuss the land system in Wollo in the 1960s will us take too far from our subject (see Dessalegn 1996 for this). I shall therefore restrict myself to a brief look at some of the main features of the system that have a bearing on the subject at hand. What is striking about the land system during the imperial regime was the frequent changes in tenure affecting large tracts of land in many parts of the province. Land was reclassified from one tenure form to another by imperial order, through the pressure of owners or landlords, or on grounds of tax defaults. This meant that tenants operating such lands were faced with the threat of eviction or higher contractual obligations. Such changes had been going on since the mid-1940s, and had been a cause of discontent by farming communities as well as the local gentry all through this period.

Imperial land policy in Wollo promoted an insecure tenure system and discouraged both tenants and owners from making long term investments on the land. In both tenancy and *rist* areas, for example, there were few incentives to establish individual woodlots. There was no guarantee in fact that trees planted by the peasant would not be harvested by the landlord in the event the former was evicted from his plot. Security of tree tenure was not clearly recognized in law, and customary rights were increasingly losing their force with the greater centralization of political authority by the imperial state. Indeed, customary rights over common woodlots had long fallen into disuse, and such woodlots had often been claimed by powerful landlords. These developments should be seen against a background of growing land shortage which was making itself felt in this period, with large numbers of Wollo peasants migrating to other parts of the country in search of employment opportunities.

State natural resource policy was also responsible for aggravating the process of land degradation. The imperial state laid claim to all "unutilized" land, land that had no "legal" owners, and all forests, lakes and river systems. The designation of "unutilized" land or land without legal ownership was a cause of friction between communities and the government all through the life of the imperial regime. Hence, to deny the state rights over a given piece of land, individuals cleared it of vegetation and ploughed it up. Large tracts of pastureland, land that was fragile in nature, and forestland were put under the plough in this manner in the 1950s and 1960s. Forestland in particular was under constant pressure in Wollo, especially in the 1960s: landlords, the landless, the land-hungry -all wanted to cut down the trees and turn the land into farms.

There were several incidents of large-scale deforestation in Wollo, which have contributed to the process of environmental degradation. Many of the peasants I interviewed in our research sites remembered the deforestation that occurred at the time of the Italian occupation. Large tracts of slope land, which hitherto were used only for grazing purposes, were cleared of their forest cover and turned into farm land; encroachments on protected woodlots owned by big landlords also took place. According to my informants, the deforestation took place with the encouragement or tacit approval of the occupation authorities. The motive of the Italians was probably to win popularity among the rural population, and to dispossess some of the landed classes who they thought had either joined the patriotic movement or were suspected of being opposed to their authority. After the restoration, neither the central government nor the provincial administration was able to establish effective control over the forests in the province, and encroachments continued.

In the mid-1960s, following the promulgation of a series of forest legislation, another round of extensive deforestation took place, this time despite the efforts of the government to put a stop to it. The legislation placed all large forests under state ownership, and put severe restrictions on the use and management of private forests. To most people, the new law was yet another example of the state extending its tentacles over all natural resources and denying individuals rights of access to them. Deforestation was thus a form of protest. The destructive activity

continued for several years after the legislation was issued, and the Wollo authorities were powerless to put a stop to it. About a decade later, following the radical land reform of the Derg, yet another destructive onslaught on the environment occurred in Wollo. In the eyes of the rural population, and the embittered landed classes, whose property was confiscated without compensation, the land reform not only placed *all forests* under state ownership, but all planted trees become state property by virtue of the nationalization of land. The deforestation was much more massive than on the two previous occasions; it was not only forests and woodland, which were under attack, but trees were removed from farm plots and even homesteads.

At the time *Fitawrari* Mammo Seyoum was appointed chief *Enderassie* in 1964³, Wollo was virtually forgotten by policy planners. Not only was there no development activity under way in the province, but even the rudiments of modern infrastructure were lacking. There was no communication or transport network to speak of; the western and northern *awrajas*, for example, were inaccessible except by mule transport. Health services were unavailable outside Dessie, and there were only two or three schools altogether. Soon after the *fitawrari's* arrival, the province was hit by drought, which subsequently turned into a devastating famine. 1965-66 is known as the Wag-Lasta famine, however, the archival sources clearly show that large-scale deaths were occurring in these years in many parts of the province due to a virulent outbreak of typhus, small-pox and malaria.

The crises had immense environmental consequences: the pressure on natural resources was severe as thousands of hungry and destitute people sought access to forest products as a survival measure, and drought and desiccation exposed the land to erosive processes.

³ *Fitawrari* Mammo was given the rank of *Dejazmach* in 1970 and appointed as Senator in the Parliament.

Early Evidence of Environmentalism⁴

As was noted above, the literature places overwhelming emphasis on the willful destruction of the environment and the consequent loss of natural resources, both in the past as well as today. Many have argued in fact that the magnitude of the environmental loss in the highlands has been on such a massive scale as to threaten to destroy the agricultural potential of the country (Chojnacki, Pankhurst; for the present day, see EHRS, Hurni). But I believe the literature is both one-sided and alarmist. While the loss of resources due to environmental destruction has been high and a cause for serious concern, this does not demonstrate a lack of environmental awareness, as the sources strongly suggest.

Let us first look briefly at the tradition of forest conservation in the country. This tradition has two elements: royal forestry or forestry managed by powerful monarchs, and forestry established and/or protected by religious institutions. In the past, large forests were managed as crown property by emperors and kings both for environmental purposes, and to serve as sources of fuelwood and timber for the royal households (see for example McCann 1995: 121-24). Such forests were protected and encroachment was forbidden. Oral tradition suggests that the Denqoro forest in Borena *awraja*, western Wollo (see below), was established by Emperor Zera Yacob in the fifteenth century. According to Breitenbach, the Menagesha Mountain may have been planted with forest and made into a royal preserve in the seventeenth century (1962). Melaku argues that there is silvicultural evidence to indicate some re-forestation activity in the Menagesha area at the beginning of the same century (1992: 99-104). The forest was later demarcated and protected by Emperor Menelik.

It is, however, "religious forestry", if I may call it that, which has had a more exemplary impact on the tradition of environmental protection. In Wollo, Christians and Moslems have different approaches to religious forestry. There are two forms of

⁴ I am greatly indebted to my friend Fekade Azeze in the writing of this section. I would like to thank him for drawing my attention to the Amharic books and the articles from the newspaper *Berhanena Selaam* used

forestry associated with the Orthodox Church: *atsed*, and forestry on consecrated land (*beWigz yetekebere dun*). A good number of churches in Wollo, including those in our research sites, own extensive *atsed*, i.e tree plantations on land adjacent to the church. According to the churchmen we interviewed on site, such land was granted to the churches by powerful local governors or emperors (Emperor Yohannes was frequently mentioned). The *atsed* includes trees planted in the church compound; the trees here are meant to add beauty and grace to the church. The *atsed* around the church, the outer *atsed*, which is considered holy property, is protected by church guards and no one is allowed to cut trees from it. It is planted by the local community, and the selection of tree species, other than juniper, which is always included, is made by knowledgeable people from the community. The *atsed* serves as a conservation measure, as well as a useful natural resource. Most churches in Wollo are built on hilltops, and the land around them is slope land. The forest thus protects this land, which otherwise would have been under cultivation, from erosion. Selective cutting of timber is allowed only on special occasions: when the church itself needs repairs, or an important church is being constructed in the vicinity. Thus, the *atsed* is carefully utilised. Nowadays many churches also have a plantation of eucalyptus trees around the outer *atsed*. This is a commercial venture and serves to generate income for the church. The eucalyptus plantation is not considered part of the *atsed*. There is an unexpressed feeling that eucalyptus should not be planted on holy ground, though one comes across exceptions to this rule.

Forestry on consecrated land is also protected by the church. The forest is consecrated because of the location in it of *tsebel*, i.e holy water or spring which is believed to have healing properties and which attracts large numbers of visitors, the sick and the disabled. Such forests may be quite large, and originally may have been granted to the church by powerful rulers. No one is allowed to cut trees from such forests because of the fear that the holy water will dry up if deforestation takes place. A famous *tsebel* is Bilen Giorgis near Dessie, which interestingly enough serves both Christians and Moslems. The forest, which is quite large, has however been disturbed, and part of it consists of eucalyptus trees recently planted. The archives from the Ministry of Interior contain several letters written by church officials in

Wollo complaining about the illegal cutting of trees in consecrated forests and asking the authorities to put a stop to it. The incidents they were complaining about occurred during the latter part of the 1960s and the mid-1970s, at the time of the destruction of forests discussed above. Some of the churchmen we talked to in Boru Sellassie complained of unauthorised cutting of trees from the *atsed* by the surrounding peasantry. They noted that such activity is more pronounced in times of social unrest.

Wijjib is the term used for forest schemes associated with the Islamic faith in Wollo. A *wijjib* is a shrine and holy burial ground, which is covered with trees and other vegetation. Some of the *wijjib* we saw in Worebabo *woreda* (Ambassel *awraja*), for example, are quite large and have a long history. Our informants here pointed out that there are numerous *wijjib* in Worebabo. As in the case of the *atsed*, the *wijjib* contains trees and vegetation, which are considered sacred. The trees are local species planted by the community but eucalyptus trees are not included. Tree cutting is not allowed, and the only time the trees are cut is when there is a need to construct a mosque nearby or the local mosque is in need of repairs.

For the discussion of indigenous environmental thought, we need to examine the evidence available before the Italo-Ethiopia war and the Fascist occupation of the country, i.e. before the influence of Western ideas became too pronounced. For this I have relied on two Amharic books, and articles that appeared in the newspaper *Berhanena Selaam* in the years between 1925 (when the first issue of the paper was published) and 1934 (the eve of the Italian invasion).

One of the first expressions of public concern for the environment comes from the latter years of Menelik's regime. With the growing fuelwood crisis at the time both the Emperor and public officials became increasingly convinced of the need for state protection of the country's forests and forest resources. The then Ministry of Agriculture, which was established in 1908, was given a strong environmental role primarily due to the recognition that the loss of environmental resources will have far-reaching consequences. The major responsibilities of the Ministry were threefold: to promote good farming practices and increased agricultural and livestock production; disaster monitor-

ing and prevention (drought, pandemics, and livestock disease); and, environmental protection. The latter duties included the prohibition of the indiscriminate felling of trees and the protection of all forests. Deforestation, it was believed, would lead to the desiccation of the country. The Ministry was to control timber cutting and the utilization of forests. It would encourage tree planting and reward individuals who planted many trees on their land (Mahteme Selassie 1970: 318-20). It is obvious, though not clearly spelt out, that the rationale for protection and regulation was both economic and environmental. Natural resources should be utilized judiciously and in a sustainable way; the wasteful use of such resources will lead to harmful consequences, in this case desiccation and natural disaster. This strong emphasis on forest protection and afforestation remained unchanged until the post-Occupation period. In the ministerial reorganization of the 1940s, however, MoA's environmental responsibilities were markedly reduced, and it was not until 1965, with the passing of the forestry legislation, that the need for forest protection and the regulation of forest use was re-emphasized.

The next important source for early environmentalism is *Fitawrari* Tekle Hawariat's book published in 1930. This fascinating book covers a diverse set of subjects: while at one level it is about agriculture, at another level it is concerned with philosophy, botany and environmental science. There are reasons to believe that the book was widely read by the urban literati at the time. It is impossible to do full justice to the book in the short space I have here, hence I will deal briefly with some of the issues that have a direct bearing on our subject.

It is quite evident that the author, who was educated in Russia, was strongly influenced by physiocratic doctrine. He elevates agricultural science to an exalted position: the science of agriculture is taken to be not only the queen of all the sciences, but also the bridge that connects all the other fields of knowledge. The study of agriculture, he argues, reveals the mysteries of nature and inspires individuals to observe, inquire and engage in philosophical discourse. Moreover, he places farming as the paramount activity of human beings and considers it the economic pillar of society. Agriculture provides all our material needs and our daily sustenance; it is the basis of indus-

try and commerce. But, the book insists, Man is not satisfied by the accumulation of material goods, he also seeks knowledge and knowledge is acquired by observing Nature. Our natural environment -the earth, the atmosphere, plants and wildlife- is the laboratory and depository of all knowledge, and it is by observing and investigating it that we gain knowledge. All the great philosophers of Europe, he argues, were students of Nature, and the knowledge they passed on to us were acquired from the natural world.

The book goes on to discuss the environmental changes that occur as part what he calls "universal" or "natural law", and these include geological and climatic change, changes that take place as part of the life process of plants and animals. The author dwells in particular on the dynamics of plant life, showing the process of germination of seeds, the growth and maturation of plants, and their biology and chemistry. In the process he discusses the environmental role of plants and their constituent parts. The roots not only supply the plant with nutrients but by binding the soil together they prevent erosion and landslides. The leaves protect the ground below them from the impact of the rain, making it fall gently and without disturbing the soil; they also help retain moisture on the ground because they shield it from the sun and the wind. The trunks of plants, especially those of tall trees, attract clouds and hence induce rainfall. It was commonly accepted among environmentalist in Europe at the time that trees attracted rain. Elsewhere in the book the author discusses soils and soil varieties, soil erosion, and the various forms of organic and chemical fertilizers to enrich the soil.

In brief, the environmentalism of *Fitawrari* Tekle Hawariat was rooted in natural philosophy and physiocratic economic thought⁵. The secrets that we discover through the pursuit of agricultural

⁵ The physiocrats, French economic thinkers writing in the latter part of the 18th century, placed emphasis on the virtues of agriculture and considered all other economic activity subordinate to it. They argued that it is only agriculture that added to a nation's wealth, hence the prosperity of the small farmer would promote economic progress. This doctrine, which was influential in the 18th and early 19th century, became obsolete with the rise of the industrial revolution. It would be interesting to know how the *fitawrari* came to be influenced by the doctrine. Grove has recently shown that European environmentalism in the 18th century was influenced by physiocracy, and some of the major environmentalists at the time were physiocrats (1995: Ch 5).

science, and the knowledge we acquire through Nature, he points out, reveal the power and majesty of God. He believed that Nature is the gateway to true knowledge, and the person who seeks such knowledge should carefully observe the flora and fauna of his surrounding. He stresses that all plants are essential to life, and hence not only should we conserve them but we should also care for them so that they provide bountiful fruit. He believed that Man and Nature are closely inter-linked: Man needs Nature for his sustenance and material well-being on the one hand, and because Nature is his source of moral and scientific knowledge on the other. The more knowledge we acquire, the more we would nurture and revere Nature and our environment.

As noted above, the author was strongly influenced by European natural philosophy, and his book cannot, strictly speaking, be considered as part of the "nativist" environmental tradition. Nevertheless, the *fitawrari* can be taken as one of the earliest exponents of intellectual environmentalism to emerge in the country at a time when environmentalism was not an issue in Europe or elsewhere.

Our third and final source for early environmentalism comes from the newspaper *Berhanena Selaam*. The articles in this paper, which was established in 1925 by Crown Prince Ras Tefferi and which attracted the reformist urban elite at the time, are mostly in the form of advice and commentary, written by concerned individuals. The paper did not have regular correspondents nor regular columns. While there is very little information about the identity of the contributors to the paper, the textual evidence suggests that only a few of the numerous authors that appear in its pages came from the foreign-educated elite. We should also remember that concern for the environment was not part of western education in Ethiopia nor in Europe at the time.

There are numerous articles that place emphasis on good land husbandry, and offer advice to the government to encourage such practices. Sound farming practices were believed to include proper care for the soil, planting fruit trees, and ensuring that the resources on the land are not wasted. A few articles even propose a system of awards for farmers following such practices, and punitive measures for those who abuse the land.

On the other hand, there is a strong undercurrent of anti-conservationist thought among many contributors to the paper. The prevailing view was that the "wilderness" should be tamed by bringing it under cultivation, and forests should be cleared for farming so that there is increased food production, greater employment for the rural population, and more revenue for the government. On occasions such opinion is justified on the grounds that forests harbor thieves, *shifita* and evil spirits, and also because they prevent the utilization of productive land. The purpose of land, it was assumed, was to produce food crops. A proclamation that appeared in the issue of 29 November 1928, for example, provides tax incentives to those who bring forests and "wilderness" under cultivation.

From time to time, however, articles are published which show concern for the environment and which lament the loss of natural resources. Such articles may either briefly discuss some aspect of nature or focus at length on issues of natural conservation. There are a number of articles of the former kind, which while not specifically dealing with the environment consider in passing the benefits of trees and greenery. These articles point out that vegetation in general represents fecundity and growth, and create a salutary and wholesome atmosphere; plants cover the naked earth, and provide medicine for a healthy life. One article makes the point that when Adam lived in Eden, he was surrounded with plants and trees; he did not live in an barren environment (2 February 1928).

On 1 September 1927 the paper carried a fairly long article written in the form of a fable. In the article, Ethiopia is represented as a woman who summons both Empress Zewditu and Crown Prince Tefferi for a "hearing" on urgent matters regarding government administration and national progress. Part of her remonstrance focused on agricultural and environmental issues. Unless urgent steps are taken to encourage farmers to plant trees and to regulate timber cutting, Ethiopia tells her two listeners, the country will in three years time face a serious wood shortage. If all trees are cut down, there will be drought and desiccation, as the experts have warned. A good example, she points out, is Tigre where all the trees have disappeared and the area is suffering from drought. Before drought occurs and the people are exposed to suffering, there should be legislation on

forests and afforestation. All trees along river courses and all forests should be in government hands and their utilization properly regulated. Trees planted by the farmer should be his to dispose of. Eucalyptus trees should be planted on open fields and around all urban areas. While it is not expressly stated, my reading of the article is that the author was seriously concerned by the deforestation going on at the time, and was fearful that drought and famine, which struck both Tigray and Wollo in the 1910s and the early 1920s (Dessalegn 1994), would return again. This explains in part the stress on the link between deforestation and drought and desiccation.

An article similar in many ways to the above appeared on 6 November 1928. The focus here is on forest utilization and ownership. There is an attempt to identify the location of the country's forest resources. The author is concerned with what may be called "economic forests", rather than forests in general, i.e., forests that contain valuable agricultural products, such as *gesho* (*Rhamnus prinoides*), coffee, etc. He points out that there are *gesho* forests in Harrar and Arussi, coffee forests in Bale, Sidamo, Janjero, Illubabor and Goma *awrajas* (the term *province* did not come into usage at this time). His own concern was the forest in Dollo located in Bale *awraja*, which he had visited. He points out that since the forest was not protected, it was regularly mis-used and the resources in it wasted. Any one, he says, could freely harvest coffee and other products at any time. The assumption here is that a natural resource that has no owner or overseer (what today would be called an open access property regime) is liable to be abused. He believes the issue of ownership is very important in forest management, and he therefore recommends a dual system of forest ownership. Forestlands which can be proved to be the property of local *bala-bats* should be under private ownership but subject to the proviso that the resources are carefully managed and properly utilized. Forests which do not have legal owners should be under state ownership, and should be protected and their utilization strictly regulated.

These then were the issues that were of concern to Ethiopian "environmentalists" in the early decades of this century. If we leave aside *Fitawrari* Tekle Hawariat, we can see a common thread running through the environmentalism of the pe-

riod. The focus is on forest protection and its sound utilization. The forests are considered to be valuable economic resources and hence they ought to be properly protected. Ownership is important in forest management, and the state should be responsible for all forests not under private ownership. The farmer should be encouraged to plant trees on his land and he should have security of tree tenure. It was believed that the loss of forest cover will lead to drought and desiccation. Afforestation should be undertaken immediately to prevent such disasters from occurring. It was believed that removing trees from the land would have a harmful effect on springs and sources of water. Thus in broad terms, the environmentalism of the period was marked by a strong sense of pragmatism, and faith in state ownership and government action.

Environmentalism and Conservation before the Revolution⁶

The focus of our discussion here will be on the environmental work of *Dejazmach* Mammo Seyoum who was chief *Enderassie* of Wollo between 1964 and 1970. *Dejazmach* Mammo has had a long and distinguished career. From 1948 until he retired in 1974, he held numerous senior posts, including Governor of the *awrajas* of Assossa and Beni-Shangul, Bale, and Jemjem in Sidamo. In 1971 he was given the rank of *dejazmach* and appointed to the Senate. At the outbreak of the Revolution in 1974, he was *Enderassie* of Shoa province, a very important appointment. A hard worker and respected by most people who worked with or under him, he was one of the few high-ranking officials of the Imperial regime who was not accused of wrongdoing while in office by the Derg.

He has had no formal education, nor did he have the opportunity to travel overseas. From early in life he developed a great appreciation of nature. At our earlier workshop in Dessie in

⁶ This discussion is based on the following works: a small monograph published by the *dejazmach* in 1967, and his collected correspondence while in office in Wollo (hereafter Correspondence), compiled by Zemene Kassa who was the head of the development department under the *Enderassie*; archival sources from the Ministry of Agriculture's office in Dessie; a pamphlet prepared by Zemene Kassa in 1969; a short interview with the *dejazmach* conducted in 1996; and interviews with key informants.

May 1996, Ato Tesfaye Adem, who was the director of the Ministry of Agriculture office in Wollo from 1968 to 1973, and who came to know the *dejzmach* fairly well, said "*Dejzmach* Mammo had a great love for plants; he would quarrel with anyone if he saw him pluck even a small leaf from a plant". As Governor of Jemjem *awraja* (1960-63), he initiated an afforestation program for conservation purposes as well as to meet the demand for fuelwood. He was very well disposed to social and economic reforms, and put most of his energy on *limmat*, i.e. development activity.

His first major act when appointed as *Enderassie* in Wollo was to make a tour of the province. This was an eye opener for him. He was astounded by the extent of environmental degradation he saw, especially in the western *awrajas*; he was shocked by the almost complete denudation of the land in Lasta and Wag *awrajas* where he saw peasants attempting to farm barren hillsides and exhausted soils. The tour, which was undertaken in September 1964, strengthened his resolve to give priority to conservation and afforestation programs. From this date until he left his post in 1970, he spent much time and energy promoting conservation in Wollo. He wrote numerous letters, to his subordinates in the twelve *awrajas* of the province as well as to his superiors in the Ministries of Interior and Agriculture in Addis Ababa, trying to convince them of the great merit of his environmental ideas, and to have them support him in the implementation of these ideas. Some of these letters are written with great passion and concern (see Correspondence). The *dejzmach* felt that the administration had a responsibility to posterity, and a commitment to conservation was one way of discharging this responsibility. In a speech he made to a gathering of elected elders in Lasta in November 1966, he stated that if officials, who are appointed to serve the public, ignore the critical problem of land degradation and environmental loss occurring on a massive scale in Wollo, which will affect generations to come, it will be like committing a crime more odious than murder.

His ideas and arguments about land degradation and the merits of afforestation are scattered throughout his correspondence and also provided in summary form in his monograph noted above. The following is a summary of his views on the

subject (see specially his letter to the Minister of Agriculture in Addis Ababa written on 6 November 1965 in Correspondence):

1. Most areas of Wollo, especially the hillsides and mountains in the *degga* areas have been deforested and are completely bare of vegetation. In the past these mountains and hillsides were covered with forest; the evidence for this is that there are remnants of forests today in the inaccessible parts of these areas.
2. Because of land shortage, peasants farm the hillsides and marginal land; as a consequence, during the rainy season the soil is washed away and the land becomes exhausted. Irreparable damage has been caused in this manner.
3. The disappearance of the forest cover has created severe shortages of fuelwood and wood for construction and agricultural tools.
4. Because of the shortage of fuelwood, the rural population is forced to use dung for cooking and other household needs. Not only do peasants retain the dung in the homestead instead of taking it out to the field, but dung is collected from farm plots and grazing areas for fuelwood.
5. The use of dung for home purposes has deprived the soil of an important source of fertilization, and as a consequence the fertility of the land, and hence productivity, is declining from year to year.
6. Land degradation is not only harmful to the peasant or the owner of the land, but to the nation as a whole.
7. The remedy for this is to prohibit peasants from farming hillsides and to implement a sound conservation and afforestation program.
8. Afforestation should combine the planting of eucalyptus trees for their quick growth and economic advantage with local and other species, which are known to be useful for purposes of erosion control.

These arguments, which were made in the mid-1960s, have a very contemporary resonance; indeed, they were the same arguments used to justify the massive program of conservation during the Derg period.

At the end of 1964, shortly after his provincial tour, the *dejzmach* presented a comprehensive development program to the provincial council, which approved it after some discussion. The program, which established a "development office", had a strong forestry and conservation component in it. It may be worth noting here that the *dejzmach's* forestry initiative was launched sometime before the legislation on forest ownership and regulation was issued by the imperial government. De-

jazmach Mammo's proposal was to initiate afforestation activities on all denuded land, especially hillsides. Tree seedlings were to be produced in several nurseries to be established immediately, and such seedlings were to be distributed freely to peasants who wished to plant them on their holdings. All government offices, down to the lowest level at the *mikitle woreda*, were required to plant trees in their compound to serve as an example to urban residents and rural people. Initially, priority was to be given to planting hills and slopes that were considered to be state property.

The first afforestation program was launched in 1965, and between then and the end of the decade, afforestation was undertaken on the slope lands between Dessie and Kombolcha, in Harego and Yegoff mountains, along the road between Dessie and Kutaber, on the woody areas in Harbu *woreda* in Yejju *awraja*, on the hills near the town of Woldya, and on the slopes of Alamata mountain. While not on a large scale, there were reports of afforestation activities in almost all the *awrajas* in the second half of the 1960s (Interview with Zemene Kassa, and Tesfaye Adem). At the initial period, three nurseries were established, but the *dejazmach* had plans to set up nurseries in each *woreda* in the province, an ambitious undertaking, which was never fulfilled due to the shortage of funds. Nevertheless, the *dejazmach* used all the resources at his disposal (which admittedly were limited) to promote the afforestation program until he left his post in Wollo. On the other hand, by the time *Dejazmach* Mammo was transferred to the Senate, the afforestation program in the province was given an added boost by the introduction, by USAID, of food for work schemes (FFW). The first FFW activity was a road-building program linking the famine affected areas of Qobbo and Zobel in Raya Qobbo *awraja*; this was undertaken in 1971. In 1972, US surplus food was made available to pay for tree planting activities, first in Dessie Zuria *awraja*, later in Qallu and Yejju *awrajas* (Interview with Tesfaye Adem).

We should note here that there was a limited attempt by the imperial government to promote forestry in the country and to protect state forests in the early 1960s. This was a measure meant to augment government revenue, and conservation issues were not seriously considered. The Ministry of Agriculture in Addis instructed its office in Wollo to re-plant "mountain ar-

eas" that were under state ownership in July 1967, nearly three years after the *dejasmach* had launched his afforestation program.

The *dejasmach* was aware that for his afforestation program to be successful, he had to have popular support. Initially, afforestation was carried out with the help of the *nech lebash*, but this could not be sustained. For the purposes of mobilizing the peasantry his plans were to establish an elected council of elders at the community level, to promote not only afforestation but also other development activities. This proved rather difficult, although he spent a great deal of time and energy touring the rural areas and encouraging communities to elect trusted and respectable elders. On the other hand, his attempt to mobilize the residents of Dessie proved far more successful. In 1966, he was instrumental in establishing the Dessie Urban Development Association (DUDA). At about the same time, the Wollo Welfare Association (WWA) was engaged in famine relief activities in Korem from a base in Dessie. While DUDA, which soon forged a close working relationship with WWA, was mainly concerned with urban issues (the building of schools, urban roads, sports facilities, etc.), it was gradually drawn into the *dejasmach's* afforestation program. Soon after its establishment, DUDA was granted one *gasha* of land by the Crown Prince to start a tree nursery and to produce seedlings for planting. In 1968 and 1969, both DUDA and WWA mobilized the residents of Dessie to plant trees on the slopes and hillsides between Dessie and Kombolcha, and in the Harego area (Interview with Gebeyehu Kidanu and Macos Ali, former DUDA and WWA officials).

Dejasmach Mammo's conservation program was faced with considerable difficulties. The first, and the one that he complained loudly about, was the lack of financial support from MoA head office. He had planned to establish nurseries throughout the province; he was convinced that 20 million seedlings had to be planted by the government to make a visible impact on the degradation problem in Wollo, with any shortfall to be filled by encouraging private individuals to raise their own seedlings. Unfortunately, money was not available for this ambitious plan (see Correspondence). Secondly, the complex land tenure system proved a serious obstacle to afforestation. To begin with, there was no accurate land inventory in Wollo, and which land be-

longed to individuals and which to the state was a contentious issue. Moreover, landlords, who were more interested in gaining revenue from the cultivation of their land rather than the land remaining idle under forest cover, were suspicious of the afforestation program (Interview with Zemene Kassa). The *dejazmach* repeatedly complained that landlords were swayed by short-term and selfish interests. Many of them were also opposed to the program because they thought it was a convenient cover by the state for subsequent measures to confiscate their property. Their suspicions were proved right by the 1965 forest proclamations (see above). Initially, even peasant farmers were reluctant to be drawn into the program for similar reasons, and because they thought afforestation would involve closure of lands they used for livestock grazing. It was only later, when provisions were made to enable them to graze their animals on afforested land that they became supportive of the program (Interview with Tesfaye Adem). In 1967, *Dejazmach* Mammo brought bamboo saplings from Sidamo and had them planted on demonstration plots in several parts of Wollo, including Lasta *awraja*. The bamboo plant, he reasoned, was not only useful for conservation purposes but had a wide range of economic benefits. The leaves, according to him, were good animal feed, and the wood could be used in furniture making, housing construction and even for industrial purposes. But the experiment aroused suspicions, and many of the demonstration plots were destroyed by irate landlords. Thirdly, there was not sufficient publicity to promote public awareness and public support. The *dejazmach's* travels through selected rural areas (mostly in central and northern Wollo; the western *awrajas* were inaccessible by road) was insufficient to generate support. Finally, the expansion of the cultivated area continued apace at the expense of woodland, pasture, and forestry because of growing population pressure and shortage of arable land.

The other "conservationists" in Wollo in the period in question have left very few records, and the Ministry of Agriculture archives, on which this discussion is based, contain only a few tantalising documents about them⁷. These were individuals who petitioned the Ministry to grant them permission to protect the forests in their vicinity. These individuals did not seek pay-

⁷ The archives contain records, often incomplete, for the years 1964 to 1976.

ment for their services, but only wished, according to their letters, to be given the opportunity to save the forests in question from destruction and abuse by the surrounding population. The archives contain requests by individuals to act as warden of Yegof forest south of Dessie, and Gimshat forest in Harbu *woreda*, Yeju *awraja*. The most interesting of such individuals was a man by the name of Getachew Melaku, who lived near the largest natural forest in Wollo, the Denqoro forest.

The Denqoro forest is located in the western extremity of Borena, bounded by Debre Sina and Sayint *woredas* and the Abbai River. The forest was claimed by the government in 1952, but no official from Dessie or Addis Ababa had visited it until 1969 when a team from the provincial MoA office made a visit to it. According to a report prepared by the team, the forest was estimated to measure 80 to 90 *gashas*, of which ten *gashas* had been cleared for farming by squatters. The forest contained a wide variety of wildlife.

Ato Getachew first appears in the records in February 1965 with a letter he wrote to the Department of Forests and Wildlife of the Ministry of Agriculture in Addis Ababa. In this letter, he describes himself as a local *balabat* and resident of Sayint *woreda* and in the vicinity of the forest. He informs the Department that the Denqoro forest is being cleared for farming by local residents, and requests the Department to authorise him to protect it; he does not ask for remuneration for his services. We do not know whether the Department wrote back to him or not but his letter was passed on to the provincial agriculture office in Dessie. For the next five years, Ato Getachew continued making his request in writing but now to the agriculture office in Dessie. Each year his plea became more urgent: the forest, he laments, was being severely abused and the wildlife in it are being destroyed. He argues that the destruction of the forest will be a great loss to the nation and this should not be allowed to happen. It is true that in one of his letters written in 1967 he shows his willingness to accept payment for his services, but this is the only evidence in the records indicating that he was seeking some kind of material benefit.

His persistence finally bore fruit when the Wollo agricultural office sent him a letter of authorisation in February 1970,

signed by Ato Tesfay Adem, the director of the office. In an interview in 1996, Ato Tesfaye stated that Ato Getachew was hired as a warden with a salary of Eth. \$30; he correctly identified the date on which the letter of authorisation was issued. The letter in question however does not mention any salary. Between 1970 and 1975, Ato Getachew discharged his duties with great zeal. He became in effect a one-man forest guard. According to his report, from 1971 to 1973 he caught dozens of people using the forest illegally and had them brought to court. In 1972, Ato Tesfaye himself wrote to him to express his appreciation for his commendable work. When the forest was finally demarcated in December 1973, Ato Getachew was a member of the official team (which included forestry officials from Dessie and officials from the *awraja* administration), and signed, together with the others, the formal document establishing legal ownership by the Ministry of Agriculture. Following the demarcation, he wrote several letters (in 1974 and 1975) urging the Ministry to post armed forest guards to ensure the forest was not further disturbed. His letters show concern that even with the formal demarcation the pressure on the forest had not abated.

It is quite obvious that Ato Getachew was deeply concerned about the forest, and there is little evidence that he was driven by motives of personal gain. As noted above, Ato Getachew's case was not an isolated example. In an interview on the subject, both Ato Kindeya Hailu and Ato Tesfaye Adem, former directors of the agriculture office in Wollo, stated that individuals like Ato Getachew were, as it were, seeking fame and fortune. The authority to protect forests, they believed, gave them the opportunity to get farm plots in the forest, to sell wood and timber from it, and to exercise authority locally. Ato Tesfaye, however, noted that he only suspected these were their motives and did not have any evidence to prove it. It is quite probable that the individuals concerned may have benefited by their appointment, however, I am not convinced that this was their main motive. I believe they were concerned about the forests in their community, and felt that such important natural assets should be preserved for the common good. We know, for example, that Ato Getachew was in trouble with the local authorities (the *woreda* governors) who were benefiting by the illegal use of the forest, and who found Ato Getachew a nuisance and a threat. I believe that in the conditions of the time, people like Ato Ge-

tachew, who volunteered for the difficult task of forest warden in conditions in which the problems far outweigh the benefits, should be considered conservationist.

Conclusion

The environmentalism of the 1960s is similar in many ways to that of the 1920s, with the one exception that the latter did not engage in practical measures of conservation. *Dejazmach* Mammo could thus be taken to be part a long indigenous tradition.

An environmentalist is any person who is "concerned with the preservation of [our] biophysical surroundings from pollution, depletion, or degradation" (Worster 1994: 350). *Dejazmach* Mammo can be considered an environmentalist by this definition. But there is a distinction between the environmentalism of the early period, ie. the nineteenth and eighteenth centuries, and that of the last three decades. The environmentalism of the earlier centuries was the work of a small circle of concerned individuals, the impassioned voice of a few scientists, men of letters and reformers (Grove, Thomas 1983, Worster). The environmental message, Grove points out, had to rely "on the power of ideas and the institutional influence of scientists and their state patrons" (:310). Grove argues that the concern for the environment mirrored social concerns, and many of the early environmentalists were social reformers and spoke out against slavery and colonialism (:482). Contemporary environmentalism on the other hand, at least in the developed countries, involves public action and advocacy by civic groups, "green" movements, and political parties. It has, in other words, moved out of the hands of small elites and become a public concern and a mass movement.

Dejazmach Mammo fits in the earlier environmental tradition; his was a lonely voice at a time when environmentalism aroused little concern among policy planners and the informed public in the country. The *dejazmach* saw conservation as an essential component of development or *limmat* in Wollo. He was an early enthusiast of *limmat*, and launched numerous plans for construction of infrastructure, industrial development, food security, cooperatives and villagisation. His plans for food security, in

particular, was quite innovative; it involved a scheme which today would be called a strategic food reserve, and which he launched following the Wollo famine of the 1960s as part of his comprehensive development program.

The major environmental legislation in the U.S. and Europe was initiated in the late 1960s and early 1970s (Worster). On the other hand, it was quite a while before the "greening" of development thinking in the Third World context became widespread, and issues of sustainable development were given emphasis by international donors and became part of the development discourse. Indeed, it was only at the end of the 1970s that the major donors began to be concerned about the environmental impact of projects they were funding in the Third World (Adams 1990). From the very beginning, i.e. from the last quarter of the 1970s, conservation programs in this country have been donor driven. Indeed, FFW, which was first initiated by USAID and later undertaken on a large scale by the World Food Programme, the European Community and other major donors as well as NGOs, has determined conservation policy and programs. In the process, immense resources have been wasted, and state-sponsored conservationism has acquired a bad reputation among the farming population. In hindsight, *Dejazmach* Mammo's conservationism, with all its defects and limitations, was years ahead of its time.

References

Archival Materials

The Ministry of Agriculture, Dessie. Forestry records for the years 1964 to 1976.

The Ministry of Interior, Addis Ababa. Wollo provincial files for the years 1947/48 to 1979/80.

Oral Interviews

[Note: The asterisks below (*) denote interviews conducted on my behalf by Asnake Ali, program officer of the Environ-

ment and Social Change in Wollo project.]

Interviews with peasant informants in Boru Selassie, Gobeya, and Gerba (Ambassel *awraja*), May 1995.

Interviews with:

Ato Gebeyehu Kidanu, former secretary of the Dessie Urban Development Association; now retired. Dessie, 18 October 1995.

Ato Marcos Ali, former treasurer of the Wollo Welfare Association; now a businessman. Dessie, 18 October 1995.

*Interview with Ato Kindeya Hailu, director of the Ministry of Agriculture office (Dessie) from 1964-1967). Addis Ababa, 17 January 1996.

*Interview with *Dejazmach* Mammo Seyoum, Addis Ababa, 12 October 1996.

*Interview with Ato Tesfaye Adem, director of the Ministry of Agriculture office (Dessie) from 1968-1974. Addis Ababa, 3 February 1996.

Oral presentation by Ato Tesfaye in the "Environment and Social Change in Wollo Project" Workshop in Dessie, 24-27 May 1996.

*Interview with Ato Zemene Kassa, head of the Development Office in Wollo from 1964-1970. Addis Ababa, 28 December 1996.

Interviews with churchmen and Muslim religious officials at various sites in Wollo.

Interviews with church officials in the Wollo Patriarchate (Dessie).

Primary Sources

Berhanena Selaam. Weekly Amharic newspaper; for the years 1925-1934.

Central Statistical Office (CSO) 1967. Report on a Survey of Wollo Province. Addis Ababa, May.

Consolidate Laws of Ethiopia, Vols. I and II 1972. Prepared by the Faculty of Law, Haile Sellassie University, Addis Ababa.

Blatten Getta Mahteme Selassie Wolde Mesqel 1962 E.C. *Zikre Neger*. Addis Ababa: Artistic Printing Press.

Fitawrari Mammo Seyoum ?1960 E.C. *LeWollo Teklai Ghizat*

Hizb leNourowna leAgeru Idget le-Tsetita Aiebabek Indihon Yetesetse yeMikr Qal. Addis Ababa: Addis Ababa Printing Press.

Fitawrari Tekle Hawariat 1922 E.C. *Tinish Mastawesha: Silelrsha Timhirt.* Addis Ababa: Tefferi Makonnen Printing Press.

Zemene Kassa 1962 E.C. *Ye-Kibour Dejazmach Mammo Seyoum ye-Wollo Teklai Ghizat Enderassie ye-Limmat Tigle 1956-1962 E.C.* Dessie. [Collected Correspondence].

Secondary Sources

Adams, W.M. 1990. *Green Development. Environment and Sustainability in the Third World.* London: Routledge.

Breitenbach, F. von 1962. National Forestry Development Planning. A Feasibility and Priority Study on the Example of Ethiopia. *Ethiopian Forestry Review*, 3/4, pp. 41-68.

Chojnacki, S. 1963. Forests and the Forestry Problem as seen by some Travellers in Ethiopia. *Journal of Ethiopian Studies*, 1,1:32-39.

Dessalegn Rahmato 1991. *Famine and Survival Strategies. A Case of Study of Northeast Ethiopia.* Uppsala: Scandinavian Institute of African Studies.

_____ 1994. Neither Feast nor Famine: Prospects for Food Security. In Abebe Zegeye and S. Pausewang (eds.), *Ethiopia in Change*, pp. 192-208. London: British Academic Press.

_____ 1996. Land and Agrarian Unrest in Wollo, Northeast Ethiopia, Pre-and Post Revolution. IDR Research Report No. 46, Institute of Development Research, Addis Ababa University

Ethiopian Highland Reclamation Studies 1984. *The Degradation of Resources and an Evaluation of Actions to Combat It.* Working Paper 19. Addis Ababa, MoA-FAO

Grove, R.H. 1995. *Green Imperialism. Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600-1860.* Cambridge: Cambridge University Press.

Hurni, Hans 1988. Ecological Issues in the Creation of Famines in Ethiopia. Paper presented to the National Conference on Disaster Prevention and Preparedness Strategy in Ethiopia. Addis Ababa. 5-8 December.

McCann, James 1987. *From Poverty to Famine in Northeast Ethiopia: A Rural History 1900-1935*. Philadelphia: University of Pennsylvania Press.

_____ 1995. *People of the Plow. An Agricultural History of Ethiopia, 1800-1990*. Madison: University of Wisconsin Press.

Melaku Bekele 1992. Forest History of Ethiopia from Early Times to 1974. M.A Thesis, University College of North Wales, Bangor.

Pankhurst, R. 1992. The History of Deforestation and Afforestation in Ethiopia Prior to World War II. *Ethiopian Journal of Development Research*, 2,2: 59-77.

SIDA 1987. SC/CF Welo Mission. Proposed SIDA Support Reports. Npp, January and February.

Soil Conservation Research Project, 1982-1991. Annual Progress Reports. Addis Ababa.

Sutcliffe, Peter 1993. Economic Assessment of Land Degradation in the Ethiopian Highlands. A Case Study. National Conservation Strategy Secretariat, Ministry of Planning and Economic Development, Addis Ababa.

Thomas, Keith 1983. *Man and the Natural World. Changing Attitudes in England 1500-1800*. London: Penguin Books.

Worster, Donald 1994. *Nature's Economy: A History of Ecological Ideas*. Second Edition. Cambridge: Cambridge University Press.

Chapter 2

LITTERING THE LANDSCAPE: Environment and Environmental Policy during the Derg

Anyone traveling in the early 1990s along the main road to Wollo and the northeast of the country would have seen the landscape littered with the debris of the environmental rehabilitation program of the Derg, the military government which collapsed in 1991. They would have seen ruined stone terraces and check dams, with the stones strewn all over the slopes and now posing a great erosion hazard; disused bunds, many of which were partially demolished; and heavily disturbed woodlots and forests. As is noted in Table 1 below, the cost of the program implemented in the 1970s and 1980s may well exceed U.S. \$900 million, all of which was provided by Western donor agencies. About a third of this cost was borne by the World Food Programme in the form of food aid totaling one million metric tons. Other actors whose contribution to this massive investment was significant were the EC, the World Bank, Sweden, Canada, and dozens of Western NGOs. While some of the afforestation schemes, area closures, and terraces still remain intact, the bulk of the environmental assets created in these years has either been demolished or fallen into disuse.

This chapter will attempt to examine why the gigantic conservation program of the Derg achieved so little, and why the massive resources invested in it were largely wasted. I shall argue that the explanation for the failure of the program should be sought in the nature of the dominant environmental discourse in the country, and the conflict between what I call the environmentalism of the state and the environmentalism of the peasant. The period that is the concern of this chapter extends between the mid-1960s when the first set of environmental legislation was initiated, and the beginning of the 1990s when the Derg regime was overthrown.

The Environmental Discourse

Since the early 1950s, environmentalists in this country, most of whom expatriates, have raised the specter of large-scale environmental disaster leading to widespread economic ruin. The picture they have painted is a grim one: the country's forests, its top soil, wild life and biodiversity are being lost on a massive scale, and if this continues unabated, the very survival of the nation will soon be threatened. It was worth noting that many of these expatriates were employed as technical advisors to the Ethiopian government by such donor agencies as FAO, UNESCO, or the World Bank. Very few of them stayed long enough to acquire an in-depth knowledge of the country. Only a small number had the opportunity to travel through the countryside and acquaint themselves with the agricultural and environmental practices of the peasant. Hardly any of them undertook serious research on land and farm management practices among the peasantry.

Writing in the early years of the 1950s, E.H.F Swain, an Australian conservationist and a FAO technical advisor to the Ethiopian government, underlined the urgency of a forest conservation policy with the argument that the "very life and future of Ethiopia" was in the balance. The traditional practice in the country, he argued, was the uninhibited denudation of virgin forest for cultivation. The country's primeval forest, he maintained, has been in retreat from north to south by a thousand years of remorseless destruction (1952, 1953, 1954). Swain was one of the earliest naturalists to argue that originally the greater part of the country was covered with forest but through years of wanton destruction only a fraction of the forest cover was now remaining. Logan, who had earlier visited the country, cautiously cited oral tradition as evidence for views similar to Swain's (1946), but it was Swain's claims which became the basis of conventional wisdom in the decades since. Swain's estimates of the loss of forest cover, as well as those of the expatriates in subsequent decades were not based on reliable measurements but rather on guesswork or on methodologies of dubious validity. Another conservationist, also a FAO advisor to the government, was similarly emphatic. Forest destruction in the highlands, he argued, "has started a process which, sooner or later, will come to an end, but this end, however, will be a tragic one. It will result in

the total loss of soils and the drying up of the Highlands which will thereby become absolutely uninhabitable" (Bosshard 1959: 2). Formerly, Bosshard contended, 50 to 55 percent of the country's surface area was forested, but thanks to wanton deforestation only 6 percent of the country remains under forest cover. Anticipating the Derg by nearly two decades, he recommended a massive program of afforestation, involving "the cooperation of the nation as a whole", though even with the "help of all the people" it would take 100 years to reforest 25 percent of the highlands (: 10). Leslie Brown, a British naturalist actively involved in the wildlife conservation schemes in the country, wrote a monograph pointedly titled *Conservation for Survival: Ethiopia's Choice* (1973). In it, he expressed pessimism about the prospects for the country's environment. "I see this beautiful and potentially productive country", he sadly noted, "sliding ... rapidly towards early and complete environmental and consequently economic ruin⁸". After a brief visit to the famine-ravaged provinces of Wollo and Tigray in 1975, Brown declared that the highlands of the two provinces, which he found denuded, "were originally covered in dense forest of woodland with glades of verdant grass" (RRC 1975: 8).

In the 1980s, the danger posed by soil erosion, which was said to be taking place on a large scale in most parts of the country became another element of the expatriate environmental discourse. Hans Hurni, a Swiss soil scientist, who served as advisor on conservation to MoA, claimed that the rate of soil erosion in the highlands was 1.5 billion tons per year. He felt quite certain that at this rate of land degradation, all the topsoil from the country's farm land would be washed away in 100 to 150 years, resulting in complete and irreversible agricultural destruction (1988). The Ethiopian Highlands Reclamation Studies, a project initiated and financed by FAO, was even more

⁸ Similar stories of sylvan catastrophe were told by Breitenbach, a German advisor to MoA in the 1960s, and by Swedish foresters in the 1970s (NFPE 1975). Breitenbach (1962) estimated the rate of deforestation to be 20,000 ha. per year while the Swedes put the figure at 200,000 ha. per annum. In the 1980s, Wood and Stahl described the progress of deforestation as follows (they cite no evidence for their statement): before settlement, the country's high forests covered 35% of the country; this was reduced to 16% in the 1950s, 3.6% in the early 1980s, and 2.7% in 1989 (IUCN 1990). EFAP 1993 endorsed this argument without question. See also RRC 1985.

pessimistic. It estimated that nearly 2 billion tons of soil was being removed from the highlands annually, and that in 25 years' time about 18 percent of the country's farmland would go out of production, affecting the livelihoods of some ten million peasants (EHRS 1984).

This story of the environmental depletion of the country has been variously criticized by Ethiopian researchers (Melaku 1992, NOP 1996), by Sutcliffe (1993), and recently by Hoben (1995) McCann (1999), but it is worth looking at again for the light it sheds on the ideological assumptions of the expatriates. Implicit in this "discourse of catastrophe" are a number ideological preconceptions about the country's ecological, agricultural and demographic history. Hoben has emphasized that hidden behind this "environmental narrative" is an over-riding neo-Malthusian argument, which postulates an unremitting population growth as the primary cause of environmental depletion. While the demographic paradigm is certainly significant, my reading of the narrative suggests a different interpretation. I submit that at the core of the narrative is a set of assumptions about the land user and his agricultural and environmental practices. Lurking beneath these assumptions is the view that the peasant farmer does not comprehend the forces behind land degradation and has been employing agricultural and land use practices, which are responsible for accelerating the degradation process. The accent here is on human mismanagement, born of ignorance or disregard for the consequences, rather than on human population pressure as the neo-Malthusian argument stresses.

But a careful look at the country's agricultural history clearly shows that the plow-based, small-holder agriculture of the highlands, which all the environmentalists envision to be threatened with imminent collapse, had sustained complex social and political systems and an increasing human population for well over a millennium, in part by means of simple but adequate technologies to solve farming and environmental problems. Ethiopian agriculture never managed to make the great leap forward and reach the level of sophistication achieved by the farm systems of Europe or even Asia, nevertheless it was highly evolved, and incorporated fairly effective conservation measures to enable the land to be worked over the centuries without much loss of fertility. Without such measures, the coun-

try's cropland would have been exhausted long before the environmentalists appeared on the scene. While conservationists and naturalists are often known to present their case in the form of dire warnings of imminent disaster, at times bordering, in the words of Worster, "on apocalyptic fear", and while some of the urgency and alarmism of our environmentalist may be explained in this light, their apocalyptic tones nevertheless has served to obscure the complexities of the environmental problem and its multiple causation. This is not to argue that environmental degradation is not a serious problem in the country, but that the picture drawn by the expatriate environmentalists is simplistic and misleading, and has had disastrous policy implications. Their solution to the calamity believed to be looming over the horizon was urgent measures of environmental rehabilitation to be carried out on a massive scale by the state.

The writings of the expatriates have been influential in shaping the environmental thinking of Ethiopian officials, and have left a legacy of environmentalism rooted in ecological calamity. Ethiopian environmentalists and policy planners came to believe, especially from the latter part of the 1970s, that the danger of large-scale environmental collapse was indeed imminent, and that urgent measures were needed to avoid such a catastrophe. This legacy promoted a policy framework that can only be described as "unilateral" and "state centered", with a strong tendency to exclude pluralist approaches. Informed as it was by a high sense of urgency, the "apocalyptic" outlook tended to be impatient, and intolerant of other experiences, particularly those of the smallholding farmer. Its policy prescriptions placed strong emphasis on the practical and technical side of conservation; the underlying assumption was that land degradation was caused by natural processes and could be brought to an end if only people understood these processes and learned to employ the right conservation measures. The failure to go beyond this one-sided outlook, to recognize that in fact environmental problems are a product of the complex interplay of economic, political, social and natural processes, led Ethiopian environmental planners and decision makers up a blind alley, and in consequence, conservation policy ended up becoming inflexible, authoritarian and bureaucratic. Indeed, during the latter half of the 1980s, environmental policy contained repressive overtones and was employed to extend state domination over the rural population.

Varieties of Environmentalism

We may distinguish two varieties of environmentalism in this period: the environmentalism of the state and the environmentalism of the peasant farmer. The underlying assumptions of state environmentalism were the following: the state was considered the guardian of the country's natural resources, and the primary emphasis was the *protection* of these resources rather than their *utilization*. Environmental protection involves bringing natural resources under state ownership or control. It was the responsibility of the state to choose the appropriate conservation technology and "transfer" such technology to the population concerned. These assumptions could only lead to a "unilateral" course of action, and an undemocratic approach. Thus, many of the major conservation initiatives invariably deprived rural communities control over and access to natural resources. To many a peasant, "conservation" came to be synonymous with the appropriation of local resources by the state. Conservation was frequently restrictive and exclusionist. Measures for benefit sharing were rarely incorporated in policies. Conservation schemes did not take into account the interests of the rural land user, and the benefits of any such schemes were not shared by the latter. Conservation policy tended to be inflexible and narrowly conceived. The objective of soil conservation, for instance, was merely to control erosion and not to promote the sustainable utilization of the land. Finally, conservation programs were always imposed from above, and rural land users -the people directly affected by environmental change- were rarely consulted.

Moreover, the worst enemy of state environmentalism under the Derg was the state itself, many of whose rural policies worked against environmental objectives. Collectivization, villagization and resettlement, which were carried out on a large-scale in the 1980s, were accompanied by extensive deforestation and soil erosion. The radical land reform of the post-Revolution period and the periodic redistribution of farm plots undermined security of holdings and discouraged peasants from investing on the land or employing conservation measures. Peasants we interviewed in Wollo in 1995, for example, all pointed to the Derg's land policy as the main cause for the deterioration of traditional land management practices which, in the past, they said were effective in controlling soil erosion.

The environmentalism of the peasant contrasts sharply with this, though it is hard to find in clearly articulated form. Broadly speaking, peasant farmers are not keen on the mere protection of natural resources such as forests, pasture and water sources, but rather prefer their sustainable use. They do not condone the destruction of such resources if it affects their livelihood. Central to peasant environmentalism is the issue of access to and control over basic environmental goods. Conservation in this context places strong emphasis on *management through use*; traditionally such management was undertaken in a variety of ways: a) In the past, local resources were managed through community authority structures which were responsible for enforcing rules and regulations; such forms of indigenous local governance have all but disappeared in most parts of the country at present. b) Management by religious sanctions or community convention is also an old tradition; sacred groves, church forestry, woody burial grounds, holy springs, etc. are some good examples of this. In the past, religious institutions had a much greater role in the protection of forests and water sources, but this role was undermined by the process of political change underway since the 1950s. c) Management by the use of conservation-based farming practices is very widespread (Tahal et al. 1988; Dessalegn 1991). However, successive agricultural and tenure reforms have undermined traditional farming practices, and this has weakened the conservation element of land husbandry.

These two forms of environmentalism -that of the state and the peasant- constituted two different perceptions and valuations of nature, and two different approaches to the utilization of environmental resources. They confronted each other against a backdrop of increasing natural resource loss and scarcity. The state believed that the peasant was responsible for land degradation and hence it was its responsibility to protect the environment. As we shall see below, there was in fact a strong vested interest on the part of officialdom to maintain the notion of peasant culpability because this justified continued state intervention and expropriation of environmental resources. On the other hand, peasants harbored a deep suspicion of the motives of the state, and frequently wished nothing more than to keep it at arms length. Over the years, the state's claim of stew-

ardship over forests, pasture and similar resources was contested by peasants, often through the use of covert action and "everyday" forms of resistance. These included the illegal cutting of trees, the grazing of livestock in closed areas, the uprooting of tree seedlings planted in forest schemes, and the invasion of natural parks.

Thus, I take environment policy to be a contested terrain with the state attempting to impose its environmental values and programs on an unwilling and frequently resistant peasantry. In what follows I shall take a closer look at the interplay between state and peasant environmentalism by examining the evolution of conservation policy in the period under discussion. While the work deals with national policy initiatives undertaken at the time, I shall make use of my research findings from Wollo to illustrate the impact of these initiatives.

Environmental Policy: Ideas and Justifications

Until the second half of the 1960s, conservation was understood in a different sense from what it came to be in the 1980s. First, it was taken to mean the preservation of wildlife and the protection of their natural habitat. Policy makers were keenly interested in using the country's wildlife resources to stimulate the tourist industry as part of the development initiatives underway at the time. The success of the natural parks schemes of British east Africa was taken as a model to emulate. Secondly, conservation also meant the preservation of the country's historical heritage. The protection of antiquities, as it was called then, involved the preservation of ancient monuments, historical documents, and relics of archaeological interest. The objective here was not only historical and cultural, but economic as well. It was thought that investing in natural as well as historico-cultural resources would enable the country to compete with the east African countries for the tourist business. Thirdly, conservation gave impetus to the protection of the country's forests. However, while a few steps were taken to encourage tree planting, protection took the form mainly of bringing the country's forests under state ownership, and legislation to this effect was issued in the mid-1960s. On the other hand, the main objective of the forest legislation was not so much to promote resource conservation but rather to enlarge the sources of state revenue.

Rights over timber harvests and other forest products, taxes on timber exports, payment for timber permits, and royalties, which the new forest laws made possible, provided additional revenue to the government. Thus until the latter part of the 1960s, conservation, such as it was, had a marked economic bias which was, in part, a result of the limited environmental awareness of policy makers at the time.

Despite the urgent appeals of expatriate environmentalists - there were nearly ten of them involved at one time or another in this period- imperial policy makers paid little heed to resource degradation which they did not see as a major problem or a serious handicap to economic development. The underlying assumption at the time was that the country had no shortage of agricultural land, large tracts of which were still uncultivated; the main issue thus was the under-utilization of resources rather than their loss. However, from the second half of the 1960s, the appeals of the expatriates having finally made sufficient impression, the government began to show greater concern for environmental problems and undertook several initiatives to promote afforestation and soil and water conservation. Legislation setting up government bodies responsible for these activities was issued at the beginning of the 1970s. These initiatives put the accent on forest management (as opposed to soil conservation), and placed the responsibility for environmental matters in the hands of the state. We should note, though, that there were efforts by concerned individuals to promote sound forest and soil management schemes. In Wollo, the chief governor of the province initiated an active program of forest and soil conservation on his own initiative in the latter part of the 1960s (Dessalegn 1997). The Ethiopian Forestry Association, which was set up in 1960, had earlier launched a "farm woodland" (or agro-forestry) campaign to encourage peasants to plant trees on their plots as an economic and conservation measure (*Ethiopian Forestry Review*). Likewise, in the early 1970s, donor agencies such as USAID and WFP initiated food-for-work (f-f-w) schemes for conservation purposes in the Wollo and the northeast.

In the post-Revolution period, state environmentalism was imbued with a new sense of purpose and a new urgency. The slow and tentative initiatives of the imperial regime now gave way to operations whose scale and tempo were unprece-

dented. Environmentalists and decision makers appeared to be inspired by a clearer vision, and to be armed with more definite objectives. The initial impetus behind this accelerated and large-scale conservation program was *famine* and international *food aid*, the first providing the rationale and the second the resources for conservation on a national scale. It is ironic that the Derg, which was shunned like a pariah by many in the donor community, relied on massive western food aid for its conservation program for almost a decade and half on.

The famine of 1973-74, which was one of the worst environmental disasters to befall the rural population of Wollo and the northeast, is a landmark in terms of changes in environmental and agricultural policy. This disaster, which is commonly known as the Wollo famine because Wollo peasants bore the brunt of the crisis, undermined the legitimacy of the imperial regime and provided powerful ammunition to its opponents on the eve of the Revolution. It also later served the Derg as justification for changes in agricultural and environmental policies. In the past, drought and famine were considered natural calamities and an act of God, but from the late 1970s, government sources began to attribute such disaster not just to periodic environmental shocks but to what was called "uncontrolled human activity"; such activity, which was thought to have been going on for centuries, was said to be responsible for the loss of valuable natural resources on a large scale. Here was a "radical" environmental discourse, befitting a "radical" government, a discourse which appeared to be based on historical and scientific evidence. Land degradation, it was argued, was caused not by divine providence but by backward agricultural practices, a "primitive" system of land use, and high population pressure (RRC 1985: 9-17). The combined effect of these factors was the continuous and massive denudation of the land and the impoverishment of the rural population. At present, the government believed, "soil erosion has reached exceedingly dangerous levels (:12), and the rate of deforestation was estimated to be 200,000 hectares per year -a figure borrowed from the expatriate discourse. The "uncontrolled" activity refers not just to the peasant's "backward" farm techniques but also to the expansion of agriculture and the deforestation of the land. In the government's view, the peasant is thus both the victim and the cause of environmental disaster.

Similar arguments were also provided by expatriate technical advisors to explain the recurrent famine and natural disaster. The EHRS document noted above, which was prepared at the onset of the famine of the 1980s, reflected the thinking of many of the technical experts in the donor community; the dramatic revelations which were presented as important "findings" were used to underscore the urgency of large-scale conservation. These "findings" however were not the product of proper scientific investigation but estimates based essentially on subjective criteria. Only 20 percent of the total land area of the highlands, the document argued, was relatively free from erosion. About half of the highlands, some 27 million hectares, was significantly or severely eroded. Over 80 percent of erosion regularly occurred on cropland. Average net soil loss from cropland was said to be 100 tons per hectare per year. The average yield decline due to erosion was 2 percent per year, which was equivalent to 120,000 tons of cereals per year -enough food to feed upto 4 million people. The Wollo highlands were said to lose 0.5 percent of soil annually, with yearly crop and grass yield declines of 3 and 1 percent respectively (: Chs. 6 and 7).

The causes of this massive erosion were said to be high population pressure, and poor farming and livestock management practices. The farming population, it was argued, far exceeds the carrying capacity of the land, particularly in Wollo and the northeast where erosion is most severe; population pressure has led to the cultivation of more fragile ecosystems and more marginal lands, thereby accelerating the erosion process. Besides, the document notes, farmers do not practice sustainable agriculture: plowing and harvesting methods expose the soil to erosion, and soil and water protection techniques were virtually unknown. Due to prior deforestation in the areas of high population density, and the consequent shortage of wood fuel, dung and crop residue are removed from cropland, thus contributing to soil erosion as well as loss of soil fertility. All through this analysis, no mention is made of the role of the state; there is hardly any discussion of whether and to what extent economic, social and political policies have contributed to resource degradation. It is as if the state is invisible. Interestingly enough, Mesfin Wolde-Mariam has added his voice in support of the prevailing consensus. In a book on north-central Ethiopia (Wollo and

North Shoa) he argues that peasants "have not yet clearly understood the direct connection between deforestation and soil erosion" (1991: 44).

While the arguments of both the government and the technical specialists are broadly similar, there is nevertheless a difference of emphasis, which is worth noting. The Derg placed particular stress on the underdevelopment of peasant agriculture and the backwardness of farm technology, while in contrast the technical experts were strongly neo-Malthusian and saw the demographic factor as the most significant cause of land degradation. Behind the Derg's "backwardness" argument lay its agricultural collectivization program. The government's chief justification for collectivization was that agricultural development would not be possible on the basis of smallholder production, and that peasant agriculture inhibited the introduction and utilization of modern technology (see Dessalegn 1993). Among the anti-drought and anti-famine measures undertaken by the Derg in the late 1970s and the 1980s in Wollo was resettlement which had a strong collectivization element in it, and collectivization.

At the beginning of the 1980s, when the volume of food aid to the country began to increase appreciably, government officials showed a lack of clear understanding of the politics and economics of international food aid. It was naively believed that disposing of their surplus food would serve the interests of donor countries, and there was no better way to do that than offering it to poor, starving countries like Ethiopia. At this time too, f-f-w schemes were seen by officials as a great innovation: f-f-w would contribute to food security and at the same time enable important development work to be undertaken. From the very beginning the government set ambitious objectives for f-f-w: it was meant to support environmental protection and rehabilitation activities, to provide employment opportunities to the rural population in the food deficit areas, to improve the nutritional status of the poor, and to help reduce poverty (Kebede Tato 1992, Berhe 1996). Officials at the Ministry of Agriculture, which was the executing agency for a large part of the f-f-w schemes at the time, believed that f-f-w would be a great success because it offered the right incentives for the right purposes

(Kebede Tato 1993)⁹. As we shall see further down, the optimism of the early years was short-lived, and officials soon realized that food aid and conservation were unlikely bedfellows, and that in the end neither food security nor land rehabilitation was achieved.

Conservation: Strategies and Measures

It is worth noting for comparative purposes that the imperial regime issued far more conservation legislation than the Derg, but the latter's environmental program greatly overshadowed the efforts of the former. In fact, despite the legislative framework and implementing bodies set up in the early 1970s, there was limited conservation activity in the pre-Revolution period. The Derg, on the other hand, operated without legislative backing, relying instead on mass mobilization and forced labor campaigns.

There were two areas of concern, which prompted the imperial regime to take some protective measures, which however had contradictory results. The first was wildlife conservation. The country's extensive fauna includes a number of rare endemic species, which were thought to be threatened with extinction by large-scale hunting and habitat destruction. With the support of UNESCO and expatriate technical staff, several national parks and game reserves were set up in various parts of the country in the second half of the 1960s and the early 1970s. The schemes were restrictive and had a damaging impact on the livelihood of the people who lived in and around them. No person was allowed to reside in the schemes, nor cultivate or graze the land, cut trees, or hunt game. The local population whose customary rights of access to the resources was thus curtailed, and which did not benefit in any way, was resentful of the government's measures. Over the years, there was a good deal of illegal hunting and poaching activity in several of the con-

⁹ MoA's SWCD, which was established in 1970 and which was rebaptized as CFSCDD in 1979, played a major role in the environmental rehabilitation program of the government in the 1980s. Kebede Tato was the head of the Department until the end of the 1980s when he became the co-manager of SCRIP; he was at the time a dedicated conservationist. He was succeeded at CFSCDD by Berhe Wolde-Aregay.

ervation areas; many of the families living inside these areas resisted relocation. Expatriate advisers proposed resettlement as a long-term solution, but the proposal was not actively pursued (Blower 1969, 1971; Turton 1987).

The second area of concern was forest protection. In the mid-1960s, after well over a decade of unsuccessful effort, a series of forest legislation was issued by the government. One of the immediate consequences was to enlarge the area of forest under state control. The legislation designated all forests not *owned* by any person or persons as state domain; this in effect transferred forests customarily belonging to local communities to state control. In a country where claims to land or forests were not backed up by title deeds but determined by customary rules, only the well placed could claim ownership to forestland. Moreover, the legislation placed a variety of restrictions on the utilization of private forests (*Consolidated Laws* 1972). These forest laws were greeted with fear and suspicion on the part of the peasantry, and there were widespread acts of covert protest. In Wollo, a wave of illegal tree felling and deforestation followed in the wake of the legislation; in some instances, forestland was cleared and turned into farmland. A spate of forest fires, doubtless started by protesting peasants, damaged several of the forests claimed by the government. The archival evidence from Wollo indicates that the government was aware of what was happening but was powerless to stop it. Peasants were expressing their anger at the expropriation of their resources, and contesting the loss of access to these resources. Moreover, the legislation came at a time when government land policy in Wollo was encouraging the individualization of land ownership. A series of government directives were issued in the 1950s and 1960s to enable individuals to convert land held under a variety of tenures to private ownership. Established tenure arrangements were thus being gradually undermined at the expense of peasant farmers and for the benefit of the local gentry (see Desalegn 1996). The environmental protest should thus be seen as part of the response of peasants to changing agrarian relations and increasing tenure insecurity.

Wollo is not (and has not been in the past) as extensively forested as some of the provinces in the southwest of the country. However, at the end of the 1960s, a number of large, me-

dium and small forests were registered by the MoA office in the province. Some of the larger forests were remnants of natural forests and were located on steep hillsides and deep ravines (see also Mesfin: 40-48). According to the archival sources, three large and some ten medium-sized forests were identified as government property; medium-sized forests were between 400 and 800 ha. The largest forest, Denqoro forest, measuring between 2800 to 3600 ha., was located in western Wollo. A number of small woodlots, on the average 40-80 ha. in size, many of which were planted by their owners, were listed as private woodlots. Similarly, several medium-to-large forests were identified as private property, but oral tradition indicates that the surrounding communities had rights of access to them and that they were in fact community property. The forests were claimed by individuals who undoubtedly had strong political connections, and were registered in their name without the consent of the communities concerned (see Dessalegn 1996). A decade later, following the radical land reform of the Derg, another wave of deforestation took place in Wollo and the country at large. The reform confiscated the property of the landed classes, placed *all forests* under state ownership, and made all planted trees state property. Forests and woodlots were cleared by peasants, and trees on farm plots and even homesteads were cut down. This was a response to the uncertainties of land as well as tree ownership that was induced by the agrarian changes underway at the time. After the reform, the three government forests in the province remained under state ownership to which was also added several medium-to-large forests, some of which confiscated from private owners, others newly planted by means of food aid. By the end of the 1980s, the area under state forestry in the country measured 2.8 million ha., which was an eight-fold increase over state forestry under the imperial regime; in Wollo, state forestry had expanded to 26,000 ha.¹⁰ Some of the medium-sized forests were placed under the community forestry scheme which was initiated as part of the Derg's conservation program, while most of the small woodlots were taken over by the PAs which cleared them and distributed the land to their members. By the end of the 1980s, the total forest cover in

¹⁰ EFAP 1993. These figures refer to the area under the national forest priority areas scheme and industrial and fuelwood plantations; it does not include closed and revegetated areas. See also de Vletter (1986), and MoA 1989a,c. De Vletter was the GTZ forest specialist attached to the MoA office in Wollo.

Wollo, including area closures, was estimated to be 200,000 ha. (EFAP 1992; GTZ 1988).

The earliest endeavor at land rehabilitation in the north-east of the country was undertaken at the initiative of provincial governors and local self-help groups in the latter part of the 1960s. In Wollo, the chief governor, *Dejazmach* Mammo Seyoum, who was committed to conservation, spent considerable time and effort to reforest denuded hillsides in the central part of the province (see this volume). In Tigray similarly, attempts were made to plant trees on some of the bare lands in the province through the support of the provincial administration (Crawford 1973). Both ventures were however limited in their outcome, and they were soon superseded by donor funded f-f-w conservation schemes, the first such undertaking in the country. U.S. surplus food under PL 480 was used to carry out reforestation and the construction of low cost rural roads and small water projects, first in Eritrea in 1970, and then in Tigray and Wollo in 1971 and 1972 respectively. This program lasted until 1974, when it was replaced by several f-f-w projects funded by WFP; the latter were mainly a response to the drought and famine of 1973-74, and the main activities were reforestation, and soil and water conservation in the drought-prone areas of the country. However, at the end of the 1970s, the government, with the eager collaboration of WFP, launched an ambitious program of environmental rehabilitation covering the greater part of the highlands. WFP's relatively small-scale, individual f-f-w activities were consolidated under one super-project called Rehabilitation of Forest, Grazing and Agricultural Lands Project (or Project 2488), whose "watershed" or "catchment approach" became the cornerstone of the government's conservation strategy. Project 2488, which was managed by MoA, grew to be the largest f-f-w program in Africa and the second largest in the world in the 1980s, but it was not the only environmental program in the country. Most of the NGOs working in the rural areas were engaged in similar activities, so too the EC, SIDA, the World Bank and others, but these were all dwarfed in scale and resource commitment by WFP/MoA's massive program.

The main implementing agency of the government's conservation program, and the manager of the food resources supplied by WFP was MoA, in particular its Department responsible

for community forestry and soil conservation, CFSCDD. In the early 1980s, WFP provided food aid to both this Department and state forestry, another unit attached to MoA, but over the years CFSCDD became the dominant partner. The main component of the conservation program consisted of afforestation, on-farm and hillside terracing, area (or hillside) closure, and gully control. Initially, the work was carried out in some 20 catchments, but by the end of the decade the number had grown to 117 scattered throughout the highlands, with a total area of 3.5 million ha. In Wollo, conservation work was undertaken in 11 catchments with the average catchment measuring 44,000 ha. (Sewell 1992; Berhe 1996).

State conservationism, especially from the 1980s onwards, came to be equated with the construction of physical structures on land considered to be at risk through the incentive of f-f-w. Large numbers of peasants were mobilized by MoA as well as local-government officials to construct bunds, terraces, micro-basins and check-dams in return for which they were paid food-wages. Tree seedlings were similarly planted on terraced hillsides. Such was the scale of operations and the haste with which they were carried out that conservation activities were poorly planned, and the measures adopted did not take into account the diversity of farming systems and agro-ecologies in the country. The selection of sites and the choice of conservation technology was determined by MoA agents without consultation with the surrounding peasantry. It was evident that MoA was driven by food delivery: it felt compelled to expand its "absorptive capacity" and to utilize as much of the food aid delivered by WFP as possible. Maximizing f-f-w opportunities was considered important, and extending these opportunities to as many localities as possible was regarded as fair (Kebede 1993). The primary motive was the distribution of food to the needy, and the benefits of conservation was considered of secondary importance. By the third quarter of the 1980s, f-f-w programs managed by MoA, NGOs and others employed between 1.5 and 2.0 million peasants annually. Over the years, f-f-w became so inextricably linked with conservation that it inhibited all voluntary

and participatory activities, and ruled out alternative conservative strategies¹¹.

The flow of cereal food aid, both for emergency and non-emergency purposes, in the period between the mid-1970s and the end of the 1980s shows an interesting trend. A gradual increase in food aid is discernible all through the 1970s, but food deliveries rose up sharply in the 1980s. In the period 1975-1980, WFP's commitment for environmental rehabilitation was 105,000 metric tons (mt) of food aid; for the years 1980-82, it reached 145,000 mt, an increase of 38 percent. In the three following years, ie. the famine years of 1982-85, WFP committed 250,000 mt; but commitments were comparatively low, 100,500 mt, in the following two years, ie. 1985-87, but reached a high of 378,272 in 1987-93 (Adly 1992). If we look at the total flow of food aid supplied by all donors in the period in question, the increase in delivery in the 1980s is even more dramatic. From a relatively low figure of 76,000 mt in 1977/78 the supply of cereal food aid rose to 356,300 mt in 1982/83. In the famine years of 1984/85, food aid supply reached 868,900 mt, a 400 percent surge. Interestingly enough, food aid deliveries never returned to their pre-famine levels, even though the environmental crisis had abated. In 1989/90, the country received 537,500 mt of cereal food aid, in 1989/90 the figure had risen to 893,900 mt, and in 1991/92, it had reached a whopping 1.1 million mt (Aylieff 1993; WFP 1995 gives higher figures). The evidence compiled by Aylieff indicates that from 1977/78 to 1990/91, a total of 6.7 million mt of food aid was provided to the country by western donors. Most of the food aid delivered, on the average 65 percent of it, was utilized for emergency relief, but the rest was payment for f-f-w programs of which environmental rehabilitation, supported by WFP, NGOs, and bilateral and multilateral donor agencies, was by far the most important. It is thus quite evident that considerable resources were invested in land rehabilitation by a diverse group of donors and NGOs in the period from the mid-1970s to the early 1990s. While a greater portion of this investment was in

¹¹ There is considerable source material on conservation in the Derg period, but much of it consists of "grey literature", ie. unpublished works by consultants, civil servants, academics, donor agencies and NGOs. I have made use of some of this literature in this paper. For a recent work, see Yeraswork Admassie 1995; for Wollo, Alemneh Dejene 1990. For a study of the farm economy of Wollo, see Mesfin 1991.

the form of food commodities, there were a number of donors that provided assistance in other forms. The extent of this investment will probably never be known accurately, but I estimate that the total resources committed may have been over 900 million U.S. dollars. Table 1 is my estimate of the breakdown of the cost by principal donor agencies.

Table 1. *Estimate of Cost of Environmental Protection (1974-1993)*
(In Million USD)

Agency	Resources Invested
1. WFP	275.00
2. EC	150.00
3. UN Agencies	50.00
4. Bilateral donors	100.00
5. NGOs	25.00
6. Ethiopian Government	300.00
Total	900.00

Source: Adly; Aylieff; Aytenuw & Aylieff 1992; Banga 1991; Conn 1990, 1992; IDS/IDR 1995; SIDA 1986; WFP 1995.

Note: 1. Figure has been rounded. 2. Includes support for PADEP, N and S Shoa projects, etc; also, support to MoA environmental program, but not aid to WFP. 3. FAO, UNDP, UNICEF, UNSO, etc. support to individual projects and also to MoA's forestry and environmental program. 4. SIDA, Germany, Canada, Scandinavian countries, World Bank, etc. support to MoA's environmental program and to individual projects. 5. Individual environmental activity, and donor support to NGOs. 6. MoA budgetary outlays. Conn 1990 and Adly give different figures, the former much higher than the latter.

It is worth looking briefly at few of the main conservation measures undertaken by the government and the responses of

peasants to them; the discussion does not include conservation work by NGOs and others. We shall begin with afforestation. Tree planting was the earliest conservation measure promoted by both the imperial and Derg regimes, however, there was (and still is) no clear policy on tree ownership. Under both regimes, there was a strong tendency to undertake reforestation on land owned or claimed by the state, however the attempt to encourage individual tree planting was frustrated by the lack of tree policy as well as the uncertainties of the land tenure system. The Derg thought that a system of state forestry on the one hand, and community forestry on the other would address some of the difficulties, but in the end this aggravated the problem instead of ameliorating it. State forestry under the Derg posed a threat to peasant livelihoods: it encroached on farm land, evicted households living in and near it, and took away land that was customarily used for grazing. Many of the forests in question were enlarged by expropriating farmland and pasture (MoA 1989c). The resources of these forests were closed to the surrounding peasantry, which was not allowed to graze its animals in them, nor cut grass or wood; forest personnel provided no material or technical support to peasants who wished to establish their own woodlots.

Community forests were woodlots owned or planted by members of the community on land belonging to a PA, village, cooperative, etc.; the purpose was to provide forest-based products for the benefit of the members involved. Community forests were also envisaged to provide environmental benefits: they were expected to reduce erosion, rehabilitate degraded land and support agricultural production (Sjoholm 1989). These schemes were relatively small in size, not more than 80 ha., and were supposed to complement state forestry; they included eroded hillsides which were planted by the local population through f-f-w. On occasions, community woodlots were established on pasture land, and on land of cultural significance to communities concerned, and were resented for those reasons by the peasantry. The peasant community had no say in any of the decisions affecting the planning and management of the forests; government agents decided what species to plant, where to plant them and how the schemes were to be managed. Many peasants were not convinced of the benefits of community forests, and some were suspicious that the schemes were a

means of promoting collectivization. Indeed, peasants carried on covert resistance against the schemes: tree seedlings planted had a low survival rate because peasants deliberately planted them poorly, and there was increased livestock grazing on newly planted areas. In addition, poor site selection and inadequate management of woodlots contributed to the low survival rate which in many parts of Wollo was between 33 to 48 percent (MoA 1989a); due in part to frequent droughts, survival rates of below 20 percent were not uncommon (Bendz and Molin 1988; Shawel Consult 1989). Perhaps the most thorny issue which eventually led to the failure of community forestry was the ownership and utilization of the forests as well as the land on which they were established. While in principle the forests belonged to and were to benefit the people in the community, in practice the community had no control over the resources and not infrequently it was the government which cut the mature trees to sell elsewhere. Once peasants realized that the forest assets were not really theirs, they began to illicitly harvest the trees, often under the cover of darkness.

The Derg's conservation program placed heavy emphasis on the construction of bunds and terraces, which were believed to be effective measures against soil erosion. These structures were constructed on denuded hillsides as well as on cropland. It was strongly argued that the highest rate of erosion occurred on peasant farm land, and that the right physical measures would not only control erosion but would lead to improvements in crop yield for the land user. Spearheaded by SCRP, the research arm and technical advisor to MoA, the drive to construct bunds, terraces and *fanya-juu* lasted from the beginning to the end of the 1980s and cost an inordinate amount of aid resources¹². These structures were uniformly constructed, with stone or soil, at vertical intervals of one meter, and were recommended for all agro-ecological zones and farming systems. The decision to adopt a uniform technical design was justified on the grounds that the peasant could not grasp complex guidelines and that conservation technology had to be simple and easy to implement. Over a period of a decade, large areas of the coun-

¹² See Hurni 1986 for the variety of physical measures recommended for use. *Fanya-juu* is a Kenyan term referring to a ditch with the dug-up soil piled up on the upper side of the slope to form a barrier against run-off.

try were treated with physical structures both on-farm and on hillsides. Due to inadequate planning and management, and because of the food aid factor, far too many bunds and terraces were built than necessary. Not infrequently, bunds were built on farm land without the wish, participation or even knowledge of the owners of the land. Moreover, many of structures were poorly constructed and soon became an erosion hazard. Maintenance work received very little attention, confirming the view that for MoA agents in the field conservation was a once only exercise. Many peasants were unhappy with physical conservation, but they participated in the program for the employment opportunities it provided. On many occasions, peasants destroyed the bunds and terraces that they had been paid to build in order to be paid again to rebuild them (Kebede 1993).

In the early 1990s, both WFP and MoA officials declared that the environmental program undertaken in the last 12 to 15 years, ie. Project 2488 and its predecessors, was successful and had been of great benefit to the peasantry (WFP 1992). It was claimed that 1.8 million ha. of land had received one form of treatment or another, and that this amounted to 1.5 percent of the total land mass of the country, or about seven percent of the highlands (Berhe 1992; Adly 1992). But these figures were given out by MoA and should be taken with caution. Estimates of some of the work accomplished in the country as a whole is given in Table 2. The discrepancies in the figures shown in the Table (all taken from CFSCDD files) indicate that there is no reliable statistical evidence of the magnitude of the results achieved.

Of the one million mt of WFP supplied food grain used for environmental rehabilitation in the country since the 1970s, nearly one-third was spent in Wollo, however, the record of achievement here is far from outstanding. MoA archives indicate that by the close of the 1980s, some 30,000 ha of land was reforested, 40,000 ha of bunds and about 45,000 ha of terraces were constructed on farm plots and hillsides respectively. The records show that ten million tree seedlings were produced on MoA nurseries in the province annually, however, the survival rate of planted seedlings was atrociously low and a greater part of the product of the nurseries was wasted.

Table 2. *Estimates of Conservation Work (1976-1990)*
(Area in Thousand Hectares)

Measures	Berhe's Estimate	Sewell's Estimate	CFSCDD Estimate
On-farm	771	1000	445
Hillside Ter-	233	280	175
Area Closure	390	375	135
Afforestation	448	150	181 ¹

Source: Berhe 1992 (Berhe 1996 gives different figures); Sewell 1992; CFSCDD 1989.

Note: 1. Includes state forests, peri-urban fuelwood plantations and CFSCDD projects.

The Failure of State Environmentalism

Most of the assets created by the WFP/MoA conservation program were demolished during the disturbances following the collapse of the Derg, or have fallen into disuse. In the end, the result was a colossal wastage of resources and a stinging rebuff to state environmentalism. The story of the destruction of the environmental assets created under the Derg is too complicated to recount here, and a few words on the subject will have to suffice (see Dessalegn 1994). The collapse of the Derg in 1991 unleashed an outburst of violent activity in the countryside, which included, among other things, an attack on conservation measures. In Wollo, the assault on state forestry was triggered by the Derg army, which was deployed there in large numbers. Soldiers indiscriminately cut down trees, without permission from the authorities, to use as fuelwood in their camps or to sell to urban consumers. Deforestation by peasants followed, and by the end, the damage was considerable. MoA records indicate,

for example, that upto two-thirds of the forests planted in north Wollo under Project 2488 may have been "harvested" illegally in 1990 and 1991; in south Wollo, an inventory carried out by MoA in the latter part of 1991 showed that the area's forest cover had been reduced by 62 percent. Peasants also demolished on-farm bunds as well as hillside terraces; areas enclosed for regeneration were invaded and grazed. At a workshop organized by WFP in 1992, MoA officials declared that 65 percent of the conservation measures in the country still remained intact (WFP 1992); however, while it is impossible to determine accurately, the true figure was probably in the neighborhood of 35-40 percent. As I have argued in the work noted above, peasants' involvement in the destruction of environmental assets must be seen as an act of protest against a conservation program which was imposed on them, which ignored their needs and flouted their experience and practical knowledge.

The conservation strategy of the Derg was flawed from the outset. The catchment approach adopted since the early 1980s, in which the focus of conservation activity was the catchment, and not the household farm, placed the peasant in an insignificant position. Under this approach, the individual farm had to submit to the larger interest of the catchment, and what was good for the catchment was believed to be good for the peasant plot. Moreover, catchment conservation had a limited range of options, and was mainly concerned with physical structures and reforestation. Secondly, food aid, and MoA's drive to expand f-f-w opportunities, became in the end self-defeating. Very few durable assets were created with f-f-w as peasants were more interested in the food than in the benefit of the works constructed. Besides, f-f-w discouraged proper and timely maintenance of conservation measures. While f-f-w extended MoA's leverage and outreach in the countryside, the Ministry became dependent on food aid without which it could not undertake many of its other programs. Moreover, MoA was deaf to alternative conservation approaches (such as for example biological or agronomic approaches) because they required less labor and hence less food aid. The choice of conservation technology was based not on its effectiveness but rather on how much employment opportunities it would open up.

Both WFP and MoA were frequently criticized by expert

opinion for their heavy reliance on physical conservation. But it was peasant criticism which highlighted the deleterious effects of the new conservation technology. Peasants rejected the narrowly spaced bunds, which were imposed on them on the practical grounds that they made plowing difficult and time consuming. Moreover, these structures took away valuable farmland - estimates range between 10 to 15 percent- and their benefits, in terms of increased production, did not compensate the land user. Level structures, in particular *fanya-juu*, often caused water-logging in high rainfall areas, while graded ones were frequently impractical because of lack of suitable water courses to channel excess run-off. Peasants were unhappy about stone bunds because they said they harbored rodents that destroy crops. They complained about area closures because these involved the loss of access to grazing land; closures were not accompanied by alternative sources of pasture. Underlying these criticisms was the view that traditional conservation technology is more effective and less costly.

In May 1995 we conducted several interviews with peasants in central Wollo on the subject of land degradation and environmental protection. All informants were keenly aware of the problem of soil erosion and the environmental impact of forestry and deforestation. Several of the elders recounted the story of recurrent deforestation in their localities in the past six decades in response to ill-advised state policies, following political unrest or in times of civil war; they noted that resource degradation was aggravated as a consequence. Many pointed out the differences between traditional conservation practices and those introduced by the Derg, and carefully suggested that the former were better and easier to employ than the latter. Informants stressed that traditional practices employed physical and vegetative/biological measures in a dynamic combination. Common resources, such as pasture land and forests, the peasants pointed out, were managed in the past by informal community governance institutions which regulated the use of the resources, resolved conflicts arising from competition over their use, and protected them against encroachment by outsiders.

It was only in the last years of the Derg that senior government officials began to be seriously concerned about the deficiencies of the conservation program and the damaging effects

of the f-f-w approach. Conservationists within MoA now started to re-examine the work that had been undertaken for nearly a decade and found much to criticize. The work of CFSCDD, which was responsible for the management of Project 2488, was shown to have been carried out poorly, without proper planning and in an uncoordinated manner. It was realized that f-f-w had undermined the causes of environmental rehabilitation: peasants, it was noted, were more concerned with the food offered rather than with creating durable environmental assets (MoA 1989a,b). At the end of the 1980s, a new conservation strategy was drawn up, once again through the initiative of western donors and the involvement of expatriate advisors, and without sufficiently examining the experiences of the past. The new document advocated the "sustainable utilization of natural resources", and made a plea for "participatory approaches", however, it was never implemented as the Derg regime collapse shortly after (ONCCP 1991; IUCN 1990).

I started out this paper with a review of the environmental "narrative" of the expatriates and its influence on government policy; I shall conclude the discussion with a brief look at SCRIP, another expatriate voice which was closely connected with the conservation program of the Derg. SCRIP, jointly funded by the Ethiopian government and the Swiss development agency, was established in 1981 at the initiative of Hans Hurni who became its manager for the first five years of its life and continued to exercise influence long after that. The objective of the Project was to undertake research on soil erosion, and to monitor and evaluate the effectiveness of conservation measures implemented by MoA. Its research consisted in the main of soil loss data collected from erosion plots located in several parts of the highlands; Hurni and his subordinates believed the data were accurate and reliable because they were said to be based on scientific research (see SCRIP 1984-1991). SCRIP did not itself implement conservation measures, but its influence on MoA officials on the choice of conservation technology was considerable. From the very beginning SCRIP was exclusively concerned with physical structures, and despite the criticism of expert opinion and even MoA itself (see MoA 1989b), it did not

consider other conservation options until the early 1990s, until, that is, the collapse of the Derg and its conservation program¹³.

Behind SCRP's "scientific" research and recommendation were a set of assumptions about the peasant and peasant attitudes. First, Hurni and his team regarded the peasant either as a passive object of conservation policy, or altogether irrelevant. What was important for them was the technical soundness of the chosen conservation technology and its proper implementation. Karl Herweg, a student of Hurni, and co-manager of SCRP in the late 1980s, observed at a briefing in 1993, at which this writer was present, that SCRP began to respond to peasant reaction only with the fall of the Derg, and that before then "the farmer as such did not exist for us". Secondly, it was assumed and frequently expressed in writing that the peasant neither understood the dynamics of land degradation nor was receptive to conservation. The uniform technical guidelines adopted in the early 1980s noted above, a recommendation of SCRP, was justified on the grounds that the peasant was too ignorant to grasp anything other than simple guidelines. In a book edited by Kebede Tato and Hans Hurni, the two editors give the following reasons why they are not enthusiastic about the participatory approach to environmental rehabilitation: "In many circumstances real participation by farmers is not feasible because of their obvious lack of knowledge about the processes of degradation and about the means used by outsiders to intervene positively" (1992: 6-7). Similar sentiments are expressed in several of SCRP's progress reports (SCRP 1984: 48-54). Thirdly, it was believed that since land rehabilitation would immediately result in improvements in crop yield, it was not necessary to obtain the consent of the peasant as he would see for himself the benefits of conservation soon enough. However, research work carried out by SCRP itself at the end of the 1980s revealed that bunds and similar physical measures did not contribute to improvement in yield, thus confirming what the peasant had suspected all along (Herweg 1992).

¹³SCRP was closed down a few years ago and its work was assigned to the regional agricultural bureaux. SCRP issued a series of Progress Reports from 1982 to 1991; Hurni was the main author of these Reports for the years 1982-1986.

One of SCRP's important contributions was said to be the collection of soil loss and run-off data from test plots established in various parts of the highlands. These data were used to provide information about the rate of soil loss on farms and the extent of land degradation in the highlands. Hurni's claim that farm lands were losing as much as 300 tons of soil per hectare per year, and his prediction, noted above, that the country's top soil would be washed away in 100 to 150 years was based on data collected from these test plots.

However, expert opinion has shown that SCRP's research is methodologically flawed, and its findings are unreliable. Sutcliffe (1993) has argued that EHR's and Hurni's annual soil loss calculations are based on questionable assumptions and their figures are higher by many orders of magnitude. The distinguished tropical soil scientist, Michael Stocking, has demonstrated in a recent work that erosion rates derived from experimental test plots suffer from scale effects, are liable to gross errors and therefore of "dubious validity". He shows that the attempt to extrapolate from small experimental erosion plots to catchment, regional and national scale, which is what SCRP research had been doing for nearly a decade, may exaggerate "actual sediment loss by a factor of 100 or more". Real slopes, he argues, "have a balance of erosion and deposition throughout the length. Consequently, on a per hectare basis, small [test] plots suffer higher soil loss than large plots" (1996: 150). Erosion plots, he goes on to note, provide a classic case of experimental interference: the measurement itself intrudes on the process being measured, and hence the results from field plots are "extremely unlikely to resemble those on a real field". Moreover, it should be noted that not all the soil washed down from the Ethiopian slopes is lost forever; some of it is deposited in valley bottoms where most of the country's farm land is located. Thus what is a loss for the steep lands becomes a gain for the valley floor. The erosion plot only catches sediment that passes into the sludge container below, ie. the sediment that is "lost"; it does not "catch" the sediment that is deposited elsewhere. We may thus safely conclude that the ecological calamity predicted by Hans Hurni as well as the soil loss data collected by SCRP were based on flawed research and unreliable evidence.

I believe Hurni and the SCRP should be held partly re-

sponsible for the disastrous record of the Derg's conservation program. Hurni had a mind-set similar to that of the colonial conservationist in Africa, who in the 1940s and 1950s imposed unpopular conservation measures on an unwilling African farmer without understanding the dynamics of his farm and livestock management practices (see Stocking 1985; Wood 1992). Hurni's writings reveal that he had only superficial knowledge about Ethiopian agriculture and little regard for the laboring peasant. He marched through the countryside like a feudal warlord armed with *fanya-juus* and graded bunds with hardly any concern for the views and reactions of the farming population.

In conclusion, I submit that the conservation program of the Derg ultimately failed not just because of its misguided policies and undemocratic ways but also because it was resisted, now passively, now actively, by the peasant population. From the start the environmentalism of the state and that of the peasant were on a collision course because each had different perceptions and different objectives. While all peasants eagerly participated in the f-f-w activities made possible by Project 2488, they had neither the trust in the value nor confidence in the quality of many of the environmental assets they helped create. Most peasants rejected both the rhetoric and technology of the conservation program in a variety of ways, of which the most dramatic was the violent anti-conservation agitation that greeted the fall of the Derg.

Acronyms

CFSCDD: Community Forestry and Soil Conservation Development Department, Ministry of Agriculture
EC/EU: European Community/European Union
EFAP: Ethiopian Forestry Action Programme
EHRS: Ethiopian Highlands Reclamation Studies (FAO/MoA)
F-f-w: Food-for-work
FAO: Food Agricultural Organization
GTZ: German Technical Assistance Agency
IDR: Institute of Development Research (Addis Ababa University)
IDS: Institute of Development Studies (University of Sussex)
IUCN: International Union for the Conservation of Nature

MoA: Ministry of Agriculture
MT: Metric Tons
NGOs: Non-Government Organizations
NFPE: National Forestry Programme for Ethiopia
NOP: National Office of Population (Addis Ababa)
ONCCP: Office of the National Committee for Central Planning
(Addis Ababa)
PA: Peasants' Association
PADEP: Peasant Agriculture Development Programme
RRC: Relief and Rehabilitation Commission
SCRIP: Soil Conservation Research Project
SIDA: Swedish International Development Agency
SWCD: Soil and Water Conservation Department (MoA)
UNDP: United Nations Development Programme
UNESCO: United Nations Educational, Scientific and Cultural
Organization
UNICEF: United Nations Children's Fund
UNSO: United Nations Sahelian Organization
USAID: United States Agency for International Development
WFP: World Food Programme

References

Interviews

Interviews with peasants in Ambassel Awraja, Wollo, May 1995.

Archival Material

The Ministry of Agriculture, Dessie. Records for the years 1964-1976; 1979-1991.

Other Sources

Adly, Khaled 1992. New Approaches on Food Aid Activities. Paper prepared for WFP's FFW Workshop, Addis Ababa.

Alemneh Dejene 1990. *Environment, Famine, and Politics in Ethiopia: A View from the Village*. Boulder: Westview Press.

Aylieff, John 1993. Statistical Summary of Food Aid Deliveries to

- Ethiopia 1977-1992. WFP Addis Ababa Food Aid Information Unit, Addis Ababa, June.
- Aytenew Birhanu with John Aylieff 1992. Inventory, Map, and Analytical Review of Food and Cash-for-Work Projects in Ethiopia (Draft Report). World Food Programme, Addis Ababa, December.
- Banga, Luther (ed) 1991. Reducing People's Vulnerability to Famine. An Evaluation of BAND AID and LIVE AID Financed Projects in Ethiopia. PAID, Douala, Cameroon.
- Bendz, M and P.A. Molin 1988. Trees Grow in Wollo. Mission Report. Consultants AB, Vaxjo, Sweden, February.
- Berhe Wolde-Aregay 1992. FFW and the Community Forests and Soil Conservation Program in Ethiopia. Abstract. In WFP 1992, pp. 22-23.
- _____ 1996. Twenty Years of Soil Conservation in Ethiopia. A Personal Overview. Regional Soil Conservation Unit, SIDA, Nairobi.
- Blower, J.H. 1969. Wildlife Conservation in Ethiopia. *Walia*, 1:15-23.
- _____ 1971. Ethiopia: Wildlife Conservation and National Parks. September 1965-September 1969. FR/TA/ETHIOPES/5. UNESCO, Paris.
- Bosshard, W.C. 1959. Report to the Government of Ethiopia on Forestry Development. FAO Report No. 1143, Project ETH/FO. FAO, Rome.
- Breitenbach, F. von 1962. National Forestry Development Planning. *Ethiopian Forestry Review*, 3/4: 41-68.
- Brown, Leslie 1973. *Conservation for Survival: Ethiopia's Choice*. Addis Ababa: Haile Sellassie University Press.
- CFSCDD 1989. Some Facts on Soil and Water Conservation Program in Ethiopia. In Proceedings of the 20th National Crop Management Conference, 28-30 March 1988, Addis Ababa, pp. 93-98. Institute of Agricultural Research, Addis Ababa.
- Conn, G. 1990. Forest Resource Base. Identification, Conservation, and Rational Use in Ethiopia. [Address] Presented to the Rotary Club, Addis Ababa. GTZ, Addis Ababa, 2 August.
- _____ 1992. Reforestation in Ethiopia. Facts and Figures. GTZ Forestry Project, Addis Ababa, 19 February.
- Consolidated Laws of Ethiopia*, 1972. Prepared by the Faculty of Law, Haile Sellassie University, Addis Ababa.

- Crawford, T.W. 1973. Law and Development in Ethiopia: An Application of the Seidman Model to a Reforestation Program. Masters Thesis, Fletcher School of Law and Diplomacy, Tufts University, Medford, Massachusetts.
- Dessaiegn Rahmato 1991. *Famine and Survival Strategies. A Case Study of Northeast Ethiopia*. Uppsala: Nordiska Afrikainstitutet.
- _____ 1993. Land, Peasants, and the Drive for Collectivization in Ethiopia. In T.J. Bassett and D Crumme (eds.), *Land in African Agrarian Systems*, pp. 274-97. Madison: University of Wisconsin Press.
- _____ 1994. The Unquiet Countryside: The Collapse of Socialism and Rural Agitations 1990-1991. In Abebe Zegeye and S. Pausewang (eds.), *Ethiopia In Change*. London: British Academic Press.
- _____ 1996. Land and Agrarian Unrest in Wollo, Northeast Ethiopia, Pre-and Post-Revolution. IDR Research Report No. 46. Institute of Development Research, Addis Ababa.
- De Vletter, J. 1986. The Role of State Forestry in the North Eastern Zone. In SIDA, SIDA Support to Welo Region, pp. 62-71.
- EFAP 1992. Ecosystem Conservation. Task Force Report (Main). Report of Task Force No. 9. EFAP, Addis Ababa, February.
- _____ 1993. Ethiopian Forestry Action Program: Draft Final Report. Volume II- The Challenge for Development. EFAP, Addis Ababa, May.
- Ethiopian Forestry Review*. Issues for 1961 and 1962.
- EHRS 1984. The Degradation of Resources and an Evaluation of Actions to Combat It. [Prepared] by M. Constable. UTF/ETH/037/ETH. Working Paper 19. MoA and FAO, Addis Ababa, December.
- GTZ 1988(?). Overview State Forest Areas in Wollo Per Awraja and Vegetation Type. Document found in Wollo MoA miscellaneous files. GTZ, Dessie.
- _____ 1991. National Forestry Priority Areas (NFPAs) of Ethiopia. A Contribution to the FAO Forest Resources Assessment Project 1990. GTZ, Addis Ababa.
- Herweg, Karl 1992. Major Constraints to Effective Soil Conservation. Experiences in Ethiopia. Paper Presented to the 7th International Soil Conservation Conference, Sidney,

Australia.

- Hoben, Allan 1995. Paradigms and Politics: The Cultural Construction of Environmental Policy in Ethiopia. *World Development*, 23, 6: 1007-21.
- Hurni, Hans 1986. *Guidelines for Development Agents on Soil Conservation in Ethiopia*. Addis Ababa: CFSCDD.
- _____ 1988. Ecological Issues in the Creation of Famines in Ethiopia. Paper Presented to the National Conference on Disaster Prevention and Preparedness Strategy for Ethiopia, Addis Ababa
- IDS and IDR 1995. Evaluation of EC/EU-Ethiopia Cooperation. Main Report, Draft. University of Sussex, Brighton; Addis Ababa University, Addis Ababa; May.
- IUCN 1990. Ethiopia: National Conservation Strategy. Phase I Report. Based on the work of A. Wood and M. Stahl. Addis Ababa, March.
- Kebede Tato 1992. Soil Conservation and Forestry Development through Food for Work: The Ethiopian Case. Unpublished paper. SCRP, Addis Ababa.
- _____ 1993. Personal Interview, SCRP, Addis Ababa, 5 February.
- Kebede Tato and Hans Hurni (eds.) 1992. *Soil Conservation for Survival*. Ankeny: Soil and Water Conservation Society.
- Leach, Melissa and R. Mearns (eds.) 1996. *The Lie of the Land. Challenging Received Wisdom on the African Environment*. Oxford: James Currey.
- Logan, W.E.M. 1946. An Introduction to the Forests of Central and Southern Ethiopia. Institute Paper No. 24. Imperial Forestry Institute, University of Oxford, Oxford.
- McCann, James 1999. *Green Land, Brown Land, Black Land. An Environmental History of Africa 1800-1990*. Oxford: James Currey.
- Melaku Bekele 1992. Forest History of Ethiopia from Early Times to 1974. MA Thesis, University College of North Wales, Bangor.
- Mesfin Wolde-Mariam 1991. *Suffering Under God's Environment: A Vertical Study of the Predicament of Peasants in North-Central Ethiopia*. Berne: African Mountains Association and Geographica Bernensia.
- Ministry of Agriculture 1989a. Assessment Report of Field Activities of the CFSCDD [Amharic]. CFSCDD, Addis Ababa, January.

- _____ 1989b. Proceedings of the First Departmental Workshop of the Community Forests and Soil Conservation Development Department held at Awassa 5-12 October 1987. MoA, Addis Ababa.
- _____ 1989c. The Last Forests of Ethiopia. Forestry and Wildlife Conservation and Development Department, MoA, Addis Ababa.
- National Forestry Programme for Ethiopia 1974. Phase One: A Three Year Development Project. Addis Ababa, December.
- National Office of Population 1996. Papers on the Panel Discussion on Population and Environment in Ethiopia, Addis Ababa, February.
- ONCCP 1991. Towards a National Conservation Strategy for Ethiopia. Report of the Proceedings of the Conference Held in Addis Ababa 22-25 May 1990. ONCCP, Addis Ababa.
- RRC 1975. Drought Rehabilitation in Wollo and Tigre. Report of a Survey and Project Preparation Mission [led by L. Brown], October-November 1974. Addis Ababa, January.
- _____ 1985. Combatting the Effects of Cyclical Drought in Ethiopia. RRC, Addis Ababa, January.
- SCRP 1982-1991. First to Eighth Progress Report for the Years 1982 to 1998, Volumes 2-9. University of Berne in association with United Nations University, Tokyo.
- _____ 1984. Volume 4, Third Progress Report (Year 1983). University of Berne in association with United Nations University, Tokyo.
- Sewell, L.G. 1992. Technical Report of the International Consultant on Soil and Water Conservation. EFAP, Addis Ababa, July.
- Shawel Consult 1989. Evaluation of the Community Forestry Program in Ethiopia. Volume I, Main Report. CFSCDD, Addis Ababa, June.
- SIDA 1986. SIDA Support to Welo Region. Background Papers. SIDA SC/CF Welo Mission. Addis Ababa?, September-December.
- Sjoholm, H. 1989. Guidelines for Development Agents on Community Forestry in Ethiopia. CFSCDD, Addis Ababa.
- Stocking, Michael 1985. Soil Conservation Policy in Colonial Africa. *Agricultural History*, 59, 2: 148-61.
- _____ 1996. Soil Erosion: Breaking New Ground.

- In Leach and Mearns (eds.), pp. 140-54.
- Sutcliffe, J. P. 1993. Economic Assessment of Land Degradation in the Ethiopian Highlands. A Case Study. National Conservation Strategy Secretariat, Ministry of Planning and Economic Development, Addis Ababa, December.
- Swain, E.H.F. 1952. Forestry Possibilities in Ethiopia. *Unasywa*, vi, 1: 15-20.
- _____ 1953. Final Draft Forestry Proclamation for Ethiopia. Unpublished mimeo, Addis Ababa.
- _____ 1954. Report to the Government of Ethiopia on Forestry Policy and Forest Development. FAO Report No. 321. Project ETH/10. FAO, Rome, December.
- Tahal Consulting Engineers 1988. Study of Traditional Conservation Practices. [Prepared for] MoA, R-88-44. Npp. October.
- Turton, David 1987. The Mursi and National Park Development in the Lower Omo Valley. In D. Anderson and R. Grove (eds), *Conservation in Africa: People, Policies and Practice*, pp. 169-86. Cambridge: Cambridge University Press.
- WFP 1992. FFW Workshop. Annex 3. WFP, Addis Ababa.
- _____ 1995. World Food Programme and Food Aid in Ethiopia. WFP, Addis Ababa, February.
- Wood, Adrian 1992. Zambia's Soil Conservation Heritage: A Review of Policies and Attitudes towards Soil Conservation from Colonial Times to the Present. In Kebede Tato and H. Hurni (eds), pp. 156-71.
- Worster, Donald 1994. *Nature's Economy: A History of Ecological Ideas. Second Edition*. Cambridge: Cambridge University Press.
- Yeraswork Admassie 1995. Twenty Years to Nowhere. Property Rights, Land Management and Conservation in Ethiopia. PhD dissertation, Uppsala University, Uppsala.

Chapter 3

ENVIRONMENTAL CHANGE AND ECOLOGICAL CONFLICT

Introduction

The subject of environmental change in this country may be coming of age, for in place of the orthodox consensus of the 1980s, when the discussion on the environment began in earnest, we have today controversy and debate. The battle lines are slowly being drawn and the weapons sharpened, though, as is customary in intellectual warfare, there will most probably be no winners or losers.

The orthodox environmentalists, as I shall call them here, raised the specter of environmental catastrophe: the country's farmland, they warned, was being exhausted by high rates of soil erosion, which was brought on by years of massive deforestation. They put much of the blame on the shortsightedness of the peasant and his poor farming practices on the one hand, and growing population pressure on the other. They argued that the greater part of the central highlands was once covered with high forest and woodland but over the centuries the forest canopy was recklessly removed for farming and other agricultural purposes. As a consequence, they claim, the landscape today is virtually bare and treeless except for a small area in the southwest of the country. Recent opinion has contested this viewpoint, arguing that the evidence for the dramatic claims and conclusions are based on faulty assumptions or drawn from older works, which are no longer convincing. The new thinking is critical of the alarmist element in the orthodox literature and contends that the approach taken is not grounded in Ethiopian reality but rather reveals the influence of western donors. It argues that while it may not be fully adequate, peasant farming incorporates a good deal of sound land management practices. Some

of the newer literature is critical of the over-emphasis on population pressure and the neo-Malthusian approach frequently used to explain environmental change¹⁴. However, as I shall try to show further down, the new environmental thinking, while justified in questioning the assumptions and findings of the earlier school, fails to convince in a number of respects and its weaknesses may in the long run turn out to be as serious as its predecessor's.

Overall, the environmental discourse in Ethiopia, both old and new, may be faulted on two counts. First, there has been a tendency, particularly though not exclusively by the earlier environmentalists, to write the environmental history of the country with the peasant taken out of it. If the peasant does make an appearance, it is as the main actor responsible for environmental destruction. Secondly, both schools of thought perceive the environment as an abstract entity and not as a valuable resource, which, today as well as in the past, has been a source of sustained conflict among social and political groups, communities and households.

In this chapter I shall argue that the natural landscape has always been a contested terrain pitting the peasant on the one hand against the state and the landed classes on the other. The conflict has been over resources, rules and power. Both schools of thought have been so much concerned with telling the story of what humans have or have not done to the environment that they have failed to give sufficient attention to social and political factors, and, in the process, have either misconstrued the response of the main actor in the drama, the peasantry, or not given due importance to it. To understand the seemingly contradictory behavior of the peasant towards the environment, we need to employ the insights of not only environmental history but of political ecology as well. What is missing from the environmental narrative, in other words, is the analysis of *conflict* over environmental resources.

¹⁴ For an extended discussion of the orthodox literature see Ch.2 this volume. See Ethiopian Highlands Reclamation Studies 1984, Hurni 1988, and Wood and Stahl 1990 for the older school; Belay 1998a,b, Crummey 1998, Hoben 1995, and McCann 1997 for the new thinking.

This study covers the period from the latter part of the 1970s to the early 1990s. These were the years in which the Ethiopian Revolution embarked on its fateful Stalinist course and collapsed some twelve years later as a consequence. The main focus is the rural disturbances that broke out at the time of the fall of the military government, the Derg, with particular emphasis on the assault on the environmental assets created in the previous decade as part of the conservation program of the Revolutionary government. The work is based on my findings from the Wollo environmental research project, which was launched in 1994 and completed in 1997¹⁵. The research was carried out in three rural sites located in three distinct agro-ecological zones in what was previously known as Ambassel sub-province in central Wollo.

The Peasant, the State and the Environment

The environment is the natural resource base that continues to provide the peasant a wide range of livelihood assets and benefits. This resource base consists in the main of land, forests, water points and wildlife; until very recently, few people in this country placed much significance on biodiversity as an environmental resource. The Ethiopian highlands, where more than 85 percent of the rural population and over 90 percent of the farm land is located, account for a little less than half of the country's total area. The land here has been under intense cultivation for centuries, and plow-based peasant agriculture has been able to sustain complex social and political systems and an increasing human population all through this time (McCann 1995). Orthodox environmentalism continues to insist that peasant agriculture is threatened with imminent collapse due in large part to the high rate of environmental degradation, but the small farmer has evolved simple but fairly effective conservation

¹⁵ The MacArthur Foundation, to which I convey my thanks, funded the project. The present author was, along with D. Crummey, Bahru Zewde, Belay Tegene and Sebsebe Demissew, a member of the multidisciplinary research team that carried out fieldwork in these years. See the special issue of *Journal of Ethiopian Studies*, XXXI, 1, 1998. I have also used archival material from the Wollo office of the Ministry of Agriculture; this is now deposited in the Library of the Institute of Ethiopian Studies, Addis Ababa University.

measures to enable the land to be worked over the centuries with little loss of fertility. Without such measures, the country's cropland would have been exhausted long before the environmentalists appeared on the scene.

The environment has also been coveted by the state and the landed classes for its value both as an economic and political resource. Economically, it continues to be an important productive asset, a source of revenue, and a form of stock for future benefits. Politically, control over environmental resources has bestowed power and privilege enabling the state and the classes concerned to exercise authority over populations and community groups. This has been true in the past and is also true today, though since the Revolution of the 1970s the landed classes are no longer part of the political landscape.

While critics of the earlier approach have rightly contested many of the latter's findings, the debate on the Ethiopian environment has not however progressed beyond the basics and is still bogged down in landscape interpretation. Nevertheless, since it is important for this paper, I shall briefly look at one of the issues in contention, namely the nature of the highland landscape and the changes in the vegetation cover over time.

Orthodox environmentalists contend that the landscape over much of the highlands was dramatically different from what it is today, and that there has been progressive loss of forest cover and degradation. This viewpoint, which is persistent and strongly entrenched among students of the environment and policy makers in Ethiopia, has tended to exclude other readings of the highland landscape and other approaches to environmental research. McCann, who is the most perceptive historian of the Ethiopian environment and who has presented perhaps the most vigorous criticism so far, calls this viewpoint the deforestation narrative. He argues that the deforestation narrative is a myth, and much of the existing tree cover in the highlands is not a remnant of an earlier natural forest but is man-made, planted in particular by town dwellers (McCann 1997). The highlands, he claims, have always been treeless largely because the ecological setting is unfavorably to tree growth. In brief, McCann, and, to some extent, Crummey contend that we have been misreading the highland landscape and misconstruing the dynamics of

environmental change. It is evident that both authors have been influenced by the work of Fairhead and Leach (1996), but interestingly enough while the criticism of orthodoxy in the latter work is based in large part on the evidence of local inhabitants, the work of the former either does not incorporate such evidence or ignores it altogether. I have myself criticized the deforestation narrative in the work noted above but my point was not that it was a myth but that both the magnitude of the forest cover and the extent of deforestation claimed has been highly exaggerated.

I offer the following evidence to support my argument that the claims of both McCann and Crummey are untenable and that while the deforestation narrative is certainly flawed it does contain an element of truth. Some of this evidence is based on my findings from my Wollo research noted above.

In 1995 I interviewed a number of knowledgeable peasants, mostly elders in their sixties or older, in the three sites of central Ambassel. All informants stated that compared to the present there was much more vegetation cover in their localities when they were young, and that there has been loss of forest cover through deforestation and extension of the cultivated area over the years. Many of them identified four rounds of large-scale deforestation, which took place in the mid-1930s following the occupation of Wollo by the invading Italian forces, in the 1960s during the imperial regime, in 1974-75 in the wake of the radical land reform of the Derg, and in 1991-92 following the collapse of the military government. In each site, informants enumerated a large variety of tree species, which they said used to grow on hillsides and at the bottom of hills in their localities but many of which have now disappeared or no longer easily found. The same informants also pointed out that the valley bottoms and most of the *woyna-degga* (or mid-altitude) plains were heavily settled in the 1920s and 1930s. In brief, oral accounts clearly suggest that there was much more woody vegetation in Ambassel fifty to seventy-five years ago than at present. The botanical evidence supports the peasants' claims as Sebsebe's study (1998) of the vegetation and floristic composition of the area reveals a considerable variety of mostly indigenous tree species. It is worth noting in this connection that there is an extensive repertoire of plant names, in particular of tree species, in local lan-

guages, especially in the main highland languages of Amharic, Oromigna, and Tigrigna (Wolde Michael 1987, Azene 1993). Such rich floral vocabulary is indicative of a rich floral history.

The evidence from one of the keenest and most careful observers to travel through Wollo also indicates that the ecology of the area is much more varied than is suggested by McCann and Crummey. The Englishman Augustus Wylde, who made the journey from the Eritrean coast to Addis Ababa and beyond in 1896, traveled across the length of Wollo, passing through central Ambassel, and camping on one occasion on Borru Meda, on the edge of one of our research sites. Wylde (1901) cites several large and medium forests in Yejju, to the north of Ambassel, and in Ambassel itself; these forests, he says, were located on hillsides and at the bottom of hills. He was quite excited by the extensive variety of trees and other plant species, which he lists in this book. He states that much of what he calls the "downs" of Wollo were treeless and boring. He stresses that Wollo was thickly populated with most of the farming taking place in the open rolling plains. In summary, a careful reading of Wylde's account shows that the ecology of Wollo was varied, consisting of a mixture of treeless plains, forests and high mountains.

In support of his treeless argument McCann cites Clapham's¹⁶ claim that the endemic bird species that are commonly found in the highlands are ground-dwelling, indicating a long period of adaptation to grassland habitat. A recent inventory by the Ethiopian Wildlife and Natural History Society (EWNHS) of important bird areas in the Amhara region, which comprises most of the central highlands, tells a different story. Here are found eight bird species endemic to Ethiopia proper, and twelve highland biome species that are restricted to Ethiopia and Eritrea. The habitat preferences of these twenty species are as follows: five species dwell in gorges and rocky areas, two species dwell in wetland areas, seven prefer forest habitats, and five open grassland; the habitat of one species has not yet been determined (EWNHS 1996). The avifaunal evidence thus reveals that the highlands were by no means treeless, but consisted of

¹⁶ Clapham is a political scientist, not a naturalist.

grassland, forests and rugged mountains.

Clearly then, woody vegetation was part of the natural ecology of the highlands, though we still lack sufficient knowledge to determine how much of the highlands was under forest cover. The question now is: why and how did deforestation occur? The claim of the orthodox environmentalist that it was the relentless expansion of agriculture that was responsible for the loss of the forest cover is simplistic though we should not dismiss it as altogether erroneous. A variation of this viewpoint is McCann's argument in his earlier works that the combination of ox-plow technology and population growth forced settlements in the nineteenth century to expand into new natural settings such as hillsides and more fragile ecosystems (McCann 1987, 1995). This too contains an element of truth although the evidence for the demographic pressure is not fully convincing. I submit that to overcome the problem of the dearth of historical evidence we look at the experience in the recent present and draw lessons that may help us to understand what happened in the past.

Deforestation should not only be seen as a response to material needs and demographic pressure, it is in addition the outcome of social struggles arising from the claims and counter-claims of groups and political forces. In Ethiopia, an environmental resource has often been considered a free good liable to be captured by individuals or groups that at the moment in question wield sufficient power. This frequently deprives the surrounding communities, which may depend heavily on the resource, rights of access and use. The Ethiopian peasant knows from experience that a natural resource is not a bounty of nature given equally to all, on the contrary such a resource will sooner or later be claimed by the powerful and privileged even if his community has a prior, customary right over it. The natural landscape has thus been always pregnant with conflict and opposition: the peasant community against the state, the landed classes against the peasant community, and sometimes the state against the landed classes.

In the imperial period, the main form of transfer of rights over forest resources was judicial or extra judicial expropriations. Expropriations were undertaken by the state and as well as the landed classes. Let us first look at what I wish to call ex-

tra-judicial expropriations. From the 1950s to the end of the 1960s, there was a steady transfer of forests and pastureland from customary ownership to state property as well as to private ownership. Through its power of *eminent domain*, a power which did not recognize most forms of customary ownership, the imperial state laid claim to all land not "owned" by individuals. There was a concerted effort in the 1960s to determine accurately the extent and location of such land and to assert government authority. Government sources at the time estimate that close to half of the total land area of the country was under some form of government ownership (Ministry of Land Reform 1971). Moreover, the institution of imperial land grants, which was in usage all through the lifetime of the state, transferred a sizeable portion of government land, including forest land to the nobility and the local gentry (Wetterhall 1972). One of the first acts of the newly established Derg regime was to confiscate forestland given to high government officials as imperial land grants. Lastly, as I have pointed elsewhere, imperial appointments to important provincial and *awraja*¹⁷ posts often gave appointees opportunities to lay claim to natural resources customarily utilized by the surrounding peasantry or pastoralists (Dessalegn 1996).

The judicial expropriations are easier to document. In the mid-1960s, the imperial regime issued a series of forest legislation defining the ownership of forests and regulating their utilization (Consolidated Laws 1972). The legislation, which was intended to undermine customary ownership, designated all forests that were not *legally owned* by any person or persons as state property. This was an indiscriminate legislation, and the only reason its immediate impact on the peasant communities concerned was not as drastic as it would have been was because the state did not know or have access to the forests that it wished to expropriate. In many instances, the law transferred the status of forests customarily utilized by local communities. State forests were closed to the surrounding population: no one was allowed access to them or to use them in any way. At the end of the 1960s, a government inventory estimated that state forestland measured 2 million hectares, and this was nearly half the total forest area of the country (Wetterhall). Moreover, the

¹⁷ An *awraja*, an administrative unit that is now abolished, is a sub-province; a *woreda* is a district.

legislation placed a variety of restrictions on the utilization of private forests, which were often small to medium in size. These forest laws were greeted with anger and suspicion in Wollo, and, as we shall see further down, there were widespread acts of protest.

Then there is the impact of modernization on the regulation and utilization of forest resources: the demand for fuelwood, industrial timber, and of the construction industry. This is a broad subject and I shall only comment briefly on the first issue. The growth of Addis Ababa, the capital, and the satellite towns nearby from the 1950s created enormous demand for fuelwood and charcoal. The acacia forests in the lowlands, in particular those in the lake areas in the Right Valley to the southeast of the capital were particularly favored by charcoal burners and fuelwood suppliers. While many of these forests were either common property or under disputed ownership, the nearby communities had always had access to them. H.F. Mooney, a British forester who traveled many times through the Rift Valley in the late 1950s and early 60s, was astonished at the rapid rate of deforestation by charcoal burners of large stretches of acacia forest. In the early 1960s, what had been an area of fairly dense acacia forest had been turned into treeless grazing land (Mooney 1963). This expropriation of a valuable natural resource was resented by the adjoining communities whose lives depended on the resource.

Following the overthrow of the imperial regime in 1974, the revolutionary government launched a number of wide ranging reforms aimed at restructuring the rural economy. The most far-reaching was the radical land reform of 1975 which confiscated the property of the landed classes, placed all land, including all forests under public ownership, and distributed land to peasants organized in Peasant Associations¹⁸. The reform expropriated not only all forests, large or small, but also trees planted by peasants on their plots. Land reform extinguished private as well as customary ownership of land and forests, and in effect, from this point on, all environmental resources became

¹⁸ The land reform is discussed in detail in Dessalegn 1984; see also Dessalegn 1996.

state property.

Conservation and Conflict

I have discussed the conservation policy of the Derg in some detail elsewhere so I shall not repeat my arguments here; this section will thus provide only a brief review¹⁹. The main elements of the conservation policy of the Derg consisted of the following: i) conservation was heavily biased in favor of physical structures which were constructed on- or off-farm using food for work (ffw) as an inducement. ii) Program implementation relied on a top-down approach, and there was hardly any effort to consult and involve the land user (who was meant to be the main beneficiary) in any aspect of the program. iii) Conservation was imposed on a largely reluctant peasantry. The land policy of the Derg had created a high degree of tenure insecurity, and peasants were suspicious that government intervention in land matters would lead to the loss of holdings. iv) Policy makers and conservation agents on the ground refused to consider the merit of indigenous conservation practices. v) Conservation work was undertaken without careful planning, and the measures themselves deteriorated rapidly because they were poorly executed.

Perhaps the most unpopular aspect of conservation was that it was *exclusionary* in the broad sense of the term. The idea of *benefit sharing* in which the land user, the community as well as the government could share the benefits of an environmental asset was alien to policy planners. Afforestation schemes, national parks, and areas designated for rehabilitation were closed to peasants and pastoralists who were not allowed to gain any benefits from them. Such schemes were initiated, planned and implemented without the participation of the surrounding community. The on-farm physical conservation measures were unpopular because peasants were not convinced they were effective, because they were impractical, and because they took away valuable farmland.

The main conservation program of the Derg consisted of

¹⁹ See Dessalegn 1994; Ch. 2 this volume. An extended discussion of conservation policy is found in Yeraswork Admassie 1995. Alemneh Dejene 1990 has dealt with the subject in the context of Wollo.

the construction of terraces, bunds and check dams for gully control on the one hand, and afforestation and area closure on the other. National park schemes, which had been established since the mid-1960s but were extended during the Revolution, were designed to protect wildlife, biodiversity as well as to rehabilitate fragile ecosystems. The conservation program adopted the catchment (or watershed) approach and, initially, conservation work was carried out in a select number of catchments in the vulnerable regions. By the second half of the 1980s, however, the program had been vastly extended to over one hundred twenty catchments located throughout the country and covering nearly four millions hectares (Sewell 1992). The catchment approach reinforced the top-down approach noted above: the average catchment in Wollo, for instance, is a large area measuring over 44,000 hectares, and the peasant with his tiny plot thus becomes an insignificant actor in the program.

Let us look at some of these programs briefly. The construction of physical measures was undertaken on both peasant farms and denuded hillsides, and cost an inordinate amount of resources. It was believed that the highest rate of erosion occurred on cultivated land and that bunds and terraces would effectively control erosion. These structures were uniformly constructed all over the country irrespective of ecological or physical conditions, the justification being that the peasant could not grasp complex technical design and conservation technology had to be simple and easy to implement. Not infrequently, physical measures were built on farm plots without the consent, participation or, sometimes, the knowledge of the holders of the plots. Many peasants were unhappy with physical conservation but they participated in the program because of the attractions of ffw and because they had no say in the matter. On occasions peasants destroyed the structures they had been paid to build in order to demand ffw to rebuild them again.

Afforestation and area closure had a similar history of poor planning, bad management and exclusiveness. Area closure was a scheme designed to allow an area of degraded land to recover its natural vegetation without human or animal intervention. Such areas were frequently employed for grazing by the community, and when they were brought under closure alternative sources of pasture were not provided. The Derg had two

kinds of forestry, state and community forestry. Community forestry was meant to be, at least in theory, the property of the community, which had the final say on how the resource was utilized. In practice however, community forests remained under state control, providing very few benefits to the communities in question. On the other hand, state forestry was inaccessible to all peasants. Many of the state forests managed by the Ministry of Agriculture (MoA) were enlarged by expropriating farms or grazing land (MoA 1989). Afforestation thus posed a threat to many peasants because it encroached on farmland, evicted households living in or near it, and took away land that was common property and had economic, social or cultural value.

At the end of the 1990s, government officials claimed that the conservation program undertaken since the mid-1970s had been a success and that nearly 2 million hectares of land (about 1.5 percent of the total area of the country) had received one form of treatment or another. I believe this is quite exaggerated if by treatment we mean the creation of durable environmental assets and the decrease of the rate of erosion. I have estimated that the total resource that was invested in conservation in these years was worth 900 million US dollars (see Table 2 in previous chapter).

The military government of Mengistu Hailemariam, which had ruled the country with terror since 1974, and which had brought the rural economy to the brink of disaster, with millions of peasants becoming victims of increasing poverty and starvation, finally collapsed in May 1991. As the waning of the power of the Derg became evident to peasants they began to attack the symbols of Derg authority located in their communities. These included conservation infrastructure, and property belonging to rural institutions, collective enterprises, and to state and para-statal agencies. The rural agitation that broke out in early 1991 and continued for sometime in 1992 engulfed the whole of the country and involved a good part of the peasant population. There was, however, no physical violence and no individuals were attacked or personally endangered. This is significant in view of the fact that some of the leaders of the rural institutions were highly resented by the peasantry because they had been instrumental in enforcing the unpopular policies of the Derg. The agitation had two symbolic meanings: it was at once a

reaction against an unpopular conservation program and a condemnation of the institutions and ideology of the military-socialist state. The main form of violence that concerns us here and that took place in most of the rural areas was violence against the environment; I shall call this *ecoviolence* for lack of a better term. I have dealt with the rural agitation of 1991-92 in some detail elsewhere (Dessalegn 1994) and I will not discuss the subject here except to provide a short summary of the highlights.

The attack on the environment was not organized by anyone; it was rather spontaneous and anarchic. Peasants and others demolished bunds and terraces, set fire to forests and national parks, "illegally harvested" trees from government plantations, uprooted young saplings in freshly afforested or enclosed areas, wrecked stores and buildings belonging to co-operatives, and destroyed property associated with state conservation and Derg authority. Overall, perhaps as much as 60 percent of the conservation assets created during the military dictatorship may have been destroyed during these two years. Of the physical structures built on peasant plots, perhaps twenty to twenty-five percent remained in place at the end of the disturbances. Peasants also demolished hillside terraces but it is difficult to estimate the extent of the damage. Similarly, the destruction of state and community forests has been quite extensive and about half of the plantations may have been demolished. There were numerous cases of arson in national parks, and some of the big game reserves in the south of the country were badly damaged (Dessalegn 1994). In many places, arson was the chief weapon used to clear forests, and to drive away wildlife in national parks.

In the lake area of southern Shoa province, along the road from Zwai to Shashemene, the large forestry project established by the government since the early 1970s was thoroughly despoiled. A large swathe of the forest area was cleared of its valuable acacia trees within a short period of time. In northern Shoa, trees were removed from community forests and peri-urban plantations by the local peasantry. Mature trees were "illegally harvested", young ones were uprooted and the land plowed up to discourage re-afforestation (MoA 1992b). In Gojjam and Gondar provinces of northwest Ethiopia, peri-urban fuelwood plantations were the chief target of peasant anger and

were extensive deforested. A government investigating team that visited Gojjam in 1992 was told of a case in the west of the province where peasants had cleared part of the state forest located there and were making preparations to build a church in the clearing to legitimize their claim (MoA 1992c).

A report by a government task force that investigated the extent of the environmental damage in the Rift Valley area of southern Ethiopia in March 1992 states that "thousands of hectares" of forest was deliberately set on fire by peasants and pastoralists who wanted to convert the land into farmland and pasture. It points out that in many cases the target of arsonists was planted forests as opposed to natural forests. Forests as well as national parks were invaded and occupied by thousands as soon as the land was cleared of vegetation and the forest and park officials were chased away. In some instances, squatters who were already inside the schemes quickly extended their holdings by clearing more land and plowing it for cultivation. Squatters and others in and near Nech Sar, for example, the big national park near Arba Minch, used arson to clear the land for cultivation and to drive away the wildlife (MoA 1992a). In Wollo, many of the forests established by the Derg were being demolished by the army that was stationed there long before the rural agitation broke out in 1991. Peasants became involved in the assault on these forests as soon they felt it was safe to do so. In south Wollo, the MoA office reported that 60 percent of the 13,000 hectares of planted forest was demolished during the agitation. In north Wollo, MoA agents estimated that about 90 percent of the 10 to 15,000 hectare plantation there was cleared of its tree cover within a short period of time (Dessaiegn 1994). Just as in the rest of the country, peasants here too demolished bunds and terraces built as part of the Derg's conservation program.

The rural disturbances of 1991 did not form part of a revolutionary uprising or mass rebellion but they were neither mindless acts of indiscriminate destruction. There was a meaning and purpose to peasant reaction, and behind the fury with which some of the forests were attacked and the terraces demolished lay years of peasant discontent. We may take the agitation as a kind of manifesto expressing opposition to state environmentalism and political domination. It is worth noting in this

connection that there is close resemblance between the environmental protests in this country and colonial ecological resistance in Africa before independence. As many environmental historians have shown, colonial conservation policy, which was frequently accompanied by unpopular tenure reforms, was deeply resented by African land users. Colonial ecological interventions eroded common property rights and rights of customary utilizations of forests, pasture and water points, and imposed new forms of soil management and of natural resource control, all of which gave rise to frequent episodes of popular resistance. Africans destroyed soil bunds and terraces, uprooted planted seedlings, and invaded enclosed areas (see Grove 1990).

Environmental Protest

While the subject of rural protest in Ethiopia has attracted some attention (Gebru 1991, Dessalegn 1996), the subject of environmental protest has virtually been ignored. Admittedly, the study of environmental change itself is of recent origin, and, as noted above, the debate has been narrowly focused, tending to discourage the investigation of alternative issues and approaches. There has been some attempt to examine environmental change and its role in causing or exacerbating political conflicts such as insurgencies or civil wars (Abebe 1994, Bekure 1989, Lanz 1996), but this is quite different from the problem I am concerned with. As far as I know, mine is the first excursion into the subject of environmental protest in Ethiopia and for that reason I feel like someone trying to make his or her way through a dark forest.

By environmental protest I refer to direct or indirect action taken by rural people to contest the environmental measures, laws or policies adopted by the state or the dominant classes. The act of protest, even when not accompanied by a written manifesto, conveys a message and is therefore a statement of purpose. Protest by rural people and others in Asia and Africa²⁰ against the expropriation of their forests, the plunder and pollution of their land, the restriction of their access to natural resources is becoming increasingly frequent and has at-

²⁰ Guha, R. and J. Martinez-Alier 1997. This is mainly about the Indian environmental movement but contains references to African and other Asian experiences.

tracted interest among environmentalists. There is a considerable body of work on modern environmental movements in the West as well as the Third World (see Taylor 1995), but my interest here is on localized, unorganized or minimally organized forms of protest such as "everyday" resistance, spontaneous agitation, or community initiated direct action. These are more relevant to the protest experience in Ethiopia.

We may distinguish two forms of protest activity here, those that involve violence against the environment, and those that are meant to protect the environment from despoliation by outside interests. In both cases, the main actors are land-users directly dependent on the environment in question. The first kind consists of the illegal felling of trees and the clearing of the forest floor, encroachment on natural parks and other non-arable land, setting fire to protected forests, parks and grasslands, and the destruction of conservation measures. Examples of this form of protest are to be found in Guha's work on environmental struggles in the Himalaya region of India, and Peluso's studies of ecological resistance in Java in the 1980s. In the second case, rural people engage in confrontational acts to prevent powerful outside forces from plundering the local environment and depriving them of the sources of their livelihood. A good example of this is the work of Broad and Cavangh (1993) which describes how peasants in a small rural community in the Philippines banded together to stop logging companies and multinational agribusiness firms from expropriating their forests and destroying their fishing grounds.

Environmental protest in our context is a rejection of the *environmentalism of the state* and not of environmentalism altogether. This point is important because government observers here were quick to attribute the assault on the environment discussed above to the opposition of the peasant to conservation *per se*. As I have stressed elsewhere, the environmentalism of the state must be distinguished from *the environmentalism of the peasant*, and that the two do not have many things in common. State environmentalism places high emphasis on government control of environmental assets on the one hand, and the protection of such assets by restricting or prohibiting their utilization by the surrounding community on the other. The environmentalism of the peasant, in contrast, considers the landscape

as a resource to be managed through sustainable utilization. These two approaches reveal two different perceptions: the one regards nature as an object to be preserved while the other as a value to be used and maintained (see Ch. 2, this volume).

As the Asian experience indicates, the trajectory of unrest frequently progresses from everyday protest to confrontational action and finally to organized movement. Readers are familiar with James Scott's everyday forms of resistance in which opposition to authority avoids open confrontation and instead takes the "hidden" form of foot-dragging, dissimulation, desertion, etc. (Scott 1985). This is a fine concept except that it tends to envision resistance synchronically and not as an activity that evolves, grows and mutates. There is thus no linkage between everyday and other forms of resistance. Resistance that stays at the everyday level may be counter-productive and may in fact contribute to the reinforcement of domination. Hence the emphasis of Guha and others on examining environmental resistance as it evolves from simpler to more complex forms of struggle (Guha 1989, Guha and Martinez-Alier, Broad and Cavanagh).

Though rarely acknowledged, environmental protest of both the everyday and confrontational variety has not been absent from rural Ethiopia. The illegal clearing of forests and national parks, encroachment and occupation of such schemes, uprooting of tree seedlings and young saplings in newly forested areas, grazing of enclosed areas, and arson have been used as everyday forms of protest in many parts of the country. On the other hand, large-scale deforestation, which I take to be a form of confrontational protest, has occurred on several occasions in the last half-century. Such acts often take place in times of political upheaval when the old order has collapsed and the new has not yet emerged as a force. Let us look at some examples from Wollo.

Wollo has not been as extensively forested as some provinces in the southwest of the country. It has not been exactly treeless either. At the end of the 1960s, a number of large, medium and small forests were registered by the MoA office in the province. Some of the forests were remnants of natural forests and were located on hillsides and deep ravines; others

were easily accessible. Privately owned forests and plantations, some fairly big in size, were also found, mostly in central Wollo (see Bahru 1998). All the big forests under government control were under constant pressure from peasants, squatters, as well as the rural poor, and all of them have at one time or another been heavily damaged by arson. Informants stated, for example, that Yegof Forest, a few kilometers south of Dessie, the capital of Wollo, was damaged by fire on several occasions: at the time of the Italian occupation; in the 1950s; the 1960s; and again in 1970. In the work cited above, Bahru notes that there was also another forest fire here in 1984. The local archival records contain numerous reports of arson in state owned forests, clearing and illegal cutting of wood, and illegal occupation of land within their perimeter. While not specifically focused on Wollo, a report of forest inventory prepared under MoA's auspices complains that most state-owned forests, including those in Wollo, have been seriously disturbed by people in the surrounding areas. Clearing and burning of forests were quite common, and such acts were often accompanied by grazing and cultivation of the land thus cleared (MoA 1989).

According to oral informants and the archival evidence, widespread acts of deforestation in Wollo took place in the mid-1930s, the mid-1960s and the mid-1970s. The older peasants interviewed in our research sites all stated that large-scale deforestation occurred in their localities following the occupation of Wollo by the Italians in 1936. Woodland at the bottom of hills that was used for grazing and hillside forests were cleared and burnt. There are few details about the event but it appears that the deforestation was tacitly encouraged by the colonial authorities, and the motive of the Italians may have been to win popularity among the peasantry. Some of the forests were owned by powerful landed elements that had either fled the area or were suspected of supporting the resistance movement. The Italians also encouraged the rebuilding of churches and mosques and this may also have added to the pressure on existing forests. However, some of the churchmen I interviewed insisted that the churches were rebuilt with timber from their own woodlots.

In the years 1966-1968, following the promulgation of forest legislation by the imperial government, a wave of deforestation occurred in many parts of Wollo. The law nationalizing

large-sized forests was difficult to implement because in many instances there was no inventory of forest resources in the provinces, and the government had no idea which forests were to be transferred to state ownership. Some of the powerful officials in the province claimed some of the forests, which were most probably under customary ownership and thus had no "legal" owner. As the significance of the new legislation became evident, trees were cut down illegally and the land cleared for cultivation, and invasion and occupation of forest areas took place. A spate of forest fires, doubtless started by protesting peasants, damaged many forests especially those in north, central and western Wollo. In some cases, forestland was being sold as agricultural land to circumvent the forest laws, and the authorities in Wollo were angry about it. The forests that were frequently cited as having been attacked and damaged by fire were Gumburda forest in Wag *awraja*, two forests in Gubalafto and Harbu *woredas* in Yeju *awraja* (the forest in Harbu is called Gimshat), Yegof forest, Denkoro forest in Borena *awraja*, and a number of medium sized forests in Ambassel and Qallu *awrajas*. The archival evidence indicates that the government was well aware of what was happening but powerless to make a stop it. Indeed, some of the letters written by the Forestry Department in Dessie accuse some *woreda* administrators of either deliberately turning a blind eye to the deforestation taking place or participating in the activity themselves²¹. How extensive the deforestation activity was is indicated by the fact that some church forests, which ordinarily are considered sacred and respected, became the target of attack in these years. The archival records contain several letters from churchmen complaining of the destruction of "holy forestry" and requesting the authorities in Dessie to help them to put a stop to it.

The forest legislation came at a time when government land policy in Wollo was weakening customary forms of tenure and encouraging the individualization of land ownership. A series of government directives was issued in the late 1950s and

²¹ See the Wollo Forest Department's archival records. The letters written in 1958, 1959, and 1960 Ethiopian Calendar. (1966, 1967, 1968 Gregorian Calendar) are the most relevant here. The forests cited in the records are mostly those that the government wished to claim. The deforestation of small-sized forests is noted only in passing.

the 1960s to enable state functionaries and favored individuals to convert land held under a variety of tenure forms to private ownership. Established tenure arrangements were thus being undermined at the expense of peasant cultivators and for the benefit mainly of the local gentry (Dessalegn 1996). The environmental protest should thus been seen as part of the response of peasants to changing agrarian relations and increasing tenure insecurity.

The most extensive afforestation program undertaken in the country was that of the Derg, and in Wollo much of the land re-forested was formerly covered with forest. Following the radical land reform of the Derg, yet another round of large-scale deforestation occurred in Wollo. As noted above, the reform expropriated all forests and placed them under "public ownership". In effect all land and the resources on it, including trees, became "public" property. Peasants, Peasant Associations (PAs), dispossessed forest owners, and even urban residents joined the orgy of deforestation that lasted well over two years. Once again forests were cleared, invaded, occupied, and put to the torch. The trees were cut down and sold as firewood or turned into charcoal. The Derg employed all the means at its disposal to dissuade peasants in Wollo and elsewhere to cease and desist but to no avail. The agriculture authorities in Dessie, the capital, were helpless: they could do nothing, except to encourage officials at the lower levels to take measures to protect the forests in their localities. The appeal to the police in the province to assist in the task went unheeded because many officers in the police force were landowners in their own right and were unhappy about the land reform²². Land distribution itself, which was taking place in the province in these years, further encouraged the cutting down of trees and the despoliation of the environment.

Many government officials and others have condemned the ecoviolence of the 1990s as well as those that occurred earlier as the work of mindless peasants who, motivated by selfish interests, were destroying assets that were of long-term benefit to themselves (see MoA 1992a). However, to see it in this way is to misconstrue the meaning of the rural agitation associated

²² See records in the Forest Department's archives noted above.

with these activities. The ecoviolence in question was an expression of peasant grievance against years of environmental dictatorship and exploitation by the state. It was a criticism, in deeds, of environmental policies that sacrificed peasant interests in favor those of the state, and that ignored the needs and experiences of peasant communities. It was, in other words, a spontaneous though anarchic act of environmental protest.

As in all other policy interventions, environmental policy in Ethiopia gives the state exclusive power and authority over the country's natural resources. The underlying assumption is that the state is the custodian of the nation's forests, soil, and water resources, and it alone is responsible for managing and nurturing them. The state, however, has discharged its stewardship duties so improperly that it has long lost the confidence of the people. If we are to reverse this sorry record and avoid future acts of ecoviolence, we will have to think in terms of what I call ecopluralism. By this I mean that individuals, communities, civil society groups and the state should share the responsibility of managing the nation's environmental resources as well as sharing the benefits to be gained from them on an equal basis. Ecopluralism assumes that the peasant is not inherently destructive and that given the proper policy support he/she is best agent for nurturing the environment.

References

- Abebe Zegeye 1994. Environmental Degradation, Population Movement and War. In Abebe Zegeye and S. Pausewang (eds.), *Ethiopia in Change*, pp. 172-91. London: British Academic Press.
- Alemneh Dejene 1990. *Environment, Famine and Politics in Ethiopia: A View from the Village*. Boulder: Westview Press.
- Azene Bekele-Tessema 1993. *Useful Trees and Shrubs for Ethiopia*. Nairobi: SIDA.
- Bahru Zewde 1998. The Forests of Wallo in Historical Perspective. *Journal of Ethiopia Studies*, XXXI, 1: 87-121.
- Belay Tegene 1998a. Indigenous Soil Knowledge and Fertility Management Practices of the South Wallo Highlands. *Journal of Ethiopian Studies*, XXXI, 1: 123-58.

- _____ 1998b. Potential and Limitations of an Indigenous Structural Soil Conservation Technology of Welo, Ethiopia. *Eastern African Social Science Research Review*, XIV, 1: 1-18.
- Bekure W. Semait 1989. Ecological Stress and Political Conflict in Africa: The Case of Ethiopia. In A. Hjort af Ornas and M.A. Mohamed Salih (eds.), *Ecology and Politics: Environmental Stress and Security in Africa*, pp.37-50. Uppsala: Scandinavian Institute of African Studies.
- Broad, Robin with J. Cavanagh 1993. *Plundering Paradise: The Struggle for the Environment in the Philippines*. Berkeley: University of California Press.
- Consolidated Laws of Ethiopia* 1972. Vols. I-II. Prepared by the Faculty of Law. Addis Ababa: Haile Sellassie University.
- Crummey, Donald 1998. Deforestation in Wallo: Process or Illusion. *Journal of Ethiopian Studies*, XXXI, 1: 1-41.
- Dessalegn Rahmato 1984. *Agrarian Reform in Ethiopia*. Uppsala: Scandinavian Institute of African Studies.
- _____ 1994. The Unquiet Countryside: The Collapse of 'Socialism' and Rural Agitation, 1990 and 1991. In Abebe Zegeye and S. Pausewang (eds.), *Ethiopia in Change*, pp. 242-79. London: British Academic Press.
- _____ 1996. *Land and Agrarian Unrest in Wollo, Northeast Ethiopia, Pre-and Post-Revolution*. Report No. 46, Institute of Development Research, Addis Ababa University.
- Ethiopian Highlands Reclamation Studies 1984. The Degradation of Resources and an Evaluation of Action to Combat It. [Prepared] by M. Constable. Working Paper No. 19, Ministry of Agriculture and Food and Agricultural Organization, Addis Ababa, December.
- Ethiopian Wildlife and Natural History Society 1996. *Important Bird Areas of Ethiopia. A First Inventory*. Addis Ababa: EWNHS.
- Fairhead, J. and M. Leach 1996. *Misreading the African Landscape: Society and Ecology in the Forest-Savanna Mosaic*. Cambridge: Cambridge University Press.
- Gebru Tareke 1991. *Ethiopia: Power and Protest. Peasant Revolts in the Twentieth Century*. Cambridge: Cambridge University Press.
- Grove, Richard 1990. Colonial Conservation, Ecological Hegemony and Popular Resistance. In J.M. Mackenzie (ed.),

- Imperialism and the Natural World*, pp.15-50. Manchester: Manchester University Press.
- Guha, Ramachandra 1989. *The Unquiet Woods. Ecological Change and Peasant Resistance in the Himalaya*. Delhi: Oxford University Press.
- Guha, Ramachandra and J. Martinez-Alier 1997. *Varieties of Environmentalism. Essays North and South*. London: Earthscan.
- Hoben, Allan 1995. Paradigms and Politics: The Cultural Construction of Environmental Policy in Ethiopia. *World Development*, 23, 6: 1007-21.
- Hurni, Hans 1988. Ecological Issues in the Creation of Famines in Ethiopia. Paper presented to the National Conference on Disaster Prevention and Preparedness Strategy in Ethiopia, Office of the National Committee for Central Planning, Addis Ababa.
- Journal of Ethiopian Studies* 1998. A Special Issue on Environment and Development in Wallo. Vol. XXXI, No. 1.
- Lanz, T.J. 1996. Environmental Degradation and Social Conflict in the Northern Highlands of Ethiopia. *Africa Today*, 43, 2: 157-82.
- McCann, James 1987. *From Poverty to Famine in Northern Ethiopia: A Rural History*. Philadelphia: University of Pennsylvania Press.
- _____ 1995. *People of the Plow: An Agricultural History of Ethiopia*. Madison: University of Wisconsin Press.
- _____ 1997. The Plow and the Forest: Narratives of Deforestation in Ethiopia, 1840-1992. *Environmental History*, 2, 2: 138-59.
- Ministry of Agriculture 1989. The Last Forests of Ethiopia. Unpublished report, Addis Ababa.
- _____ 1992a. Report of the Task Force on the Destruction of Forestry in Southern Ethiopia [Amharic]. Unpublished report, Addis Ababa, March.
- _____ 1992b. Report of the Task Force on the Destruction of Forestry in North Shoa and South Wollo [Amharic]. Unpublished report, Addis Ababa, March.
- _____ 1992c. Report of the Task Force on the Destruction of Forestry in East and West Gojjam, North Gondar, and Mettekel [Amharic]. Unpublished report, Addis Ababa, March.
- Ministry of Agriculture, Wollo Office, Forestry Department 1964-

1979. Records of the Department for these years.
- Ministry of Land Reform and Administration 1971. The Major Features of the Prevailing Land Tenure System in Ethiopia. Unpublished report, Addis Ababa.
- Mooney, H.F. 1963. An Account of two Journeys to the Araenna Mountains in Bale Province (South-West Ethiopia), 1958-60. *Proceedings of the Linnean Society of London*, 172nd Session, 1961-62, Pt. 2.
- Peluso, Nancy L. 1992. *Rich Forests, Poor People. Resource Control and Resistance in Java*. Berkley: University of California Press.
- Scott, James 1985. *Weapons of the Weak: Everyday Forms of Peasant Resistance*. New Haven: Yale University Press.
- Sebsebe Demissew 1998. A Study of the Vegetation and Floristic Composition of Central and Southwestern Welo, Ethiopia. *Journal of Ethiopian Studies*, XXXI, 1: 159-92.
- Sewell, L.G. 1992. Technical Report of the International Consultant on Soil and Water Conservation. Report No. 5, Ethiopian Forestry Action Programme, Addis Ababa.
- Taylor, Bron R. (ed.) 1995. *Ecological Resistance Movements: The Global Emergence of Radical and Popular Environmentalism*. Albany: SUNY Press.
- Wetterhall, Hans 1972. Government Land in Ethiopia. Unpublished report, Ministry of Land Reform and Administration, Addis Ababa.
- Wolde Michael Kelecha 1987. *A Glossary of Ethiopian Plants Names. Fourth Revised Edition*. Addis Ababa: Artistic Printing Press.
- Wood, Adrian and M. Stahl 1990. Ethiopia: National Conservation Strategy, Phase I Report. IUCN and Office of the National Committee for Central Planning, Addis Ababa.
- Wylde, Augustus 1901, 1970. *Modern Abyssinia*. Westport: Negro University Press.
- Yeraswork Admassie 1995. Twenty Years to Nowhere: Property Rights, Land Management and Conservation in Ethiopia. PhD dissertation, Uppsala University.

Chapter 4

Poverty and the Environment: Any Connections?

It is paradoxical that in this country, which by all measures is one of the poorest in the world and in which environmental degradation is believed to be occurring at an alarming scale, there is very little serious debate on poverty and the environment. All available indicators reveal that the country is at the bottom of the global scale in well-being and human development, and millions of its citizens lead the most wretched existence²³. And yet, as we shall see below, it was only in the last six to eight years that poverty studies began to appear and to be included as part of the development discourse. This is a time lag of more than two decades: the poverty debate was initiated in Asia and elsewhere at the end of the 1960s. In contrast, the debate on the Ethiopian environment began in earnest in the early 1980s and there is today a growing literature on the subject. The aim of this short discussion is to examine the debate on poverty and the environment in the rural areas and to suggest the need for a more innovative approach to these two critical issues and the relations between. Without an extended public debate on the subject there will be little likelihood that policy makers will initiate sound measures to deal with the problems.

Poverty and the Development Discourse

In the half-century since the 1940s, three distinct development strategies, corresponding to the three successive regimes that came to power, have been tried with varying degrees of success. The "mixed economy" of the Imperial regime was replaced by the "socialist economy" of the Derg, which in turn was supplanted by the "market economy" of the present govern-

²³ See UNDP and World Bank annual reports. See also Berhanu and Befecadu 1999.

ment. As far as the poor are concerned, however, these efforts have had little discernible impact. In the early years in particular, development programmes by-passed the poor, and policy makers frequently were unwilling to recognize poverty as a serious problem; it was as if the poor would conveniently disappear if they were ignored. In what follows I shall discuss briefly the poverty approach, or lack of it, of the three development strategies.

In the Imperial period, it was thought improper, if not impolitic, to regard poverty as a subject worthy of debate by policy planners. It was generally assumed that the concern for the poor was the responsibility of charities and religious institutions, which had a moral obligation to provide care and comfort. Economic planners were concerned instead with the lofty task of designing strategies for overcoming economic backwardness, and for catching up with the advanced countries of the West. The chief instrument of this endeavour was the successive Five-Year Development Plans which, it was claimed, were prepared with the aid of the most advanced planning techniques and the most qualified specialists, and of which three were drawn up and implemented during the life of the regime (for extended discussion of the Plans see Dessalegn, Forthcoming).

Planners described the Imperial economy as a mixed economy in which public, private and co-operative initiatives all played an active role. The aim of the Plans was to co-ordinate the activities of all three "partners" so that they complemented each other. By far the largest partner in terms of investment was the public sector. In all three Plans, the ultimate objective was taken to be to accelerate the process of economic growth and to raise the standard of living of the population. That the country was endowed with abundant resources was taken as an article of faith. Improvements in living standards required the efficient utilization of the country's wealth, and this, it was believed, could only be achieved by using advanced technology. Modern technology was expected to speed up the pace of industrialization, which was one of the prime goals of development policy. In the Third Plan, "improving living standards", the meaning of which was left ambiguous in the earlier documents, was defined as raising per capita income which was to be reflected in better nutrition, housing and more consumer goods.

There was no reference to poverty and thus no poverty approach to speak of in all three Plans. The last two Plans, however, included brief statements about the need to expand employment opportunities, but the emphasis was on skilled employment, and not mass employment, which would have been a poverty mitigation measure. Indeed, the class bias of the planners is obvious in both Plan documents. Employment here refers to employment for graduates of the country's technical and higher educational institutions, for the urban élite and petty bourgeoisie. The rationale presumably was that the advanced technology to be employed in the industrial and other sectors could only be managed by trained technicians. The Third Plan in fact cites with apprehension what it calls the growing incidence of the "educated unemployed", as if this was the most serious problem facing the country at the time.

The draft document of the Fourth Plan, which was never finalized, presents a somewhat different picture. Here there is greater emphasis on the need to provide mass employment, and in particular to expand the opportunities for rural employment by means of a two-pronged approach: increased investments to develop smallholder agriculture, and through a concerted effort at integrated rural development. But before these ideas could be tested in practice, the Imperial regime (and its "mixed economy") was swept away by the Revolution. The Derg, which came to power with initially considerable popular support, launched a series of radical reforms and set the agenda for what it called a "socialist economy".

At the level of verbal commitments, the poor were given a high profile during the Derg. The ideological underpinning of the Derg emphasized the central role of the working people in the Revolution, making them the main beneficiaries of the gains of the expanding socialist economy. Socialism, it was claimed, would not only free the popular classes from exploitation and subjugation, but would raise their living standards, and provide a secure future to the destitute and the down-trodden. Attempts were made to incorporate these high-sounding principles in the Ten-Year Plan finalized in 1984. The Plan recognizes poverty as a major problem of the country, and in so doing the Derg broke with past practices. A majority of the Ethiopian population, it notes, lives at the margin of subsistence and is frequently vul-

nerable to drought and starvation. Among the broad objectives enumerated in the document, the elimination of unemployment is given considerable importance. Unemployment is considered a pressing problem, and its elimination thus given high priority. A related objective was the need to alleviate such social problems as those of the old, the disabled, the displaced, and victims of war and natural disaster (PMGSE 1984).

There were various programmes to deal with the problems of unemployment, and some of these employed forceful methods, which in the end proved to be counter-productive. In the early period, the authorities gave greater attention to mitigating urban poverty. Large numbers of the urban unemployed, vagrants, and the homeless were rounded up and forced into resettlement schemes specially set up for the purpose. Needless to say, all the schemes failed miserably with great wastage of resources. While the main, large-scale peasant resettlement programmes were launched following the devastating famine in the mid-1980s, medium-scale resettlement schemes were also undertaken in the last quarter of the 1970s to mitigate rural poverty. The annual "development campaigns" (known as *zemecha*), which were an important feature of the government's economic programme in the period between 1978 to 1984, also made attempts to "provide" mass employment mostly to the urban poor, but again the forceful methods that were used in the process (mass round ups, conscriptions, etc) defeated the purpose. Employment opportunities were also opened up in most of the nationalized enterprises, such as state farms, nationalized industries, and the tertiary sector, however, the net result was a huge redundant labour and a precipitate fall in the efficiency of public enterprises.

It may be argued that there is an in-built poverty mitigating measure in all "socialist" development strategies. In theory, collectivization, central planning, and the nationalization of the means of production, all of which give the state a commanding presence in the economy, are meant to ensure equity and to safeguard the interests of the working people, the poor and the vulnerable. In reality, however, the Derg's collectivization, villagization and resettlement programmes, which were actively promoted in the second half of the 1980s, were by and large damaging to the rural population. On the other hand, the price freeze

on basic commodities and essential services, and rent control, which were in force all through the life of the Derg, can be considered poverty measures, though in the end the measures were partly responsible for exacerbating the goods famine and the economic decline of the 1980s.

The Derg's economic policy was marked by a strong urban bias, and many of its poverty measures were meant to benefit the urban poor more than the rural. In particular, forced grain requisitioning and state control of the grain market, which were designed to shield the urban poor from high price increases, hit the rural population very hard. On the other hand, the land reform, which may not in the strict sense be considered a poverty measure, did considerably improve the opportunities of many of the poor and the landless in the rural areas.

On balance, despite the strong ideological (and in some cases programmatic) commitment to the poor, the Derg's development strategy had a contradictory, often damaging outcome. Many of the programmes drawn up ostensibly to improve the conditions of the poor either failed to achieve their goals or turned out to be especially harmful to the very people whom they were meant to benefit. The deterioration of the economy, which began at the close of the 1970s and became progressively severe all through the 1980s, and which hurt the poor badly, was to a great extent a consequence of the government's ill-advised command policies, which stifled individual initiative and promoted the bureaucratization of economic endeavour. The long civil war also brought greater hardship and suffering to the destitute in the rural areas.

With the collapse of the Derg in 1991 and the assumption of power of the present government, the way was cleared for restructuring the economy and for new development initiatives. At the beginning, the policy of the transitional government did not place special emphasis on poverty and its amelioration but it did not ignore the problem altogether either. On the other hand, studies on poverty began to appear and a few public discussions were held on the subject in the second half of the decade. Prior to this, there was very little serious debate on poverty and hardly any documentation on it.

The stimulus for the poverty debate was the economic reform program that the transitional government committed itself to earlier and that was keenly promoted by the major donor agencies, in particular the IMF and the World Bank. The World Bank and other donor agencies provided both the initiative and the finance for poverty studies as part of their support to the economic reform program. One outcome of this was the establishment of the welfare monitoring system in 1994, which enjoined the Central Statistical Authority to collect information and monitor changes in the poverty situation in the country. All this helped to anchor the debate within the framework of structural adjustment and in the context of a social action program to alleviate poverty. One result of the government's welfare monitoring system was the publication of several surveys by CSA (1998, 1999) and a benchmark document by the Welfare Monitoring Unit of MEDAC (MEDAC 1999) both of which provide valuable information on living standards, income levels, and the extent and distribution of poverty. According to the latter document, which is based on the CSA surveys, 45.5 percent of the country's population lives in absolute poverty and that poverty is much more widespread and more severe in the rural areas than in the urban. Per capita income is put at 167 USD per annum, and the rural population has a much lower level of income than the urban. For comparative purposes it is worth noting that the average per capita income for Sub-Saharan African countries in 1998 was 480 USD. The document also shows that if poverty is measured in terms of the cost of the minimum food requirements per adult per year, 50 percent of the population falls into the food poverty category. It is interesting that the rural population, which is the sole food producer in the country, suffers a higher level of food poverty (52 percent) than the urban population (36 percent), which has no role in food production. It may be noted that neither the CSA/MEDAC study nor the others cited below provide information on the intra-household distribution of income and consumption and hence we now very little about the gender dimension of poverty.

Another characteristic of the local debate is that it has been dominated by the work of economists, most of whom are Ethiopians. The result has been an almost exclusive concern

with the quantitative *measurement* and distribution of poverty²⁴. This is of course a commendable endeavor given the paucity of basic information on the subject, nevertheless it does tend to suggest that poverty studies is nothing more than measurement and number crunching, which of course it is not. The approach adopted by the existing studies only measures what we wish to call "economic poverty", but poverty goes beyond low income and the shortage of economic goods and includes the totality of livelihood deprivation, powerlessness, and socio-cultural marginalization, all of which are hard to capture by means of the standard instruments often employed by the economists. To be fair to the economists, one must hasten to note that their prominence in the debate is attributable to the absence or limited participation of students from the other disciplines. Be that as it may, all the barrage of statistics and measurements have had the unfortunate effect of suppressing the voices of the poor. There are many voices here: those of women, the young, the homeless, the rural unemployed, etc. We should also note that "economic poverty" provides a one-dimensional view of the problem. There are other forms of poverty which are just as important, such as social poverty, political poverty, human resource (or intellectual) poverty, environmental poverty, etc. Social poverty, for example, refers not only to the lack of social benefits for the poor but also to social exclusion and institutional marginalization. The poor are socially excluded which means that they are cannot play an active role in customary institutions. It is interesting however that the poor invest in such institutions relatively more than their better counterparts (Dessalegn 1992). It is no accident that civil society is weak or subdued in poor countries but tends to become more robust as the livelihood of the population improves.

A third aspect of the poverty debate is that there has not been a serious attempt to respond to the challenge posed by

²⁴ See ActionAid, Abebe, Abebe and Bereket, Dercon, Dercon and Krishnan, Getahun, Mekonen, Mekonen and Bereket, Mekonen et al., and Webb et al. A major study initiated in 1994 and undertaken jointly by the Economics Department of Addis Ababa University and the Universities of Oxford and Gothenberg (Sweden) has served as an important source of information for some of the studies in this period. For an attempt at a different approach, see Aklilu and Dessalegn 2000, Dessalegn 1992, and World Bank 1996.

structural adjustment and the prescriptions of the IMF and the World Bank. This is a sad commentary on the research community in this country, all the more so now when the destructive ideology of the two financial institutions has come under critical scrutiny the world over and even establishment economists and social scientists in the West are questioning the efficacy of the medicine provided by them. After two decades of structural adjustment forcibly imposed on hapless African countries by the IMF and World Bank, there are few success stories and that on the contrary the evidence shows that the condition of the poor in these countries continues to deteriorate. Furthermore, the local debate has so far avoided serious debate on poverty reduction strategies.

While a number of NGOs have made efforts to implement programs aimed at improving the conditions of the poor, there are only a small number of state-sponsored development interventions specifically targeting the poor. While the policy environment regarding poverty reduction has improved to some extent, there is still no defined and comprehensive poverty reduction strategy. In line with the thinking of the IMF and the World Bank, the government believes that economic growth will serve as the chief engine propelling improvements in living standards among all sectors of the population including the poor. Supporters of this approach point to the government's Agricultural Development Led Industrialization (ADLI) and, in particular, the extension program as significant initiatives for poverty reduction. While this is not the place to examine the debate, it is important to point out that this economic doctrine, ie. growth as a solution to poverty, has been widely challenged by economists and social analysts (see *IDS Bulletin* 1999 for the critical debate).

Another government initiative, which falls within the World Bank's favored social action program for poverty alleviation, centers on programs undertaken by the Ethiopian Social Rehabilitation and Development Fund. ESRDF, which was launched through World Bank and other donor support, and which initially focused on rehabilitating displaced people and demobilized soldiers, undertakes community level infrastructure work and promotes income-generating activities for the poor. A third initiative is micro-finance, a credit and savings scheme de-

signed mostly for the rural poor that has been under way since 1996 when the micro-finance proclamation was issued. The disparate and unregulated credit and savings schemes formerly undertaken by NGOs have been replaced by a micro-finance delivery system regulated by law and with uniform operational guidelines. The scheme does not extend credit to all the poor but only to what the industry calls the "economically active" poor, which leaves out a large number of poor households. Nevertheless, this is an encouraging measure, and while the approach employed leaves much to be desired, it does provide the opportunity for savings and access to micro-credit to a good number of poor people who otherwise have been neglected by the financial institutions (see AEMFI 2000, Wolday 2000).

The government has now prepared a first draft of an interim poverty reduction strategy paper (PRSP), which it recently submitted to the IMF and World Bank. The initiative for this has come from international donors agencies which, since 1999, have mandated that all low-income countries requesting or receiving debt-relief have to formulate what is known as a "country-owned" poverty reduction strategy (PRS). The PRSP is a three-year strategy document that has to be endorsed by the IMF and World Bank for the country to qualify for loans or debt-relief. In the fiscal years 1997-99, Ethiopia was the fifth top borrower from the World Bank (*News & Notices* 2000) The PRSP initiative actually shifts considerable power from the low-income countries to the IMF and the World Bank. Clearly then, poor countries like Ethiopia will not be able to "own" the PRS, and donor agencies will continue to impose their will on them.

Discourse on Poverty and the Environment

The environment is the natural resource base that continues to provide the peasant a wide range of livelihood assets and benefits. This resource base consists in the main of land, forests, water points and wildlife; until very recently, few people in this country placed much significance on bio-diversity as an environmental resource. The Ethiopian highlands, where more than 85 percent of the rural population and over 90 percent of the farm land is located, account for a little less than half of the country's total area. The land here has been under intense cultivation for centuries, and plough-based peasant agriculture has

been able to sustain complex social and political systems and an increasing human population all through this time (McCann 1995). At the same time we should recognize that the poor in the countryside constitute nearly half the rural population and that rural poverty has, in my estimation, been growing in magnitude and severity at least over the last half century. Environmental degradation in this context is the loss of renewable natural resources and involves soil erosion, the removal of the vegetation cover, water depletion, and loss of wildlife and biodiversity.

The focus of the debate on the environment in Ethiopia has been largely one sided: it has been concerned for the most part on landscape history and environmental policy, and the issue of poverty and how it impacts on the environment has been largely ignored²⁵. Somewhat different in many respects has been the work of Alemneh (1990) who examined environmental issues against the background of the famine of the 1980s and the resettlement program initiated by the Derg at the time. Another work that is also different from the standard literature is that of Yeraswork (1995) who was the first to look at the impact of property regimes on natural resource management and conservation. Among the few attempts to look into the issue of poverty and the environment (eg. Daniel 1990), Bereket's empirical study (1996) was more promising. However, the work, which attempts to examine the links that poverty, population and environment have with each other and which was based on the findings of an extensive rural household survey carried out in the mid-1990s, was inconclusive. This was due to the fact that the relationship in question could not be measured because of a host of intervening factors. The author recognizes that tenure policy, resettlement, and structural adjustment also have an impact on the quality of the environment. The recent environmental policy of the government (EPA 1997) sets its sights on lofty goals oblivious to the fact that poverty is a major problem and that millions of people depend heavily on the environment. Daniel's work falls into the mainstream environmentalist tradition to which we now turn.

²⁵ See references in Chs. 2 & 3 this volume; Hoben 1995; Keeley and Scoones 2000; McCann 1999.

There are those who argue strongly that there is a direct link between poverty and environmental degradation, and that the poor are usually the principal human agents of natural degradation (Adams 1990, Leonard 1989). This view was given wide currency by the Brundtland Report, which maintained that poverty is a cause of degradation and stressed that as long as there is poverty there will be no sustainable management of the environment nor long term development (World Commission 1987). This mainstream argument goes on to contend that the appreciation of environmental values increases with wealth and that the concern for repairing environmental damage is a product of "post-industrial" sensibility. The opponents of mainstream environmental thought maintain, in contrast, that there is no strong evidence for a direct causal link between poverty and environmental degradation. They hold that the issue is much more complex than is suggested by the mainstream view and that the poor are primarily victims and only secondarily agents of environmental degradation. (Broad 1994, Leach and Mearns 1992).

Guha and Martinez-Alier (1997) contend in fact that wealth is a greater danger to the environment than poverty. They offer a critique of the conventional wisdom of the Brundtland Report that generalized economic growth is a remedy for both poverty and environmental degradation; degradation, they hold, may be increased rather than diminished by growth. They propose that there is what they call the "environmentalism of the poor" which is essentially a defense of livelihoods and the right of access to natural resources threatened by the state or the rich and powerful. They argue that the environmentalism of the poor has been manifested in diverse forms of ecological struggle in the countries of the South (the Chipko movement to protect the local forest in India, the struggle of the Ogoni people against Shell Petroleum in Nigeria, indigenous peoples struggles to save their habitat in the Amazon rain forest, etc.). The ecological movement in the South is a movement of poor people attempting to save their land, forests, water sources and natural habitat from destruction by capitalist forces or the state (Chs. 1 and 3).

As suggested at the outset of this paper, my objective is not so much to offer a finished work as to suggest research is-

sues that will help to shift the focus of the debate away from the conventional approach. I believe the following proposition should inform such a research endeavor:

The poor are aware that they are the ones who are hurt the most by environmental degradation; degraded environments exacerbate poverty. The poor rely on the environment for their livelihood more than the well-to-do. It is therefore to their interest to sustain the environment, and if they do not do so in practice it is because of reasons beyond their control. As Guha and Marinez-Alier insist, to be poor is very good reason to be "green".

The point here is not to argue that the poor do not share responsibility for degrading the environment but to question the causal link between one and the other and to contest the claims of mainstream environmentalists.

The link between poverty and environmental degradation is a complex one, and intervening between the two are a number of factors of which the following are significant: property ownership and resource tenure policy and practice; class and power relations; environmental shocks; and demographic pressure. The brief comments presented below on each of these are meant to serve as a guide for further research rather than as definitive conclusions.

Property ownership. The property system may unjustly discriminate against the poor, depriving them of access to their legitimate or customary sources of livelihood. The lack of sound tenure policy may turn a natural resource, which previously was responsibly managed, into an open access property regime inviting an unregulated utilization, a free-for-all, and thereby leading to resource depletion. In such circumstances, it is not the poor but the better-off who will exploit the resource and who stand to benefit more, at least in the short term. It can be argued that an open access resource is disadvantageous to the poor because poverty in this country means not only lack of physical assets but also of labor power. Open access forest resources, for example, have benefited urban-based logging interests and charcoal producers far more than poor people in the rural or urban areas. Readers may cite the case of fuelwood suppliers and

argue that such individuals must contribute to the depletion of forest resources. This is certainly the case, but their contribution to environmental damage is much less significant than those of loggers and charcoal burners. Moreover, unsound land policy may deprive land-users of tenure security and discourage investment on the land, leading in many cases to soil depletion. The link between tenure insecurity and soil depletion has not been sufficiently addressed in this country, and there are only a few works on the subject at present²⁶. Sutcliffe's short article (1995) contends rather unsuccessfully that Ethiopian peasants have continued to invest in soil and water conservation despite tenure insecurity, however, the work presents no empirical evidence to support its argument. A more convincing study is that of Tekie Alemu (2000) who argues that there is a direct link between tenure security and soil conservation. He shows, on the basis of an empirical survey conducted in five villages in various parts of the country, that peasants with more secure holding arrangements are more likely to invest in soil conservation measures than those without such arrangements. Yeraswork's work cited earlier also presents arguments supporting the view that secure property regimes promote soil conservation and better natural resource management.

Class and power relations. The issues here are well known and may be presented in brief. To be poor is to be dependent on others and dependency involves marginalization and exclusion. The poor have a limited say in decisions affecting their community and its resources and may be unfairly deprived of access to them. Powerlessness in these circumstances may lead to what Guha calls "natural alienation". Guha has argued that people who have been excluded from resources which they believe they are customarily entitled to will turn against these resources and deliberately destroy them. Natural alienation occurs in conditions in which communities experience the expropriation of their natural resources by the rich and powerful, and in which the environment with which they once lived in symbiosis becomes instead a source of fear and resentment (1989: 55-58). Moreover, the poor often benefit the least from community institutions, and this becomes particularly critical in cases where col-

²⁶ Mekonnen Lulie 1999, Sutcliffe 1995, and Tekie Alemu 2000.

lective labor is mobilized through institutional support for large-scale environmental tasks (see below).

We should also raise here the issue of the relation between state and peasantry, in particular as it relates to the subject at hand. The history of state-peasant relations in this country has been a very unhappy one, and one of the factors for this has been the drive on the part of the state to bring under its control the major resources in the rural areas. In the second half of the 1960s, the Imperial state expropriated all large and medium sized forests; in the mid-1970s, the Derg nationalized all rural land and all resources on it. It should be noted that during the Imperial regime it was not just the state that expropriated rural resources but powerful interests from the landed classes were also involved. In many cases, these expropriations deprived peasants of access to what were customarily considered common property resources. The consequence of this has been two-fold: first, there is an enduring resentment among the poor and non-poor alike against state property, and second, the expropriations led to the breakdown of institutions for the community management of common property resources. In these circumstances, poor peasants and others are not averse to degrading environmental resources belonging to the dominant powers. We may regard this as an example of the clash of the "moral economy" of the poor against the "rational" economy of the powerful.

Environmental shocks. Frequent environmental crises leading to severe food shortages and famine are a common occurrence in many parts of the country, especially in the vulnerable regions of the northeast and southeast. In the four decades since the 1960s, there have been three devastating famines and several acute food shortages affecting millions of peasants throughout the country. In such crisis situations, the poor quickly exhaust their crisis management potentials and rapidly fall victim to starvation and disease. For all groups of peasants, crisis management involves depleting available environmental resources, in particular forests, woodlands and grasslands. Selling grass, fuelwood, and other forest products is a standard coping measure employed during food shortages, and irrespective of their form of ownership such resources are encroached upon and rapidly depleted. The poor, who to begin with are heavily dependent on the environment, are often the first to put greater

pressure on their surroundings.

Demographic pressure. The mainstream environmental literature reflects a strong neo-Malthusian bias and places heavy emphasis on the deleterious effects of population growth on the environment. Population growth is said to lead to greater pressure on the land and hence to greater natural degradation. As noted above, the environmental debate in this country has been heavily influenced by neo-Malthusian paradigms. The government's population policy document is formulated within this neo-Malthusian framework and places strong emphasis on the harmful effects of high population and its "uneven spatial distribution" (TGE 1993). But recent work in other parts of Africa is challenging the causal link between population and degradation, and has in fact shown that more people does not necessarily lead to more natural resource loss (Tiffen et al. 1994). However, without endorsing the neo-Malthusian narrative, it may be argued that *under certain circumstances*, demographic pressure *may* have a harmful impact on the quality of the environment, but we need more careful research in this country to determine what these circumstances are, to what extent they are a product of poverty, and how exactly they interact with the environment.

There are other factors which we have not looked into but which are also significant; these include gender dynamics, social and political conflict, and globalization.

Poverty and Environmental Degradation

Let us examine briefly the processes of environmental degradation to see the extent to which poverty is a contributing factor. We shall focus on deforestation and soil depletion since we have more information on these at present.

Deforestation. The deforestation narrative is the dominant narrative in the environment debate in Ethiopia and I have dealt with it at some length elsewhere and I shall not revisit the subject here (see above). The gist of this narrative is that there has been a massive loss over the last hundred years of the country's forest cover, which at one time stretched over some 40 percent of the highlands. According to recent government sources, estimates of deforestation currently "vary from 80,000 to 200,000

hectares per annum", and the main cause is believed to be the relentless expansion of rain-fed agriculture (EPA: 1). Both these figures as well as the reason given for deforestation, ie. the expansion of farm land, are contestable. There are many causes of deforestation and I would like to look at a few of them in relation to the subject under discussion.

1. Expansion of the farm area. Peasants in all parts of the country have customarily cleared the forest for cultivation and settlement, though the extent varies from one part of the country to another. However, we have very little hard evidence to indicate a scale of magnitude and the question: what proportion of the existing farm area was once under forest cover? remains unanswered. McCann (1995) has argued that ox-plow technology has been responsible for the continued intrusion of smallholder agriculture into the forest zone, and this is borne out in part by the present distribution of forestry in the country. But the important question for our purposes is: who were the agents responsible for this intrusion? Were they the poor, the landless, or the rich peasant? Were there other reasons for deforestation or was it solely a response to shortage of farmland? As Bahru suggests in his study of the history of forest management in Wollo, the construction of the palaces of regional kings and local governors on the one hand and churches on the other in the pre-modern period has involved considerable deforestation (Bahru 1998). Clearing the forest is no easy task, nor is keeping it under cultivation possible without sufficient means. If all the poor peasant had to do to get access to farm land was to clear a bit of the forest floor, as the deforestation narrative suggests, would this not have changed the character and history of Ethiopian tenancy? These and similar questions have to be examined in depth before we can say definitively that forest encroachment has primarily been the work of the poor.
2. War and social conflict. The immense threat to the environment posed by frequent wars and social conflict, which has been a part of this country's history, has not been sufficiently documented. Historians have discussed the movement of large bodies of soldiers across the country and fierce fighting, especially in the nineteenth century, but they have not

examined in depth the impact this has had on the environment. Such movement and the ensuing wars must have been accompanied by massive deforestation and depletion of other environmental resources. The Ethiopian soldiery in the pre-modern period lived off the land and the bigger the army involved in campaigns the more massive its destructive effects. A glimpse of the terrible devastation of the environment in what were then known as Yejju and Tigre provinces caused by Menelik's soldiers and Italian troops during the Adwa campaign is provided by Asnake Ali (1998). In the recent period, we have evidence in the 1980s of large-scale deforestation in Wollo by Derg soldiers who cut down huge quantities of trees from forests located near the military camps. The soldiers claimed that the wood was needed for military purposes but most of it was sold as firewood to urban consumers by the soldiers as a source of income for themselves (see archival material in papers in *JES* 1998).

3. State-induced deforestation. At the time of the Imperial regime, the expansion of large-scale, commercial agriculture, which was actively encouraged by the state, took place in part at the expense of the forest (see Dessalegn 1986). Deforestation to make way for mechanized agriculture, particularly in the northwest and southwest of the country, was not uncommon. Moreover, logging interests had access to a number of forests for timber without much responsibility for replanting, and on occasions powerful landlords colluded with the timber industry enabling the latter open access to reserved forests. During the Derg regime, large-scale deforestation was carried out by State Farms on the one hand, and on the other in response to the ill-conceived resettlement and villagization programs. In both regimes, there was considerable deforestation on account of infrastructure projects such as roads, dams, etc.
4. Deforestation as an act of protest. In the mid-1960s, mid-1970s and at the time of the fall of the Derg in 1991, large-scale deforestation occurred in many parts of the country. The expropriation of forests by the state in the 1960s was the occasion for forest destruction in several parts of the country in which a broad section of the rural population participated. Similarly, the land reform of the 1970s sparked a

wave of tree cutting and deforestation which lasted for well over a year. In the early 1990s, during the transfer of power, state forests, conservation assets, cooperatives, and parastatal enterprises were attacked, looted and set on fire all across the country (Dessalegn 1994). I have argued in an earlier work that these incidents of post-Derg violence were a form of environmental protest by masses of peasants who were resentful of the state and its unpopular policies. It is tragic that the peasantry had to commit "eco-violence", as I have called it, in order to reclaim the environment.

5. Fuelwood collection. Those who engage in the collection and selling of fuelwood on a regular basis are invariably the poorest of the poor. A large number of the urban poor, particularly women and children, depend on fuelwood collection and marketing for their livelihood. Actually, "fuelwood collection" is a misnomer since the poor collect tree residue and brushwood more often than wood. Fuelwood carriers supply primarily urban settlements and, as in the case of charcoal production, demand has grown with the growth of urbanization. Peasants in peri-urban locations also engage in urban fuelwood marketing to supplement their income. According to studies undertaken by ILO/MOLSA, for example, over 80 percent of households in Addis Ababa obtain their domestic energy from biomass fuel (wood, and tree residue) and dung, and the annual inflow of fuelwood into the city is estimated at close to 21,000 metric tons. These same sources indicate that between 15 to 20 thousand women and children in the capital make a living as fuelwood carriers and provide about 35 percent of the city's domestic energy supply, while another third is supplied by peasants from the surrounding areas. Government authorities blame fuelwood carriers for the degradation of the peri-urban forest plantations, which they argue are under increasing encroachment by these "illegal" forest users (ILO/MOLSA 1997). A closer look at the evidence provided by the same authorities gives a more complex picture. To begin with, the forests in question, which are almost exclusively eucalyptus plantations, were established to supply the fuelwood and construction needs of Addis Ababa residents. Secondly, almost all the fuelwood supplied by urban-based fuelwood carriers consists of tree residue (branches, twigs, leaves, etc). In other words, these car-

riers do not cut down trees but collect for the most part what is available on the forest floor. On the other hand, a majority of peasant fuelwood suppliers market stacked wood, which involves cutting down trees and chopping them up into small pieces. The evidence indicates that overall, 40 percent of the fuelwood inflow into Addis Ababa consists of stacked wood (ILO/MOLSA 1996) and thus urban-based fuelwood carriers are not the primary agents of deforestation. On the other hand, rural households depend heavily on wood and tree residue for their domestic use. According to one study, wood is the most important form of domestic energy in the rural areas followed by tree residue; the two combined supply 70 percent of rural household needs, while, contrary to conventional assumptions, dung makes up less than 12 percent of energy consumption (CESEN-ANSALDO 1986). Each rural household relies on its own members to fetch its energy supply. Thus the agents of deforestation in the rural areas are not only the poor but also other sectors of the rural population.

6. Charcoal burning. The growth of Addis Ababa, the capital, and the satellite towns nearby from the 1950s created enormous demand for fuelwood and charcoal. The acacia forests in the lowlands, in particular those in the lake areas in the Right Valley to the southeast of the capital were particularly favored by charcoal burners. H.F. Mooney, a British forester who traveled many times through the Rift Valley in the late 1950s and early 60s, was astonished at the rapid rate of deforestation by charcoal burners of large stretches of acacia forest. In the early 1960s, what had been an area of fairly dense acacia forest had been turned into treeless grazing land (Mooney 1963). Charcoal burners are not poor people, though in some areas the poor may engage in the business to supplement their income; they are in many places small entrepreneurs, or agents of such entrepreneurs, who depend on open access to forests and who supply primarily the urban market. We do not know for certain the magnitude of deforestation caused by charcoal production and fuelwood supply.

The conclusion that can be drawn from this brief discus-

sion is that while the poor share responsibility to a good extent, they are not the major agents of forest depletion. Indeed, the available evidence suggests that ill-advised state policy or the lack of sound policies on the one hand, and powerful interests on the other have been more responsible for the loss of the country's forest resources than the poor or the small peasant.

Soil depletion. There are two main causes of soil depletion, and these are the loss of the topsoil through erosion, and the depletion of the fertility of the soil due to the lack of adequate measures and inputs to prevent fertility decline.

The rate of soil erosion in the country as a whole is believed to be occurring at an alarming scale, and most of the erosion takes place on land under cultivation. It is suggested that small-holder agriculture is largely responsible for accelerated erosion, which by some estimates washes away close to 2 billion tons of soil annually. There is however sufficient evidence to indicate that peasant land management systems employ relatively sound conservation techniques, and that the causes of erosion are much more complex than is made out to be by mainstream environmentalist. The repertoire of indigenous conservation practices combines physical structures with biological measures, and while the system does have its limitations, it has served the peasant quite well and has been relatively effective in protecting the soil (see Tahal 1988, Belay 2000). Similarly, the loss of soil fertility cannot be attributed to the lack of peasant fertility management efforts, though admittedly these efforts are not sufficient to fully arrest fertility decline (see Belay), but rather due to a host of other factors.

There is no evidence to suggest there are differences in quality in land management techniques between the rich peasant and the poor or between large plots and small. However, it may be argued that since the poor have limited resources they are less able to invest on the land. On the other hand, without sufficient tenure security neither the rich nor the poor will be greatly motivated to make investments on their farm plots. Land improvement measures, both the physical as well as the biological, are costly: they require either large outlays of labor or access to considerable assets. Soil protection and improvement by means of terracing, ridging, drainage furrows, or irrigation ca-

nals, for example, has a long history in peasant agriculture, however constructing these measures on a sufficient scale, which is necessary if the measures are to be effective, requires large labor inputs and traditionally has been accomplished through the collaboration of many peasant households. Community participation on a regular basis to build and maintain the structures is necessary, and such collaboration has customarily been accomplished through the agency of traditional institutions. The poor, who may frequently be socially excluded, may not have sufficient standing in the community to be able to command the necessary labor. Similarly, the regular use of organic or chemical fertilizers is a common practice employed by farmers to prevent the exhaustion of the soil due to nutrient depletion. However, the poor do not often have access to the necessary resources to benefit by this practice and their farms may therefore become rapidly exhausted. These are two circumstances in which environmental degradation may be caused by poverty.

In summary, the link between poverty and environmental degradation is not a simple or direct one, and we lack sufficient evidence to fully understand the complex nature of the relationship. While they may be driven by hunger and privation to rely more heavily on the resources of their surroundings, while this reliance may be exacerbated by periodic environmental crises, the poor do not as a general rule recklessly abuse the environment. As we have seen earlier, the rich and the powerful, and the lack of sound policies and development programs, has in fact been a much greater threat to the environment.

References

- Abebe Shimelis 1999. Poverty Measurement, Profile and Policy in Ethiopia. Paper prepared for the Workshop on Poverty Policy in Ethiopia. Addis Ababa, 21 January.
- Abebe Shimelis and Berket Kebede 2000. Poverty and Welfare in Ethiopia: Measurement and Determinants. Paper prepared for the Symposium for Reviewing Ethiopia's Socio-economic Performance 1991-1999. Addis Ababa, 26-29 April.
- ActionAid-Ethiopia et al. 1997. [Papers of the] Workshop on Poverty and Income Distribution Issues in Ethiopia dur-

ing Adjustment. Addis Ababa, 24 September.

- _____ 1999. [Papers of the] Seminar on Poverty and Policy in Ethiopia. A Follow-up of Collaborative Research by NGO Alliance. Addis Ababa, 21 January.
- Adams, W.M. 1990. *Green Development: Environment and Sustainability in the Third World*. London: Routledge.
- Aklilu Kidanu and Dessalegn Rahmato 2000. Listening to the Poor. A Study Based on Selected Rural and Urban Sites in Ethiopia. FSS Discussion Paper No. 3, Forum for Social Studies, Addis Ababa.
- Alemneh Dejene 1990. *Environment, Famine and Politics in Ethiopia: The View from the Village*. Boulder: Westview Press.
- Asnake Ali 1998. The Environmental Impact of the Campaign. In Abdussamad H. Ahmad and R. Pankhurst (eds.), *Adwa: Victory Centenary Conference 26 February - 2 March 1996*, pp. 265-97. Addis Ababa: Institute of Ethiopian Studies.
- AEMFI (Association of Ethiopian Microfinance Institutions) 2000. *Microfinance Development Review*, 1, 1, (January).
- Bahru Zewde 1998. Forests and Forest Management in Wallo in Historical Perspective. *Journal of Ethiopian Studies*, XXXI,1 (June): 87-121.
- Befekadu Degefe and Berhanu Nega 1999. *Annual Report on the Ethiopian Economy. Vol. I, 1999/2000*. Addis Ababa: Ethiopian Economic Association.
- Belay Tegene 2000. Intergrating Indigenous and Modern Agricultural Practices in the Drought Prone Areas of Ethiopia. In Zenebework Tadesse (ed.), *Issues in Rural Development. Proceedings of the Inaugural Workshop of the Forum for Social Studies, 18 September 1998*, Pp. 102-22. Addis Ababa: Forum for Social Studies.
- Bereket Kebede 1996. Poverty, Population and the Environment in Rural Ethiopia: Some Empirical Results. Paper presented to a panel discussion on Population and Environment in Ethiopia, National Office of Population, Addis Ababa, February.
- Broad, Robin 1994. The Poor and the Environment: Friends or Foes? *World Development*, 22,6: 811-22.
- Central Statistical Authority 1998. Revised Report on the 1995/96 Household Income, Consumption and Expenditure Survey. Statistical Bulletin 204/ Addis Ababa, June.

- _____ 1999. Report on the 1998 Welfare Monitoring Survey. Statistical Bulletin 224. Addis Ababa, November.
- CESEN-ANSALDO 1986. The Rural/Urban Household Energy Survey, Part 1 and 2. Technical Report No. 7. Cooperation Agreement in the Energy Sector. Ethiopian National Energy Committee, Ministry of Mines and Energy, Addis Ababa, May.
- Daniel Gamachu 1990. Environment and Mass Poverty. In S. Pausewang et al. (eds.), *Ethiopia: Options for Rural Development*, pp. 164-73. London: Zed Books
- Dercon, Stefan 1999. Linking Quantitative and Qualitative Information on Changes in Poverty in Rural Ethiopia 1989-1995: Preliminary Findings. In ActionAid-Ethiopia 1999.
- Dercon, Stefan and P. Krishnan 1998. Changes in Poverty in Rural Ethiopia 1989-1995. Unpublished paper, Centre for the Study of African Economies, University of Oxford.
- _____ 2000. Vulnerability, Seasonality and Poverty in Ethiopia. *Journal of Modern African Studies*, 36,6: 25-53.
- Dercon, Stefan and Mekonen Tadesse 1997. A Comparison of Poverty in Rural and Urban Ethiopia. In ActionAid-Ethiopia 1997.
- Dessalegn Rahmato 1986. Moral Crusaders and Incipient Capitalists. Mechanized Agriculture and Its Critics in Ethiopia. In *Proceedings of The Third Annual Seminar of the Department of History*. Addis Ababa University, Addis Ababa.
- _____ 1992. *The Dynamics of Rural Poverty: Case Studies from a District in Southern Ethiopia*. Monograph Series 2/92, CODESRIA, Dakar.
- _____ 1994. The Unquiet Countryside: The Collapse of 'Socialism' and Rural Agitation 1990-1991. In Abebe Zegeye and S. Pausewang (eds.), *Ethiopia in Change*, London, British Academic Press.
- _____ Forthcoming. Peasant Agriculture under the Old Regime. In Shiferaw Bekele, ed., *Economic History of Ethiopia*.
- Environmental Protection Authority 1997. Federal Democratic Republic of Ethiopia, Environmental Policy. Addis Ababa, April 2.
- Fekerte Haile 1991. Women Fuelwood Carriers in Addis Ababa and the Peri-Urban Forest. ILO, Geneva.

- Getahun Taffesse 1998. Poverty, Draft Outline. Unpublished paper. MEDAC, November.
- _____ 2000. The Dynamics of Poverty in Ethiopia. Paper prepared for the Symposium for Reviewing Ethiopia's Socioeconomic Performance 1991-1999. Addis Ababa, 26-29 April.
- Guha, R. 1989. *The Unquiet Woods. Ecological Change and Peasant Resistance in the Himalaya*. Delhi: Oxford University Press
- Guha, R. and J. Martinez-Alier 1997. *Varieties of Environmentalism. Essays North and South*. London: Earthscan
- Hoben, Allan 1995. Paradigms and Politics: The Cultural Construction of Environmental Policy in Ethiopia. *World Development*, 23,6: 1007-21.
- ILO/MOLSA 1996. Inflow and Marketing of Fuelwood and Dung in Addis Ababa: Report of a Pilot Survey. Prepared by Alemayehu Gebrehiwot. Addis Ababa, January.
- _____ 1997. Report on a Pilot Activity for the Integration of Women Fuelwood Carriers (WFCs) into Sustainable Forest Management. By Alemayehu Gebrehiwot and Camille Bengtsson. Addis Ababa, March.
- IDS Bulletin* 1999. Nationalising the Anti-Poverty Agenda? Vol. 30, NO. 2.
- Journal of Ethiopian Studies* 1998. A Special Issue on Environment and Development in Wallo. XXXI, 1(June).
- Keeley, J. and I. Scoones 2000. Knowledge, Power and Politics: The Environmental Policy-Making Process in Ethiopia. *Journal of Modern African Studies*, 38,1: 89-120.
- Leach, M. and R. Mearns 1992. Poverty and Environment in Developing Countries, An Overview. IDS, University of Sussex, Brighton
- Leonard, H.J. et al. 1989. *Environment and the Poor: Development Strategies for a Common Agenda*. New Brunswick: Transaction Books.
- McCann, James 1995. *People of the Plow: An Agricultural History of Ethiopia*. Madison: University of Wisconsin Press.
- _____ 1999. *Green Land, Brown Land, Black Land. An Environmental History of Africa 1800-1990*. Oxford: James Currey
- Mekonnen Lulie 1999. Land Reform and Its Impact on the Environment: The Case of Gidan Woreda. In Taye Assefa (ed.) *Food Security through Sustainable Land Use. Pro-*

- ceedings of the First National Workshop of NOVIB Partners Forum on Sustainable Land Use*, pp.175-201. Addis Ababa: NOVIB Partners Forum on Sustainable Land Use.
- Mekonen Tadesse 1997. Determinants and Dynamics of Urban Poverty in Ethiopia. In ActionAid-Ethiopia 1997.
- Mekonen Tadesse and Bereket Kebede 1996. *Poverty and Economic Reform in Ethiopia. Proceedings of the Annual Conference of the Ethiopian Economic Association*. Addis Ababa: Ethiopian Economic Association.
- Mekonen Tadesse, Bereket Kebede and Abebe Shimelis 1997. Economic Reform, Growth and Poverty in Ethiopia. Evidence from Household Panel Data. Paper presented to the African Economic Research Consortium Bi-Annual Workshop, Harare, 6-12 December.
- Ministry of Economic Development and Cooperation (MEDAC) 1999. Poverty Situation in Ethiopia. Welfare Monitoring Unit, Addis Ababa, March.
- Mooney, H.F. 1963. An Account of Two Journeys to the Araenna Mountains in Bale Province (South-west Ethiopia) 1958-62. *Proceedings of the Linnaen Society of London*, 172nd Session, 1961-62, Pt.2.
- News & Notices for IMF and World Bank Watchers* 2000. Vol. 2, No. 3, Fall. Globalization Challenge Initiative, Silver Spring, Md.
- PMGSE 1984. Ten Year Perspective Plan. Office of the National Committee for Central Planning, Addis Ababa.
- Sutcliffe, J.P. 1995. Soil Conservation and Land Tenure in Highland Ethiopia. *Ethiopian Journal of Development Research*, 17,1: 63-88.
- Tahal Consulting Engineers 1988. Study of Traditional Conservation Practices. [Prepared for] Ministry of Agriculture, R-88-44-, October.
- Tekie Alemu 2000. Insecure Land Tenure Regimes and Soil Conservation. Paper presented to the Symposium for Reviewing Ethiopia's Socioeconomic Performance 1991-1999, organized by the InterAfrica Group, Addis Ababa, April 26-29.
- Tiffen, Mary, M. Mortimore and F. Gichuki 1994. *More People, Less Erosion. Environmental Recovery in Kenya*. Nairobi: ACTS Press
- Transition Government of Ethiopia (TGE) 1993. National Popu-

- lation Policy of Ethiopia. Office of the Prime Minister, Addis Ababa.
- UNDP annual. *Human Development Report*. New York: Oxford University Press.
- Webb, P. J. von Braun and Yisehak Yohannes 1992. *Famine in Ethiopia: Policy Implications of Coping Failure at National and Household Levels*. Research Report 92, International Food Policy Research Institute, Washington, D. C.
- Wolday Amha 2000. Review of Microfinance Development in Ethiopia: Regulatory Frameworks and Performance. Paper presented at the Symposium for Reviewing Ethiopia's Socioeconomic Performance 1991-1999. Addis Ababa, 26-29 April.
- World Bank 1992. Ethiopia: Towards Poverty Alleviation and a Social Action Program. Report No. 11306-ET. Washington, D.C., 19 November.
- _____ 1998. Participatory Poverty Assessment for Ethiopia. World Bank Discussion Paper. Washington, D.C., 30 June.
- _____ annual. *World Development Report*. New York: Oxford University Press.
- World Commission on Environment and Development 1987. *Our Common Future*. Oxford: Oxford University Press
- Yeraswork Admassie 1995. *Twenty Years to Nowhere. Property Rights, Land Management and Conservation in Ethiopia*. Trenton, NJ: Red Sea Press.