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Ethiopian Work-for-Food Reclamation Program: 1985-1990

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Introduction

An ambitious environmental reclamation program was initiated in Ethiopia in 1985 following the severe drought of 1984-1985. This drought resulted in the increased degradation of already overtaxed ecosystems, in which soil erosion and vegetation loss, both natural and agricultural, were major concerns. Backed by international donors and nongovernmental organizations (NGOs), the Ethiopian Food For Work (FFW) reclamation project was initiated and became the largest food-for work program in Africa (figure 1), and second largest in the world. Over the next five years, farmers built more than one million kilometers of soil and stone bunds, and almost one-half million kilometers of hillside terrace. More than 80,000 hectares of hillside were closed to most use to allow native plant regeneration, and 300,000 hectares of trees were planted (Hoben, 1995). Most of these efforts were futile. So why didn't the program work?

Figure 1. Source: Isaac, J. *Food Aid*. FAO. <http://www.faowfs_ho1.fao.org/cgi/nph-kvmedi> 14 April 1998.

The motivation behind this program was well placed, but its failures are due in large part to its underlying assumptions. The program relied on inadequate scientific and technical data, it was implemented with a standardized, top-down approach, little consideration was given to local conservation practices and concerns, and long-term environmental management incentives were lacking. The next section will provide some background on Ethiopia, followed by a summation on program agencies and the program itself. The results and legacy of the program will then be examined and discussed, followed by a look at Ethiopia today.

Ethiopia

Ethiopia is over 2,000 years old, making it the oldest independent country in Africa and one of the oldest in the world. It has a total area of 1,127,127 square kilometers with 112 million hectares of land area, or slightly less than twice the size of Texas. Ethiopia has a tropical monsoon climate, with wide topographical-induced variation, and in many areas is prone to extensive drought. The northern highlands are separated from the South by a central mountain range. Ethiopia's economy is based on subsistence agriculture, accounting for 45 percent of the

Gross Domestic Product (GDP), 90 percent of foreign exchange earnings, and 85 percent of all jobs (Panos, 1996). Ethiopia is rich in biodiversity, though it is one of the economically poorest countries in the world. The population is approximately 54 million people, with population growth at about 3 percent. The political climate has been marked by a high turnover of governments, civil war, and instability. The current government is the Ethiopian People's Revolutionary Democratic Front (EPRDF), which toppled the Marxist-Leninist military regime of Mengitsu Haile Mariam, known as the Derg in 1991 (Eberstat, 1990). The Derg took power in 1974, and instituted a collective social and economic agrarian reform policy that was in place at the time of the 1984-85 FFW program. This reform policy was counterproductive to long-term environmental management, but the FFW program separated itself from the government as much as possible.

There is no doubt of environmental degradation in Ethiopia. Much of northern Ethiopia has dissected, sloping terrain with fragile soils are low in organic matter. The plow-based mixed farming system adds to erosion through finetilling, monocropping, and lack of cover. Rainfall is higher and more evenly distributed in central and southern Ethiopia. The land is less rugged, there is more forest and vegetative cover, and soils are generally higher in organic matter. Over the last century, forest cover and grasslands have been reduced through agricultural exploitation (Hoben, 1995). This degradation, combined with famine, drought, and population growth, common in East Africa, has been the focus of attention since World War II (Gemaledinn, M. 1987).

Agencies

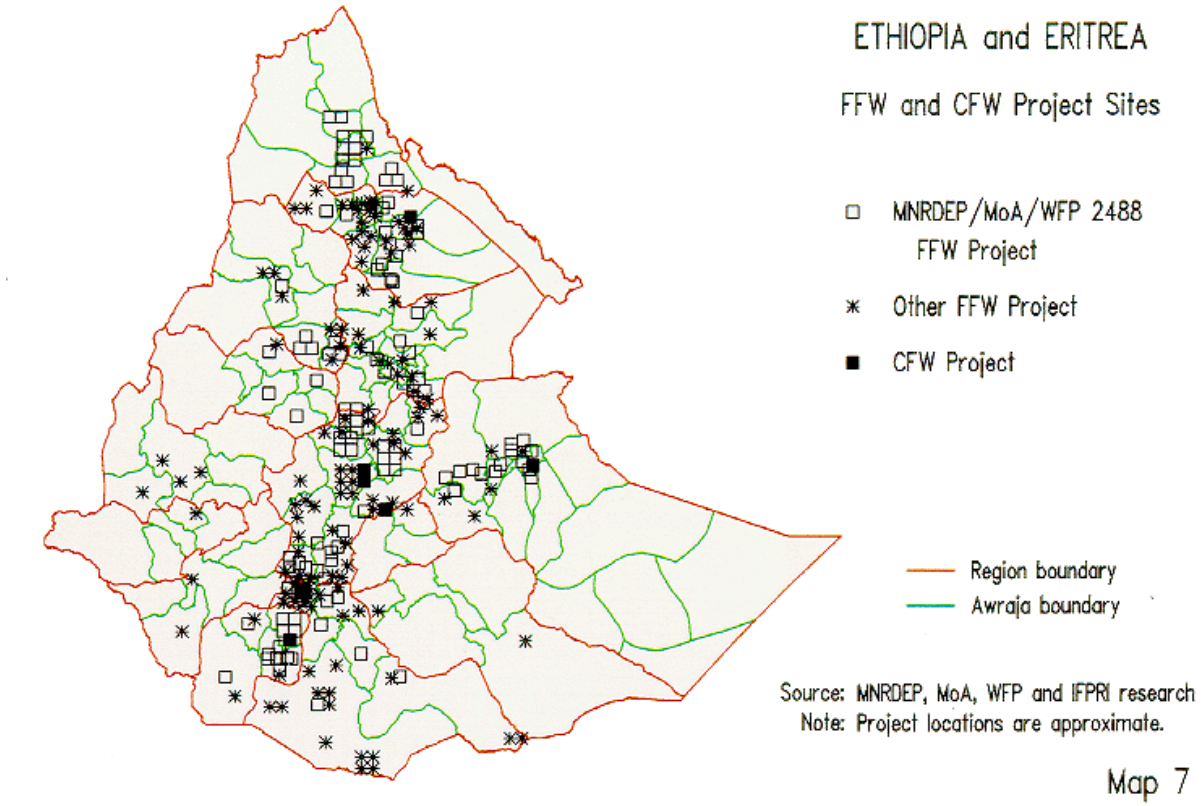
The major international agencies involved in the FFW, part of the World Food Program's (WFP) Project 2488, included the European Economic Community (EEC), the Food and Agricultural organization (FAO), and the United States (USAID). Restoration activities were organized by the Community Forestry and Soil Conservation Development Department of the Ministry of Agriculture in Ethiopia. Other donors provided equipment and tools, and NGOs played a large role in implementation, determined by geographic location (Hoben, 1995).

Food for Work Restoration Program

The FFW was a top-down, standardized program that had as its foundation certain assumptions. One assumption is that indigenous farming systems are inadequate and unable to keep pace with population growth, while another is that the population exceeds the land's present carrying capacity (Gamaledinn, M. 1987). Third, farmers could not reverse the negative feedback loop of forest cover loss and degradation of soils due to agricultural conversion, overgrazing, poor farming practices, and fuel needs. It was assumed that the farmers were too poor to forgo present and future income for restoration, and they lacked the knowledge to perform restoration (Hoben, 1995). The program therefore organized large groups of workers into over 26,000 labor groups (figure 2), and paid them in food for implementing the program's initiatives. These initiatives included the construction of bunds (figure 3a), hillside terraces, the closing of hillsides for most uses, and planting of trees in community woodlots (figure 3b). The workers were paid a daily

allotment of 2-3 kilograms of wheat and 120 kilograms of edible oil to be delivered each month on the basis of the project work completed. The intent of these initiatives was to reduce erosion, allow for native regeneration, create sustainable woodlots, and encourage more productive, sustainable agriculture.

Figure 2. Source: *Ethiopia FFW and CFW Project.* USAID.



<http://www.info.usaid.gov/HORN/ethiopia/images/IFPRI/p_sites.gif> 14 April 1998.

Figure 3a. Reafforestation and erosion control are being carried out in Ethiopia by the Soil Conservation Department of the Ministry of Agriculture, with assistance from FAO for training technicians and farmers in conservation techniques. Ethiopia is facing an overwhelming problem of deforestation and erosion. 200,000 hectares of forest land are being denuded every year for fuel and charcoal; pastures are being overgrazed by an ever increasing cattle population; shifting cultivation and primitive farming on steep hillsides. The Government is making a serious effort to attack these problems and, through the WFP Food for Work assistance, they are mobilizing the 25,000 Peasant Associations in the country to terrace hillsides, plant trees and degraded land, construct check dams in gullies to stop erosion, and to protect overgrazed lands from cattle so they will regenerate.

Figure 3b. Source: Botts, F. 3a: *Natural Resources and Environment, 3b: Forestry.* FAO. <http://faowfs_h01.fao.org/cgi/nph-kvmedi> 14 April 1998.

Results

The results of the FFW were poor. Contrary to expert opinion and what program agents had been telling farmers, many reclamation efforts lowered production, income, and food security. The soil bunds, which retained moisture and soil, were liked by many of the farmers, but the stone bunds and terraces reduced arable land and sheltered rodents, and some farmers claimed that many terraces actually contributed to erosion. These problems were later confirmed by the Soil Conservation Research Project (Hoben, 1995).

The closing of hillsides involved restricting agriculture and intensive use from steeper slopes, though light grazing and fuelwood collection where permitted in some areas. This resulted in appreciable vegetative regeneration, but often by tress and species unpalatable to livestock, which intensified destructive grazing on other enclosures.

Community forestry had several problems. First, trees were planted in some areas where naturally occurring trees were in abundance, and farmers complained that agriculture was hindering by shading, root interference, and unwanted pests (Hoben, 1995). It was also unclear as to who would benefit from the communal woodlots since farmers had to get permission from the government to harvest trees. Trees were not harvested in many woodlots because farmers did not feel that the community forests belonged to them (Dejene, A. 1990). The result was the farmers generally refused to work on reforestation without continual food payments. Following the program farmers, often cut down the trees and uprooted the saplings to reclaim land lost to the program, expand agricultural use, and in the hope of establishing ownership. Conversely, a great increase in tree planting on individually controlled land outside the project was noted in southern Ethiopia when private controls were relaxed in 1990 (Hoben, 1995).

Program Successes

The FFW program was successful in some areas. The upper Mille and Cheleka catchment area was a good example of the severe erosion and deforestation in the Ethiopian highlands. A tour of the region in 1989 showed regenerating hillsides, successful agro-forestry and small scale irrigation. Linking conservation and restoration with short term benefits resulted in a fairly good

acceptance among farmers in the area (Dejene, 1990). Unfortunately, this area and others like it are the exception.

Program Flaws

The program had four major flaws. The first was that it relied upon inaccurate assumptions and poor data. The facts of environmental deterioration have been convincing, as far as the very weak statistical material goes (Grove, 1986). Peter Timmer of USAID states,

The inefficiencies associated with doing research in Africa are criminal, and all of us have been involved in this crime (Seckler, D. 1992).

Generalizations are often used and assumed to be true with little proof as to their local applicability; "facts" become firmly established in western popular ideas of what is going on in aid agencies and the dry regions of Africa (Hjort, A. 1985). Actual data supporting the assumptions of degradation in Ethiopia are thin and circumstantial. While tree decline in the South is serious, actual tree decline in the North has been insubstantial, and they had actually integrated eucalyptus trees into farming in the North since the 19th century. A reanalyzes of the data by Peter Sutcliffe, former Senior Technical advisor to the National Conservation Secretariat in Ethiopia, indicates that loss of crop yield estimates are from 10 to 15 times too high, and data on soil erosion and nutrient loss are lacking (Hoben, 1995).

Second, the standard approaches and top down authority structure of the FFW program were ill-suited to the widely varied agro-ecological regions of Ethiopia. The program was unresponsive to local ecological and social needs, and upon completion, were shown to be ineffective in many areas. An address by Ernest Stern of the World Bank in 1984 was illustrative of the shortcomings in Ethiopia;

We, I think it is fair to say, have failed in Africa, along with everybody else. We have not fully understood the problems. We have not identified the priorities. We have not always designed our projects to fit the agro-climatic conditions of Africa, and the social, cultural, and political frameworks in African countries. This is evidenced by the percentage of poorly performing projects in the agricultural portfolio and by the fact that we, and everybody else, are still unclear about what can be done in agriculture in Africa (Jaycox, E. 1988).

When standard practices were instituted without feedback, farmers often continued to work only for the food, with no incentive for actual restoration, which was often unsuitable for the location anyway. When the program ended, farmers had no reason to continue methods of sustainable farming that did not make sense.

Third, restoration efforts took little heed of the merit of indigenous practices. A vast knowledge of species, ecosystems, and their uses exists, but it is not incorporated into modern practices, being either insufficiently "scientific" or not "developmental" (Warren, D. 1992). Ethiopians have been practicing agro-forestry almost universally in highland farming systems. Native techniques of soil amendment include manuring, spreading ashes of burned manure, and the use of leguminous crops in rotation. Species of juniper, bamboo, and eucalyptus have been successfully used as wood sources sustainalbly around home sites. Farmers used indigenous terracing, runoff ponds, and irrigation that have sustained continuous population densities in some areas for centuries (Hoben, 1995). Though these techniques were not always widely practiced, their incorporation to the restoration program may have contributed much toward a more successful result.

Finally, long-term environmental management was ignored. The program failed to take into account the practices of the Derg and its policies. Land tenure reform, production cooperatives, villagization, and rural economic policies set by the government stripped most farmers of long-term commitment to the land, as resettlement was common and land worked by the farmer could change at anytime. The individual had little motivation to invest in one particular piece of land, and long-term management seemed pointless, since the farmer had no say in its use or future. Though these are government policy failures, the FFW program was structured in assuming long-term care of the land upon completion of the restoration program, which many farmers had no incentive to do. Farmers appreciated the food, but were not willing to sustain the effort on their own initiative (Hoben, 1995).

Evaluation Efforts

The FFW program in Ethiopia from 1985-1990 did not try to measure success. In fact, there were virtually no on-farm studies of the production, economic, or environmental effects of the program on the various regions in Ethiopia (Hoben, 1995). Unrelated studies showed that on average the restoration program was ineffective, or actually resulted in negative impacts. One such study that was on soil conservation, undertaken from 1981-1991 in seven agro-ecological zones, showed that production on the control plots was 10-20 percent higher than those in the field, with were under restoration measures (Herweg, K. 1992).

Ethiopia Today

In May of 1991, rebels overthrew the Derg and established a new Transition Government of Ethiopia, run by the ERPDF. This new government is committed to ethnic self-determination and

decentralization, and is determined to address environmental problems. Unfortunately, these efforts seem to be plagued by the same false assumptions made previously. In a recent correspondence with Allen Hoben, he concluded after a recent trip to Ethiopia that the current restoration programs look a lot like the ones of the 1980's. There is hope, though. The Eastern African Regional Office (EARO), of which Ethiopia is a member, states as a primary goal as;

To promote the wise use of natural resources and the involvement of local communities and local knowledge in their management while addressing shared ecosystems and natural resources (IUCN, 1998).

Conclusion

A restoration program is unlikely to succeed if it is founded on inadequate information. The FFW program was based upon inaccurate assumptions about social, rural, agricultural, and ecological conditions. Adequate research prior to the formation and implementation of a restoration program is crucial, and research must be maintained at the implementation and evaluation stages to adjust to new information. The FFW program had good intentions, but without a sound base to work from, its program of restoration was largely ineffective. Its preconceived, top-down structure proved to be too inflexible to meet the restoration needs of a large and diverse area, and its single minded approach lacked the necessary local information to be successful. All of these factors, combined with the lack of long-term management and protection incentives of individuals, led to the overall poor performance of the 1985-1990 FFW program. Unfortunately, it does not seem these lessons have been taken to heart.

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