EDUCATION FOR SUSTAINABLE DEVELOPMENT: A LONG-TERM STRATEGY FOR FAMINE PREVENTION IN ETHIOPIA

Maureen Fitzgerald

Geography Division, Anglia Higher Education College,
Cambridge, CB1 1PT

INTRODUCTION

In 1985, as part of a multi-faceted and regionally-diverse response to the headline-evoking famine of 1984, a pilot programme in environmental education was initiated in the highland region of Welo in northern Ethiopia. By March 1990 the programme was operating in 55 schools and adult education centres and it had been extended to parts of the neighbouring administrative region of Shoa. The short-term aim of the Environmental Educational Programme (EEP) is community-based practical action to conserve soils and halt environmental degradation. In the longer-term the programme hopes to change the values and attitudes that underpin productive behaviour and to disseminate the concept of sustainable development.

The purpose of this paper is to analyse the values and assumptions on which the EEP is based. By exploring the origins and content of the programme I hope to clarify the

official thinking about famine causation and to evaluate the contribution that education can make to reducing people's vulnerability to food insecurity. Apart from the intrinsic importance of the EEP as part of a famine prevention strategy for Ethiopia, there may be lessons here for other states since education is viewed increasingly as a vital component in conservation and development strategies throughout the Third World.

THE CONTEXT OF THE ENVIRONMENTAL EDUCATION PROGRAMME

The search for food security

The search for food security in Ethiopia is producing a number of strategies with a multiplicity of components. Some components, such as early-warning and famine relief, are short-term and are addressed under the National Disaster Prevention and Preparedness Strategy. Actions to be determined within the framework of longer-term development plans are addressed by the National Food and Nutrition Strategy (NFNS), first published in 1987 but still subject to revision (Belshaw, 1990; Cohen and Isaksson, 1988).

The actions proposed under the NFNS are diverse and complex. Complexity arises from the causal analysis of famine and from the decision-making process. A famine disaster is no

longer perceived as an 'aberrant phenomenon, ... unique and distinct from "normal" life' (Kent, 1987: 4). Albeit initiated by a 'natural agent' such as drought, it is now regarded as a process involving a number of stages of increasing destitution (eg Devereux and Hay, 1986; ICIHI, 1985; Mariam, 1986; Rangasami, 1985; Sen, 1981; Walker, 1989; Watts, 1983). It is also now recognised that vulnerability to famine has community, household and gender dimensions as well as regional and national ones, though the impact of this awareness on food policy is still very limited. The most vulnerable people are women, children and those who live in marginal areas (Maxwell, 1990).

To add to the complexity arising from the analysis of famine causation and of vulnerability, decision-making is divided between departments which are answerable to different ministries, and between ministries which are subject to the authority of various coordinating bodies. These organisations in turn, like the Office of the National Committee for Central Planning, which is the ultimate decision-making body, are the recipients of advice (not to say threats) from both Soviet economic advisers and western funding agencies such as the World Bank and the FAO as well as bilateral donors.

In recognition of spatial variations in vulnerability and in agricultural potential, proposals for improving food

security differ on a regional basis. A green revolution approach, known as the Peasant Agricultural Development Extension Programme (PADEP), is advocated for high potential cereal producing areas. A number of PADEP projects are already operational, mostly in the south of the country. Although natural resource conservation is part of their brief, their primary aim is to promote agricultural productivity and provide marketable surpluses.

In contrast a Conservation-based Development Strategy (CDS) is being implemented in parts of the northern highlands (FAO, 1986). The highlands in general and, of those areas under government control, Welo and Shoa Regions in particular, are targeted as being the most vulnerable to both chronic and transitory food insecurity - difficult though it is to make such distinctions (Maxwell, *et al*, 1990). The purpose of the CDS is to improve food security by increasing productivity and diversifying cropping systems in conjunction with measures to protect or reclaim natural resources. This strategy emerged from the deliberations of the *Ethiopian Highlands Reclamation Study* (EHRS) (GOE/FAO, 1986). It is founded on the belief, widely reiterated in official literature, that environmental degradation is a major cause of food deficits in the targeted regions.

The CDS is an integrated rural development programme, a crucial component of which is the Environmental Education

Programme (EEP). The primary reason for the high priority given to education is the belief that although farmers recognise soil erosion, they do not understand either the processes of degradation nor their implications for agriculture (SIDA, 1987; Wood, 1987). This is thought to be the reason that they have limited commitment to the maintenance of structures such as terraces and to the protection of forests. To give added weight to this view, a sociological survey, carried out as part of the EHRS, found that the peasants interviewed considered education to be the most important factor contributing to the success of conservation activities.

Thus the broad aim of the EEP is to raise awareness of environmental problems and to disseminate knowledge of the potential solutions. Whereas the task of integrating conservation measures into the farming system is primarily the responsibility of the Ministry of Agriculture (MOA), the task of disseminating information is that of the Ministry of Education (MOE). Neither the MOA nor the MOE have paid much attention to other reasons for farmers' reluctance to invest in what Blaikie and Brookfield (1987) call 'landesque capital'. Yet there is considerable evidence that insecure access to land raises considerable doubts about the value of investing time and labour in conservation measures, the benefits of which are scarcely discernible in the short-term.

Education for sustainable development

Environmental education, although not so called and rarely a priority, has been part of both formal (school) and non-formal (adult) education in the Third World for decades. In the formal sector it was included in, for example, biology and geography syllabuses as well as in primary education (Parker, 1984; Randall, 1987; Tomkins, 1987). In the non-formal sector one of the roles of the extension-worker has long been the promotion of soil and water conservation (Adams,1982; Watson,1983).

However, environmental education *per se* did not appear on the mainstream political and educational agenda until the Stockholm Conference on the Human Environment in 1972. A key recommendation to come out of Stockholm was that an international programme in environmental education should be established and that it should be interdisciplinary in approach and should encompass all levels of education (Kipkorir Koech, 1989). Subsequent cooperation between UNESCO and the United Nations Environment Programme (UNEP) has produced an International Environmental Education Programme (IEEP), under the auspices of which international and regional meetings are organised and publications prepared on strategies for integrating an environmental dimension into school and adult education.

During the 1980s, with the emergence of sustainable development as a fashionable, albeit contradictory concept (Redclift, 1987), educational systems throughout the world have come under increasing pressure to devise syllabuses for environmental education. For example, *The World Conservation Strategy* (WCS) (ICUN, 1980), in pursuit of ecologically sound development, called for education to create a whole new philosophy of life. It argued that in order to reduce environmental and human degradation, education must change the values and behaviour of current and future generations.

In 1987 the Brundtland Report (WCED) also called for education to influence values and attitudes and to this end stated that environmental education should be included in all the disciplines of the formal educational curriculum as well as in adult education. In other words an international consensus has emerged that education can and should influence 'world inhabitants to be both capable of and willing to choose lifestyles and behaviours which result in the environment maintaining itself as a productive and supportive ecosystem' (Connect, 1989: 1).

This is all fine rhetoric. The trouble is that it ignores both the politico-economic context of productive behaviour in rural areas of the Third World and the practical realities and social context of schooling. The WCS, for instance, simply failed to address the socio-political and

economic forces behind unsustainable practices. The Brundtland Report called for training in practical and vocational skills and for knowledge relevant to the 'proper' management of local resources (WCED: 113). It glossed over the causes of 'improper' management and totally ignored the structural conflicts between the goal of providing relevant education and that of training people for jobs in the modern sector (Dore and Oxenham, 1984).

Environmental education in Ethiopia must be seen in this international context. Welo's EEP is based on northern-inspired 'accommodative' environmentalism (O'Riordan, 1981) which aims to maintain the *status quo*. It is a technocratic production-orientated type of environmentalism. Whether it is an appropriate response to famine and whether it can contribute to a reduction in vulnerability is discussed below, following a brief description of the programme.

THE ENVIRONMENTAL EDUCATION PROGRAMME

Aims and origins of the EEP

The aims of the programme were established by the Ministry of Education (MOE) in close consultation with the funding agency, the Swedish International Development Authority (SIDA) (MOE, 1985a, 1985b, 1985c; SIDA, 1986). The programme

began in Welo in 1985, initially as a pilot project intended to educate people in the techniques of soil conservation and community forestry. In 1987 it was extended in content to incorporate a component on health education and in area to parts of the neighbouring region of Shoa.

In the broadest sense the aim is for education to help to resolve the problems facing the rural population in their everyday lives. The MOE's delivery network of schools, literacy centres, training centres and mass media outlets is used to promote cooperation within communities by encouraging socially useful activities such as tree planting, horticulture, terrace construction and the protection of drinking water. The long-term aim is to change individual and societal attitudes and productive behaviour; to promote a deeper understanding of environmental problems and to disseminate knowledge of their potential solutions; and thus to create self-sustaining systems of land-use. In this way it is hoped that education will contribute towards the elimination of famine.

Strategy and content

The initial strategy adopted by the EEP was the training and orientation (note the phraseology: the word education is not used) of key educational personnel. These include, first and

foremost, the instructors at the Primary Teacher Training Institutes (PTTI) in Dese (Welo) and Debre Berhan (Shoa). The rationale, in line with the recommendations of the Brundtland Report, was that community-based actions depend very largely on the capacity and understanding of teachers. Other trainees include *awraja* (provincial) and *wereda* (district) educational officers, the coordinators of and technicians (who produce teaching materials) from *awraja* pedagogical centres, school directors, representatives of Peasant Associations and teachers of environment-related subjects.

The primary method of orientation is lectures provided by experts from the Ministries of Agriculture and Health and from the Ethiopian Family Guidance Association. Films depicting topics such as soil erosion and wildlife conservation are shown and UNESCO-produced posters displayed to demonstrate the gravity of the environmental problems. Lectures cover topics such as soil structure, agents of erosion, methods of erosion control, use and management of forests, the development of vegetation cover and so on. All the centres participating in the programme also provide practical training and demonstration facilities in the techniques of soil conservation, afforestation and horticulture.

By mid-1989 over 3500 teachers had received training in the objectives and techniques of environmental education (UNESCO, 1989) and by mid-1990 thirty-one schools were participating in the programme (Mengistu, 1990). The programme is extra-curricular in the schools. Its aims are pursued through Environmental Education Clubs run, as a rule, by the agriculture teacher. The object is to combine theoretical with practical work in line with national educational priorities that emphasise 'education for production, research and a new way of life' and the development of curricula that combine 'learning with doing and theoretical knowledge with practical activities' (MOE, 1985d).

In the non-formal sector environmental education is included in three-month training courses provided by twenty-two adult education centres. The trainees are farmers selected by their Peasant Associations to attend the courses. The training of farmers is considered to be essential since it is believed that although environmental problems are directly visible to them, they do not have the technical knowledge to find appropriate solutions.

School students spend between two and six hours a week on practical work following a theoretical introduction to the value of such work from a teacher. In the adult education centres instruction is usually provided by technical staff

from the Ministries of Agriculture, Health or Education. Students and farmers undertake similar sorts of activities, such as hillside terracing, the construction of check dams, the preparation of vegetable gardens and the raising and planting out of tree seedlings. A few centres have also started experiments in agro-forestry.

The content of the EEP is almost entirely practical. The theoretical introductions, like most classroom teaching, are characterised by a formalistic, didactic style and to a large extent they consist of exhortations to use the land 'rationally' in the interests of ecological balance and future needs. There is no economic, social or political content to the EEP. There is no opportunity to discuss the reasons for current land-use practices and no chance to learn through discussion, questioning or problem-definition and problem-solving. Indigenous knowledge and traditional practices are not incorporated into the programme.

Neither are farmers taught techniques for disseminating knowledge, though efforts to raise public awareness about the need to protect the environment are made through radio programmes from the Department of Educational Mass Media Support Services and by articles in Welo's Education Department's local newspaper produced for the postliteracy programme and available in community reading-rooms.

ANALYSIS OF FAMINE CAUSATION

Neither the EEP nor the CDS of which it is an integral part originated in the famine affected regions. They were created by western advisers in consultation with Addis Ababa-based officials. It was they who devised the content, the management structure and the budget for the EEP. As I have argued elsewhere (Fitzgerald, 1990), this raises the spectre of cultural imperialism with its transmission of politically dominant modes of thought on famine causation and on the relationship between the environment and development. The ideology behind the programme, like that behind much disaster research, is firmly technocratic in character. Economic growth, technology and management are perceived to be the solutions to the problem of food deficits in the Ethiopian highlands.

The rationale for both the CDS and the EEP is the politically dominant perception that famine, at least at the aggregate level, is due to food availability decline. Both the 1972-74 and the 1984 famines were attributed to inadequate harvests during successive years of drought and/or deviant rains (eg Holt and Seaman, 1976; Sen, 1981; Mariam, 1986; Penrose, 1987; Goyder and Goyder 1988). There is more or less universal agreement however that drought was only the trigger. The root problem was perceived as land degradation arising from increasing population pressure on a

fragile environmental base. It is argued that population pressure, particularly when combined with indigenous ignorance, leads to deforestation, to over-stocking and over-grazing, to the over-exploitation of croplands and to the extension of cultivation on to progressively steeper slopes as more and more people try to meet their basic needs for food, grazing and fuelwood. This is both the populist and the institutional explanation of Ethiopian famines.

For example, Hancock (1985), quoting UN and Oxfam reports, writes that deforestation arising from excessive population pressure has resulted in a reduction of Ethiopia's forest cover from 44 percent a century ago to about four percent now. Yet the evidence for this oft-repeated assertion is non-existent. Indeed, Clapham (1990a) suggests that both historical and biological evidence point in the opposite direction and that the highlands of Ethiopia have been bare of forests for centuries. Nevertheless the EHRS, which provided the rationale for the CDS, interprets famine causation in the same way as the popular authors. Its language is quite explicit and highly emotive. Under the heading 'the population time bomb' it argues that a process of rapid population growth 'resulting in ecological degradation, increasingly severe famine, and economic stagnation' (FAO, 1986, vol II: 193) cannot be sustained. However, 'improved technology, improved cropping patterns, conservation, irrigation and other measures should make it

possible to stave off for a time the otherwise almost inevitable Malthusian checks on rapid population growth' (*ibid*, 192).

Because the EHRS acknowledged that economic stagnation may motivate people to have large families and because of the reluctance of the Government of Ethiopia (GOE) to opt for a full-scale family planning programme, the essence of the CDS is that rehabilitation and conservation must be combined with measures to increase production. In so far as there are periodic and increasing food shortages at the regional level and under highly fragmented market conditions with very imperfect flows of grain and information (Griffin and Hay, 1987) this makes sense. However, the drive to increase food production through improved technology ignores the fact that even when aggregate food supplies in the region fall some groups of people are able to acquire sufficient food. Conversely, other groups are unable to obtain sufficient food even when harvests are adequate.

Amongst researchers the view that famine is caused simply and straightfowardly by a decline in the availability of food is no longer tenable. Over the last decade or so a new consensus has emerged that explanations of famine must be dynamic and multi-causal and that they must combine at least political-economy and ecological dimensions. In particular, Sen's highly influential work on poverty and entitlements

helped to establish a demand-based approach to famine causation (and its corollary, food security) and to shift the emphasis of research from the aggregate to the household and individual level. As a result definitions of food security have been refocused to take account of people's access to food. For example, in 1983 the FAO said that the goal of food security is 'to ensure that all people at all times have both physical and economic access to the basic food they need' (quoted by Huddleston, 1990). Similarly, the World Bank defined food security in 1986 as 'access by all people at all times to enough food for an active, healthy life' (in Maxwell, 1990).

However, these comparatively recent attempts to devise improved theories of famine causation and of food security had no influence on the formulation of the CDS nor the EEP. The reasons for this are probably twofold. First, it is much more difficult to identify and target vulnerable groups than it is to devise region-wide policies. It is even more difficult to interpret the dynamic processes that contribute towards vulnerability, especially in a country where the term 'broad masses' substitutes for any serious analysis of class formation (Clapham 1990b).

Second, until very recently there was considerable disagreement between the GOE and western donors about the best path to sustainable rural development. Following the

revolution in 1974 land was nationalised and farmers were organised into Peasant Associations (PAs), established to implement a series of land reforms proclaimed in 1975. Within the PAs land is allocated and farmed on a household basis. However, the long-term policy objective is the conversion of PAs into Producer Cooperatives, on the grounds that smallholdings are inefficient and that collectivisation will permit the better use of land and labour power. Almost without exception western academics and donors are highly critical of the GOE's strategy of agrarian socialism. They believe that only a smallholder strategy will unleash Ethiopia's agrarian potential, a view apparently now shared by Soviet advisers (Cohen and Isaksson, 1988)

Within this context, with SIDA threatening to withdraw its funding from agricultural projects unless the GOE abandoned its collectivisation strategy, the EEP can be seen as a pragmatic attempt to devise a politically non-controversial programme which could be sure of implementation. Interventions which protect or conserve natural resources are seen as 'policy-neutral' (Cohen and Isaksson, 1988). Further, there is no argument between the GOE and western donors about the need for increased productivity. On both sides of the ideological spectrum economic growth is seen as an essential prerequisite for development. By focusing on practical actions to control erosion and to increase production and by excluding any political, economic or

social content, the decision-makers were able to devise a programme compatible with the thinking of both the government and the donor.

From the point of view of implementation, this strategy paid off in that SIDA has continued to support the EEP even though it has withdrawn its funding from the MOA because of the collectivisation policy. However the likelihood of the EEP influencing values and attitudes without any discussion of the realities of rural life is extremely remote.

ENVIRONMENTAL EDUCATION AND VULNERABILITY

The recent emphasis in famine research on demand failure has helped to reveal that vulnerability is more than poverty, at least as conventionally measured in terms of income flows and consumption. As Chambers (1989) argues, poverty can be reduced by borrowing, but the resultant debt may actually make people more vulnerable in the long-term. A household's vulnerability to famine appears to be linked as much to its net assets as to its level of income.

Swift (1989) has made a preliminary classification of the household assets that are relevant to famine vulnerability. He divides them into investments, stores and claims. Investments may be personal and intangible in, for example,

education; individually-owned and physical such as tools, land and trees; or collective such as conservation works and irrigation systems. Stores include food, jewellery and bank accounts. Claims reflect a household's place in the community and the community's place in wider society. They may be made, for instance, on other households for, say, food or work, or on the government or the international community. Corbett (1988) has examined the ways in which households manage their assets (primarily investments and stores in Swift's terminology) in response to famine. It appears that households dispose of their assets selectively and sequentially, holding on to their key productive assets for as long as possible, since these are essential for recovery after the famine is over. Households with the fewest assets, who are often but not necessarily the poorest households in income terms, collapse first and fastest. Asset-rich households may be able to ward off destitution altogether, though in all cases the effectiveness of asset coping strategies is related to wider economic, social and political processes.

Whilst Corbett and Swift concentrate primarily on the economic aspects of vulnerability, Anderson (1985) suggests that vulnerability to disasters has three dimensions. The first is material vulnerability which she broadly identifies with poverty. However, a community which has a strong organisational capacity may cope reasonably effectively with