FORUM FOR SOCIAL STUDIES

CIVIL SOCIETY AND ENVIRONMENTAL POLICY DIALOGUE

CONSULTATION PAPERS ON ENVIRONMENT No. 2

Environment, Poverty and Gender

Edited by
Gedion Asfaw

Addis Ababa
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Participants of the 2nd Forum

CIVIL SOCIETY AND ENVRONMENT POLICY DIALOGUE

Second Forum, March 21, 2003, Semein Hotel

Introduction
Environment, Poverty and Gender

Gedion Asfaw, Editor, and Programme Coordinator

On behalf of the FSS I welcome you all once again to the second civil society and environment policy dialogue forum.

This is the second policy dialogue forum in which two important issues, poverty and gender, will be discussed as they relate to the environment. In the first forum held two months back we discussed the state of Ethiopia's environment including the impact of global environmental changes on the country. The forum deliberated on the three papers presented by the panelists and raised a number of issues which you will find summarized in the first issue of the consultation papers.

The aim of the environmental policy dialogue is to sensitize civil society and decision makers and to promote public awareness about environmental issues and their impact on the development process and vise versa. The nexus between poverty and the environment has been a subject of intensive discussions with varying school of thoughts and arguments. In a country where over 45% of the population is below the poverty line and where environment degradation continues unabated, there are very few issues as important as poverty and environment for most Ethiopians. For us poverty and environmental degradation are real and we all encounter them in our day-to-day life. It is also obvious that we have not yet found ways of effectively addressing them. Environment and poverty related issues are not as straight forward as simply blaming the poor for environmental degradation. The essence of our deliberation is thus to find out what factors influence the poor to unsustainably manage the resources on which their livelihoods depend on and inform policy and practice on how to address these issues.

The other two areas, which we will explore today, are gender and environmental refugees. In the Ethiopian situation and in most cases these are also closely related to poverty. It has taken some time for most of us to recognize the concept of gender as being *'the social relationships between the two and how these relationships are negotiated.'* We have gained some mileage with respect to gender in terms of awareness raising, putting in place legislation, and institutional setups in government structures but a lot needs to be done in terms of attaining countrywide attitudinal changes and implementation of the various gender related Constitutional provisions. We also need to explore issues such as the impact of environmental change on gender relations, institutional and cultural barriers which prevent women from participating in decision making and control and management of environmental resources, which have important implications for development policy and practice.

The FSS is currently conducting a series of public discussions on gender with the aim of contributing to the formulation of a gender policy. Exploring the linkages of gender and environment will contribute to the gender policy development effort.

Issues related to environmental refugees, however, have not been discussed adequately hitherto and we need to address this issue in subsequent public discussions as the impact of environmental degradation on refugees, both internal and external, has become increasingly visible in recent times. The impact of refugees on the environment is a corollary issue that should be addressed in tandem with the above topic.

The various public discussions organized by the FSS require resources, time, and effort of the organizers, panelists, and participants. What one hopes is that politicians and decision makers recognize such efforts of civil society groups and make serious and conscious effort to utilize their outputs in

formulating policies and in making informed decisions.

The FSS recognizes with regret the shortage of discussion time we faced at the first forum and would like to request the cooperation of both the panelists and the participants to avail more time for discussions. We can achieve this if the panelists endeavor to focus on the key issues of their presentations only and participants make their interventions brief and precise. We hope the presentation guidelines the FSS issued recently will help us in achieving a balanced presentation and discussion program.

With these brief remarks I welcome you once again to the second civil society and environmental policy dialogue forum and request all of you to participate actively in the discussions.

Thank you.

Participants Making Their Points

Presenters and the Moderator at the Podium

2. Summary of Presentations & Discussions

This proceeding is a record of the minutes taken from the three presentations and the ensuing discussions held at the second Civil Society and Environmental Policy Dialogue Forum.

Moderator: Ato Kifle Lemma from NESDA, Environment Lawyer, and consultant

Presenters: Dr. Alemu Makonnen from AAU on *The Link Between Environmental Change and Poverty.*

W/o Lebesetch Tsega from HORN Consult on *Gender, Youth and Environment.*

Ato Seyoum Mengistu from EPA on *Environmental Refugees.*

Raporteur: Ato Girma Feyissa

The first presenter **Dr. Alemu Makonnen** from the Department of Economics (AAU) presented a paper entitled ***"The Link between Environmental Change and Poverty".***

The presenter begun with highlighting some definitions and concepts and referred to four different concepts of poverty:

- lack of access to resources and services
- lack of opportunity, income poverty, or consumption poverty
- low capabilities expressed in terms of low health situation vulnerability to low level of security
- Voicelessness or powerlessness. All these are also interrelated.

He also indicated what is meant by the environment as "living or biodiversity and all the living components of the natural world and the interactions between them."

He then raised the following issues and arguments:

- Some 44% of the population lives in absolute poverty. Other indicators such as the health services, availability of potable water, level of literacy and services of education, vulnerability and so forth also give similar picture.
- In general land degradation, deforestation, (at present studies show that only 3 per cent of the country is covered with forests.) are serious environmental problems in Ethiopia.
- Poor countries very much depend on the environment the same as poor people. Their exchange earning export items rely on agriculture, which is very dependent on the environment.
- There are conflicting views on the relationship of poverty and environment. Some argue that it is the poor who adversely affect the environment while others argue otherwise.
- The links between poverty and environment are quite complex. For instance at country level, one issue is the link between economic growth and environment. There is an argument that says, "grow now and clean up later." Many have questioned this approach for it has been polluting the environment.
- One explanation of the relationship states that inverted U shape relationship between per capita income and environmental degradation exists, per capita income as a proxy for growth. At the beginning when per capita income grows the environmental degradation is very intense but as time goes on and income increases people start caring about the environment and degradation declines. This has been argued critically that this is not always true to all cases.
- When there is environmental degradation the poor are affected most. The other side of the argument is that the environment is also affected or very much degraded by the non-poor. It is the rich, the argument goes on, that have the resources and the power to exploit the environment. It is also true that since the poor need the environment more than the rich for their survival they tend to take good care of it.
- The relationship between poverty and environment is much more complex than conventional thoughts. Policies, culture, market failure and so forth do play roles in affecting the relationships.

He finally suggested that this could be an agenda for further research work before we reach conclusions.

The second speaker, **W/o Lebesetch Tsega** (HORN Consult) presented a paper on ***Gender, Youth and Environment***

The speaker said she would be doing a disservice to the topic by trying to cover it in such a short period. Nevertheless, she said she would try to raise a few points briefly, which could provoke some discussions.

- Environment affects everybody indiscriminate of gender. However, society is not organized in a harmonious and egalitarian manner. Because of the mutual relationships, vis-à-vis control over property and resources and the existing patronizing and subject-subordinate type of relationship, there are gender factors, class factors, and other factors that are discriminatory.
- Women's role focuses mainly on sustenance of the family as well as in the reproductive responsibilities. When one talks about gender because of the existing imbalance, there is a tendency to refer only to women. Unless we are able to address both sexes on the problems of environment it will be difficult to bring about sustainable and meaningful changes.
- There are property rights in every society, which represent or define social relations. This will automatically take us to the issue of power in relation to the rights over property. Depending on cultural, legal, constitutional etc situations, access to property or empowerment over property management varies.
- In search of a livelihood negative impacts on the environment occur. As the quality declines and the quantity depletes people continue to exploit and damage the environment. The result of environment degradation means a decrease in the quality of life of women.
- This leads to conclude that either woman are vulnerable to the adverse impacts of environmental degradations or have the burden of conserving the environment if they have to lead a less miserable life.
- Because of their biological nature, women are exposed to the hazards caused due to physical exposure to fertilizers and pesticides which also pollute the environment. Pregnant women exposed to the over application of DDT affect their children. It is high time that the impacts of these inputs on the health of women be looked into in Ethiopia.
- It is hard to find meaningful difference between youth and gender and youth is the future of society they should be aware of the future problems to be faced because of the declining environment. The ongoing process of the drafting of the youth policy should incorporate environmental issues into the policy.

The presenter concluded by stating that it is necessary to: -

- Enhance the participation of women and improving their capacity to play a meaningful role
- Promote viable life style of women
- Promote public awareness (The same applies to the youth.)
- Enhance ownership of natural recourses

The third speaker ***Ato Seyoum Mengistu (EPA)*** presented a paper on ***Environmental Refugees***

The presenter focused on environmental refugees in the Eastern and Western parts of Ethiopia and raised the following issues:

- People turn in to environmental refugees because of environmental degradations. The term refers to those people who are forced to leave their natural habitat because of marked environmental disruptions.
- Major causes for environmental degradation include agricultural malpractices, clearance of forests and other vegetation.

  According to a study by the Ethiopian Mapping Authority, the percentage estimation of decrease of woodland in

Bonga, Dimma, Fugnido and Shekole since 1980 is 23%, 32% 15% and 377% respectively. The damage is sever particularly in Bonga and Sherkole.

Extinction of wildlife, water pollution and conflict over scarce resources are additional impacts engendered by the refugee situation.

- Major factors accelerating the problem of degradation include concentration of refugees in large camps, the durations of stay of the refugees and the absence of proactive measures, lack of assessment and planning, shortage of food provision to support them.

The speaker concluded by stating that environmental degradations are caused because of the pressure of international refugees particularly in the west and this is disrupting the lives of local inhabitants.

Policy makers and stakeholders therefore should generate programmes that can respond to the socioeconomic and environmental dimensions of the problem.

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Questions and Comments

Question 1.

Can we have disaggregated figure on how many men and how many women are in the absolute poverty range? Field studies show that there are linkages between poverty, environment and the use of energy. The participant cited examples from some west African countries where they have developed a new type of oven which saves fuel wood. Environment problems in this country primarily are a) issues of trees or deforestation and
b) Non-use of the natural fertilizer since this is used as domestic fuel.

Reactions

The presenter does not have the figures at hand but thinks that since the larger percentage of the population constitutes women and since they have less control over resources and have lesser property they are more vulnerable to poverty. As women are to suffer more with the declining environment they will take, a greater role to play if they were to control resources and to own property. Although it has to be statistically tested, Dr. Alemu gave figures of 1999-2000 that shows that about 44.4% male-headed households and 43.4% for female headed-households are poor on a national level as different from the general notion.

Question 2.

There was a question posed to Dr. Alemu if it was possible to put figures for specific indicators like education health and so on in relation to gender?

Question 3.

The third question was about the statement Dr. Alemu had made saying that it is hard to pin point and hold someone responsible for degrading the environment, the poor or the non -poor. Couldn't we add that the inter-generational relationship is also responsible for part of the problem? Could Dr. Alemu comment on this?

Response:-

The figures are not available at hand but it is possible to express the situation in terms of opportunity for education, for health services, equitable job opportunities and so forth.

Question 4.

Instead of attributing all the causes of environmental degradations to the refugees, is it not necessary to go one step further and try to distinguish between the environmental degradation that would come as a normal course of events by the people living there and the difference on the impact of the refugees separately? That is a possible agenda for research and one cannot attribute all the blame to the refugees.

Question 5.

If Dr. Alemu could elaborate on the U-curve which the participant finds a useful model to describe the relationship between poverty and environment. For instance in the early stage of its development Japan had done a lot of environmental damage creating huge amounts of waste land and so forth. Other examples could also be cited in Europe and other places including Ethiopia where agricultural development and urbanization took place, a lot of destruction on the vegetation like the acacia tree has taken place.

Comment

On the last presentation on the impacts of refugees on the environment especially in the western part of the country, an observation was forwarded. The Alwero area is very vast and the commentator believes growth should be encouraged there and much is expected from irrigated agriculture there. Development in Gambella should be accelerated and one has to be careful in giving blanket treatment to all agroecological zones.

In a country where over fifteen million people are threatened by famine, discouraging opening up of regions like Gambella is tantamount to sitting idle and waiting for the worst to come. There is no cause for fear of injecting growth out there. Of course, environmental problems will also have to be considered but the two should go together. Development by itself is constructive destruction. We have to change the environment in a way as it can serve our purpose.

Reaction:

The first question is the difference between the local people and the impacts by the international refugees. The difference lies at categorization of refugees by different organizations. When we say environmental migrants, it is because of the effects of the environment on the refugees. However, for migrants the pushing factor can vary. It is due to environmental hazards that people migrate and that is why we call them environmental migrants. As regards to the second question, there is an agreement with the comment that the western part of Ethiopia has to develop. However, the focus of the presentation is on the refugee camps and the impacts they put on the surrounding areas up to 10 or 15 km radius.

Question 6.

The title "Environmental Change and Poverty" indicates change for the better or worse. It also means change of one form of use to the other. The title gives the impression that the good and bad faces of environmental changes as they relate to poverty would be the focus of the discussion.

Question 7.

One remark made by the first presenter is that the poor invest on the environment. The poor are deprived of resources; they depend on the environment as a means of livelihood. Both presenters on the relations of gender to the environment and poverty and the environment tried to show that degradation is another name of poverty. The fact that poverty causes destruction on the environment is not debatable. However, is the issue trying to show who does more damage to the environment, the poor or the non- poor?

Reactions

Dr. Alemu indicated that the first question is a very difficult one to deal with. We have more than 44% of the population below the poverty line that depends on the environment, what is to be done. I can only say a general thing that while taking care of the environment we should also try to fulfill the basic needs of the poor. On the first part of the U curve, we see that there is more and more degradation but later stages show that the degradation intensity declines indicating positive changes.

The other question is whether the poor invest on the environment and whether the poor cause the environment to degrade.

The poor and the non-poor contribute to the damage or degradation of the environment

although at varying degrees. The poor have no other means to survive on and therefore have to depend on the natural resources to survive. For the non-poor it is a question of succumbing to the desires of the human nature to always get more and more, better and better, richer and richer.

In the case of the developed world, for example the ozone layer of the atmosphere is being depleted because of advancing technologies and the use of ozone depleting chemicals. The war in Iraq could affect us all adversely particularly those in the immediate surrounding areas. Women in the developing countries have also been diagnosed and reveal a certain amount of cancer in their blood due to their being exposed to pollution and environmental degradation.

Comment

It will be a waste of time and unproductive to discuss in terms of the poor or the rich damaging the environment. We should see the problem in terms of poverty or development process that affects the environment. We know that poverty is a contributing factor to environmental degradation. The question then will be to what extent does poverty contribute to environmental degradation and what can be done to minimize the problem?

We all know that the poor do not cut trees to feed on them. They cut the wood to take to market, sell it and buy food. Who is buying the wood? It is those people who buy the wood, who are the causes of degradation.

Comment 2

From the presentations, it can be deduced that poverty, environment degradations, and the other issues raised cannot be seen in isolation. Social factors, institutional factors, factors related to property right, economic factors, have a bearing on the interrelations. Environment historians tell us that poor people tend to be more respectful to the environment precisely because they are poor. Multi -national companies have cut down the rain forests in Latin America, which have been maintained by the poor people for centuries. Large scale mechanized farming and *Latifundias*, cleared the rain forests to such an extent that they have affected the lives of the indigenous people. The debate should not isolate poverty outside institutional and socio cultural context.

Closing Remarks
By the programme coordinator
Ato Gedion Asfaw

I am of the opinion that the second public discussion on environment policy dialogue went well and to the satisfaction of the participants. There was a balanced time for presentations and discussions. We hope a lot has been gained from the provocative presentations and the discussions despite time limitations. Like I said in my opening remark, politicians and decision makers are advised to make use of the outputs of such discussions otherwise we will find repeating ourselves year after year without going into actions.

I think we woke up from our environmental degradation nightmares a century ago when Menelik raised the issue of deforestation and he and his advisors were mapping out a plan to address this problem by importing an alien tree species that would sustain the supply of fuel wood as well other uses to this day. The third five-year plan of the Imperial regime and the various plans of the Derg and the current regime had also given serious consideration to environmental degradation but the state of the country's environment has not improved over the years indicative of lack of capacity and/or commitment in translating policies and plans in to actions.

When you consider the time and the effort exerted on policy and program development, the resources spent over developing good ideas and the time it takes for action to take place on ground, you sometimes tend to lose hope and confidence. One thing we should consider in this kind of forum is to create the link between the ideas we develop and their implementation possibilities. As mentioned in the outset decision makers, politicians and other stakeholders are urged to try to use the outputs of these kinds of discussions and we should find ways of channeling these outputs

to decision makers. We hope we will make available these papers and presentations to concerned decision makers and some of you who have come here from government circles may contribute in helping widen the horizons of decision makers on some the issues we have discussed today. Our next programme will be on May 23, 2003 on issues related to environmental conflicts. There will be three topics to be discussed under this theme. This will also be an interesting theme and we hope you will join us at our third forum.

Thank you.

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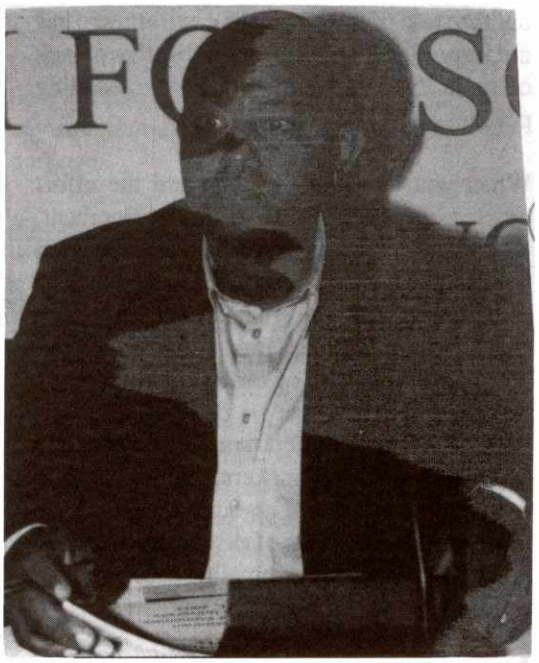
The Moderator, Ato Kifle Lema



Dr. Alemu Mekonnen, AAU

The Links Between Environmental Change and Poverty

Alemu Mekonnen (Dr.)
Department of Economics,
Addis Ababa University

1. Concepts: Poverty and the Environment

Poverty: There are different concepts/dimensions of poverty used in the literature. These include the following:

1) Lack of access to material goods and services also referred to as lack of opportunity. This concept is also referred to as consumption (income) poverty. The non-welfaristic approach is often used to draw poverty line as the welfaristic approach does not provide a well-defined poverty line. Poverty lines are defined using the non-welfaristic approach based on the minimum caloric requirement or basic needs. (World Bank 1990; World Bank 2000)

2) Low capabilities which may be expressed in terms of low achievement in health and education.

3) Vulnerability which may be expressed in terms of exposure to risk or level of security.

4) Voicelessness or powerlessness which may be expressed in terms of the role of individuals in influencing decisions on issues that is important for their lives (World Bank 2000).

Note that the different dimensions of poverty are related and may reinforce each other. For example, low levels of education and health could reduce access to material goods and services.

Environment: One possible description of the environment is as the biosphere, the atmosphere, the geosphere and all flora and fauna. Alternatively it can be described as the living and non-living components of the natural world, and the interactions between

them, that together support life on earth. (Hanley et al. 1997; DFID et al 2002)

2. State of poverty and the environment in Ethiopia

It may be important to briefly mention a few things about the state of poverty and the environment in Ethiopia so that one can think of the Ethiopian situation in the discussion of the links between environmental change and poverty.

State of poverty: Different sources report different figures depending, among others, on the coverage of the data used and its quality. Recent estimates using national level data indicate that about 44 percent of the population lives below the absolute poverty line (MoFED 2002). Other indicators of welfare/dimensions of poverty such as education, health and vulnerability also indicate a similar picture. In general, what is reported is a situation where there is low level of education (for example, low level of literacy), poor health conditions (which may be reflected through various measures such as infant mortality, life expectancy, maternal mortality) and highly vulnerable households (a reflection of which is the current drought and famine affecting millions of households) (for details see, for example, MoFED 2002).

State of the environment: Various studies indicate that there are a number of environmental problems with different degrees of seriousness. Again we must note that reports on the magnitude of environmental problems differ depending on, among others, the quality and coverage of the data used. The major environmental problems in the country include land degradation, deforestation and loss of biodiversity, water scarcity and quality, and contributions to some local, regional and global environmental problems (for some details see Gedion 2003; EFAP 1993; Sutcliffe 1993; Bojo and Cassells 1995).

3. Importance of studying the links

The environment is very important for the poor either at an aggregate level, such as at the country level, or at the household level. Economies of poor countries are highly dependent on the environment. This can be expressed in terms of the role of agricultural products and minerals in exports of these countries and also their contribution to the economies of these countries. In the Ethiopian case most of the goods and services that are exported are agriculture/environment related. The fact that about half of the country's output is contributed by agriculture is also an indication of the degree of dependence on the environment. This is in addition to other environmental problems in the country including shortage of water and poor quality of water consumed by a substantial portion of the population in the country leading to different types of disease.

At the household level the environment is very important particularly for those in rural areas. We could mention the facts that they are dependent on agriculture and are affected by problems of land degradation and deforestation, they depend heavily on biomass fuels which may lead to indoor pollution, water shortage and quality affects their life significantly through increased time used for water collection and different types of disease. Various studies show the importance of the environment for the poor. In their own words, the environment matters greatly to people living in poverty (DFID et al 2002).

It is also important to note that the nature and extent of the links between environmental change and poverty have to be studied at least for the following reasons: poverty and sound environmental management (environmental sustainability) are two important areas of focus particularly recently. It is, therefore, important to know, among other things, whether there are cause-effect relationships, whether there could be "win-win" situations where reduction in poverty may lead to improved environmental quality and related policy implications.

Knowledge of the nature and extent of the links between environmental change and poverty would also have implications for millennium development goals (MDGs). For example, eradication of extreme poverty and

hunger is expected to be linked with issues of food security of the poor which may in turn depend on environmental quality broadly defined. Achievement of universal primary education could be affected by time spent by children to collect water and fuel wood. Reduction in child mortality would be possible at least partly through improved water supply to reduce water-borne diseases. We may, therefore, conclude by noting that it is important to know the links between environmental change and poverty particularly for countries like Ethiopia.

4. The nature and extent of the links

We may start by noting that in general one needs to consider the different aspects of poverty and the environment when looking at the links between environmental change and poverty.

The links could be looked at either an aggregate level (such as a country) or the household level.

At the aggregate level studies indicate that there are different patterns of relationship between economic growth (or per capita income) and environmental degradation (or improvement in environmental quality, as the case may be) (World Bank 1992; World Bank 2000a). For some environmental problems studies indicate that as incomes (per capita income) rise environmental quality worsens until a certain level of income after which environmental quality improves. This has led to what is known as the grow-now-and-clean-up-later approach.

Some empirical studies have shown this relationship as an inverted-U relationship between environmental degradation and per capita income. A curve showing such an inverted-U relationship is referred to as an Environmental Kuznets Curve (EKC) because of its similarity to the Kuznets curve (named after Kuznets) which shows an inverted-U relationship between income inequality and per capita income. This relationship has been shown to hold for some types of air and water pollutants. However, studies also indicate that the extent of the relationship is different for different countries (World Bank 2000a). In other words, some of the explanations for such differences include different technologies and environmental policies used by countries at similar levels of per capita income and differences in levels of environmental awareness and institutions. These results suggest that the inverted-U relationship could change and hence it is not static and not inevitable.

Studies have also shown a direct relationship between environmental degradation and per capita income for some environmental problems. A typical example is carbon dioxide emissions which have been observed to increase as incomes rise. An inverse relationship has also been observed between environmental degradation and per capita income for some environmental problems. Examples include sanitation and availability of safe drinking water which improve as incomes rise (World Bank 1992). Thus, based on cross-country or country level results we may conclude that the relationship is not a simple one as it depends, among others, on the nature of the environmental issue and the policies and institutions in place.

At the household level there are various views concerning the links between environmental change and poverty. Poor people's perceptions of well-being are strongly related to the environment in terms of their livelihoods, health, vulnerability and empowerment to control their own lives (DFID et al. 2002). The mainstream view (or conventional wisdom) is that poverty is a major cause of environmental degradation (WCED 1987; World Bank 1992). Even when it is found that poverty is not the direct 'cause' of environmental degradation, poverty could have an indirect role in affecting the designing of appropriate policies. Barbier (1999) notes that special factors that influence the behaviour of poor people and communities may affect their response to incentives that encourage sustainable resource management. These factors include high rates of time preference induced by greater risk and uncertainty over livelihood security, labour and capital constraints, insecure tenure over

and access to resources, imperfect information and access to marketed inputs.

However, while poverty and environmental degradation may be positively correlated, correlation does not imply causation (Barbier 1999). Some question the 'conventional wisdom' and argue that a more complex set of variables comes into play when looking at the links between poverty and environmental change. Simple generalizations of this multidimensional problem are often erroneous and miss many important points (Leach and Mearns (1995) cited in Duraiappah 1998). Demographic, cultural, and institutional factors and market failure are considered as important variables in the poverty-environmental degradation nexus.

In addition to these factors, feedback loops from environmental degradation to poverty make the process of identifying causality links between these two phenomena a non-trivial exercise (Duraiappah 1998). The poor are most affected by a number of environmental problems including land degradation, deforestation, water and sanitation problems, indoor air pollution, waste disposal, vulnerability to environmental stress, conflict and shocks. These problems may lead to the conclusion that the poor are victims of environmental degradation.

It is also argued that because production and consumption levels of the non-poor are much higher than those of the poor, most environmental degradation is caused by the non-poor. As Duraiappah (1998) notes one possible hypothesis is that power, wealth and greed cause environmental degradation. Cavendish (2000) looked into empirical regularities in the poverty-environment relationship of rural households in southern Zimbabwe using panel data. A main finding of his study is that poorer households are much more dependent on environmental resources than richer ones. Moreover, he finds that even though the poor are more resource dependent than the rich, in quantity terms they are not the main users of environmental resources. Some argue that even in cases where poor people degrade the environment, this is often due to the fact that the poor are denied their rights to natural resources by wealthier elites and, in many cases, are pushed onto marginal lands more prone to degradation. (DFID et al. 2002)

Yet another argument is that the poor are capable of investing in improvement in environmental quality. The conventional wisdom is that poor people are too impoverished to mobilize resources for environmental improvement. While this is true in a number of cases, experiences also demonstrate that when incentives are favourable, low-income households and social groups can mobilize enormous resources, particularly labour. There are many well-documented cases of poor people investing their own time and resources in environmental management. For example, many urban environmental problems can most effectively be solved when poor communities mobilize themselves or form coalitions with less-poor groups to improve service provision (DFID et al. 2002: 28). Soil conservation measures taken by poor peasants in countries like Ethiopia also suggest that the poor could invest, at least their labour. Knowing that the poor are the ones who are hurt the most by environmental degradation, it is to their interest to take measures that protect the environment. There is what Guha and Martinez-Alier (1997) refer to as "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 (cited in Dessalegn 2001).

While it is often assumed that lack of technical knowledge is a key constraint to poor people's management of natural resources, some argue that poor people often have the technical knowledge for resource management. Examples of use of technical knowledge by the poor for resource management include environmentally sound cultivation practices, efficient water harvesting techniques, and myriad uses for medicinal plants. This knowledge is often undervalued or completely ignored (DFID et al. 2002).

Poverty-environment linkages are dynamic and context-specific—reflecting both geographic location and scale and the economic, social, and cultural characteristics of individuals, households, and social groups. (DFID et al. 2002)

We must also note that rigorous household level empirical studies that look into the links between environmental change and poverty in general and on Ethiopia in particular are limited. Dessalegn (2001) notes the absence of sufficient evidence on the complex links between poverty and the environment in Ethiopia.

Patel et al. (1995) looked into household tree growing behaviour in Murang'a district of Kenya. Among other things, they conclude that their results bear some similarities with cross-country evidence of an environmental Kuznets curve which is evidence that runs contrary to the hypothesis of a downward spiral of fuelwood gaps and environmental degradation.

Using household survey data collected from a sample from villages in Ethiopia, Tekie (1999) has looked at the relationship between the decision to take soil conservation measures and a number of variables including household assets, which may be considered as indicators of household wealth. The results suggest that households with more assets are more likely to take soil conservation measures.

Alemu (1998) looked at the determinants of tree growing behaviour of a sample of rural households in Ethiopia. Among other things, he finds that area of land 'owned' and the value of livestock are positively related to the number of trees grown.

Shiferaw and Holden (1999) examine decisions of smallholders with respect to resource use and conservation in the Ethiopian highlands. They underscore the need for policy incentives in the short-run to persuade farmers to install conservation practices. They conclude by stressing the need for conservation policies that can both enable erosion control and produce higher yields.

5. Concluding remarks

In conclusion we may note that rigorous studies of the links between environmental change and poverty are limited. Some of the discussion on the issue seems to confuse the environment-poverty nexus with the causes of poverty not related to the environment.

There are relationships between poverty and environmental change that are controversial and have been subject to generalization and oversimplification. The "conventional wisdom" that poverty causes environmental degradation is questioned. A simple one-way cause-effect relationship does not seem to exist between environmental change and poverty. Policies, institutions, culture and market failure plays a role in explaining the relationship. It is, therefore, important to investigate the issue further through rigorous empirical work before arriving at specific conclusions.

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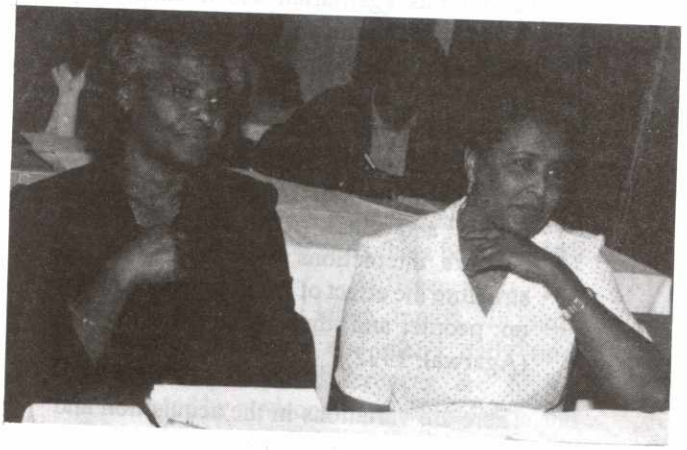

Participants of the 2nd Forum

Gender, Youth and the Environment

Lebesech Tsega
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Why a Gender Approach to Environment

Although gender is a neutral term, there is a recurring tendency for gender analysis to focus on women per se. To some extent this can be justified, not only because there is a clear need to redress the imbalance in research and information available about the two genders, but also because of the way in which society is commonly characterized. In spite of this, the concept of gender is being increasingly used to denote a refusal to focus on women or men alone, but on the social relationships between the two and how these relationships are negotiated.

The term environment is acknowledged to be important in connection to our natural and social environment. The importance of recognizing cultural environment that is the connection between people and the environment is basic as people and the state of our natural environment are inextricably linked. In order to understand the interface between gender and environment, we need to look at the concept of gender within the framework of environmental change and its impact on poor rural men and women.

The Interface between Gender and Environment

Women and men differ in their access to land and resources. Since they are not harmonious egalitarian social units, they represent hierarchical structures embodying relations of subordination and domination based on gender and age (Sen, 1982). "Hence, insofar as there is a gender and class (/caste/race) based division of labor and distribution of property and power, gender and class (/caste/race) structure people's interactions with nature and so structure the effect of environmental change on people and their responses to it " (Agarwal, 1992).

There are variations in the acquisition and disposal of income between men and women, which influence what has been termed their "environmental behavior." There is widespread assumption that women are only interested in fuel wood trees to meet their daily survival needs while men prefer commercial species which they can sell and generate income. This is often misleading and is based on a very narrow definition of women's interests arising from their domestic roles. Thus it overlooks their asset-creating needs and simply reinforces gender inequalities (Leach, 1992). Women are also interested in forestry on private lands and have greater demand for quick growing species like eucalyptus and fruit trees which provide security in times of drought (Grant, 1989).

Men and women have different experiential knowledge depending on the way in which they relate with their local environment, their perception of processes of environmental degradation and the mechanisms by which they cope with social and ecological changes such as drought and famine. In fulfilling the role of sustenance of families, women come in continuous contact with the natural environment. Thus they have a significant knowledge and role in the conservation or degradation of the environment. Rural households, a substantial number of whom are women, have been the stewards of much of the Earth's resources. Major issues in gender and environment include poverty, women's workload, forest resource management, land rights, urban environment, women's relationship with nature and generally all aspects of development and basic rights.

Environmental decline and poverty are interdependent. Poverty and gender also interlocked. Environment, gender and poverty are thus highly interconnected. Poverty is more rampant among women than men. The nature of gender roles and responsibilities such as fetching water, collecting firewood, participation in agricultural activities, attending herd and feeding livestock, etc.) put women in a continuous interaction with the natural resources. Thus the faster the rate and extent of natural resource depletion, the poorer is the quality of life of families in

general and women and children in particular. In both urban and rural areas, environmental degradation results in negative effects on the quality of life of the population in general and women and children in particular.

In the rural areas, the weakening of major means of production, especially of the land, force people to look for other livelihood mechanisms to sustain their families, which includes searching for non-natural resource based income source such as wage labor, migration, and other coping mechanisms. In this regard, women's choices are much fewer than men because of the nature of their gender roles and responsibilities. While women are generally more stable than men in times of stress (during migration of male family members in search of livelihoods), their burden increases since they have to work harder and longer hours on the farms in addition to the household tasks. Therefore, women including children have to engage in activities that help them get the bare minimum survival means to cope with the situation. In most cases, they depend on environment/natural resource based means of livelihoods such as collection and sale of fuel wood, charcoal burning, and other damaging practices to the environment.

"Property rights are social relations - that is, they represent relationships between people and people, rather than people and things," (Jackson 1993). A fundamental factor in relation to natural resource use and management is access to and control over land and other means of production. Access to land, the basic means of agrarian production, varies tremendously between men and women and across different socio-economic and cultural contexts.

There are many societies where primary rights to land through traditional inheritance systems usually exclude daughters or give them a lesser share than sons, because of their (presumed) shift due to marriage (Agarwal 1988). Even if there is positive legislation, the nature of women's rights over land varies according to the laws governing different countries and (religious) communities. Also where land rights are constituted by legislation, access does not guarantee control over management and production decisions as there are strong institutional and cultural barriers that prevent women from exercising their direct claim and control over their land, or being able to manage it. This is of critical concern especially during divorce and/or inheritance in many communities in Ethiopia.

The interface between environment and gender involves challenging both the ideological construction of gender and notions about people's relationship with nature, as well as transforming the actual division of work and the appropriation of resources between the genders. It also requires critical assessment and strong actions on impacts of unsustainable consumption and production patterns. Realization of increased participation and responsibility of people in general and women in particular, both as managers and users of natural resources enhances sense of ownership which is an important factor for sustainability.

Effects of Environmental Changes on Women and men

A crucial aspect in determining the extent to which environmental degradation affects men and women is the nature of interdependencies within the labor process. A useful categorization in the labor process in connection to agricultural production is the sex-sequential and sex-segregated responsibilities (Whitehead, 1985). The sex-sequential responsibilities require labor inputs from each sex at different times to produce a single product, for example, the inter-related tasks in cattle rearing. The sex-segregated responsibilities refer to processes in which one or the other sex performs all (or most) of the operations necessary to produce a given product such as for example, beer brewing, looking after small animals, collection of water and fuel wood and others being mainly women's work. Differences and responsibilities in labor inputs, in turn, determine women's and men's daily time allocation. Such differences are highly influenced by environmental degradation and thus the nature of their incentive towards

conservation. That is where women have greater control over the returns to their labor; they thus have greater scope towards individual or collective environmental protection.

Time allocation studies show that in developing countries rural women work on an average of 12 to 18 hours per day, compared to 8 to 12 hours for men (Jacobson 1992). Since a large part of their daily tasks revolves around the collection of household biomass, women are usually more affected by the growing commercialization and degradation of community based resources. Studies on the additional length of time and greater distances women have to walk to collect fuel wood, fodder and water show that the burden of ecological change has fallen disproportionately on women and young children, particularly girls. As forests and bushes deplete, there is increased dependency of rural women (also urban women with varied degree) on animal waste/ dung as a major source of fuel. Such options increase the desertion of the good practices of fertility restoring customs / experiences (WB, Food Security Report, Oct. 2000). This shows that the decline of natural resources has a direct bearing on rural peoples' livelihood in general and women in particular.

Diminishing environment and subsequent reduction of livestock and the demand for increased fuel make it a necessity for women and children to walk longer distance to find dung thus intensifies their workload. As productivity declines, women's physical and psychological burden is exacerbated since they have to take up additional activities to sustain their families. These tasks and roles enable women to easily recognize and feel the changes in the deterioration of their immediate environment. It also conforms that women have strong interest and need for natural resource utilization and management whether urban or rural.

Inequities in the intra-family distribution of food and health care are further accentuated by environmental degradation. Women and children, especially girls, are the first to be affected by environmental depletion that directly or adversely impact the economy and specifically on both the quantity and quality of food available, despite the fact that they are expending more energy in providing household subsistence. As a result, their health and nutritional status deteriorates. Thus environmental deterioration primarily affects the life of women and children.

Unsustainable consumption and production patterns especially in industrialized countries are major causes of continued deterioration of global environment that in turn aggravate poverty. Global warming is an increased concern because of the increased use of ozone-depleting substances. These substances have severe effects on the health of people causing high rates of skin cancer, eye damage and weakening of peoples' immune system.

Women are more directly exposed to waterborne diseases and pollution of rivers and ponds with fertilizers and pesticide runoffs than men (Agarwal 1992). In addition, the agricultural tasks performed by women leave them vulnerable to bodily ailments or exposes them to dangerous pesticides. Their harm to crops and water sources is also a serious concern. Some gender and environment statistics show that:

- Pesticide exposures in Central Sudan are linked to 22 percent of hospital stillbirths.
- Most children in China take in DDT from breast
- Water pollution in Uzbekistan has led to an increase in birth defects and complications in pregnancy.
- Air pollution in the Ukraine has been linked to 21 percent of all illnesses affecting women and children.
- One in three women in the U.S. will be diagnosed with cancer sometime during their lives.
- Nuclear contamination in Chelyabinsk, Russia, has led to a 21 percent increase in cancer and a 25 percent increase in birth defects. Half the population of childbearing age is sterile.

It is not clear if similar studies have been made on the impact of chemical agricultural inputs in Ethiopia. Given the increased use/application of such inputs, it is important that similar impact assessment studies / research be conducted.

Environment Policy of Ethiopian, Gender Dimension

The Environment Policy of Ethiopia has spelt out gender as one of the key principles. "As key actors in natural resource use and management, women shall be treated equally with men and empowered to be totally involved in policy, program and project design, decision making and implementation." It is also revealed in the cross-sectoral environmental policies of the same document that the policies are "to ensure a complete empowerment of women especially to enable their full participation in population and environmental decision-making, resource ownership and management." It further indicates that female extension workers in the field of natural resources and environmental management will increase. While these statements are encouraging, there is more to be desired in making similar explicit indications of gender dimension of the policy framework in relation to other cross-sectoral environmental policies and particularly in the strategies of implementation. Environmental research activities that are expressed as facilitating closer interaction among various actors and stakeholders need to be sensitive to gender elements. While the policy framework provides enabling environment, the most important aspect is also its implementation with due gender considerations. The National Plan of Action is hoped to give adequate attention to men's and women's participation and responsibility of all ages (youth and old) in putting the policy into practice. More is needed to ensure that the policy takes monitoring and assessment of impacts of fertilizers and pesticide runoffs on the people in general and women and children in particular.

There are several supportive international conventions with regard to women's participation in national ecosystem management and control of environmental degradation. These conventions to which the government of Ethiopia is a signatory, encourage governments to take concrete actions to increase the proportion of women decision makers, planners, technical advisers, managers and extension workers in environment and development fields. They also consider developing and issuing strategies of change necessary to eliminate constitutional, legal, administrative, cultural, behavioral, social and economic obstacles to women's full participation in sustainable development and in public life. Among these conventions are Agenda 21 and the UN Environmental Program on Global Action For Women Towards Sustainable and Equitable Development.

The Women's Action Agenda '21 calls for the adoption of a model "sustainable development" based on sustainable livelihood for all people with full human rights including access to clean air and water, food, shelter, health, education, information, etc. It emphasizes on the need for the establishment of an alternative order of economic, social, political and cultural interaction based on gender balance for all peoples and generations. The Declaration also elucidates the empowerment of women by raising their economic, health, nutritional, educational and social status as their inalienable right, and the recognition that their empowerment is a prerequisite to healing and sustaining the environment. A precondition to survival is the preservation of our natural heritage.

One of the strategic objectives and actions of the Beijing Declaration and Plat Form for Action is Women and the Environment. The Platform For Action calls for all actors, GOs and NGOs and civil society groups in general to recognize the close link between women and environment and take responsive actions in involving women actively in environmental decision-making at all levels and integrating gender concerns. To address the lack of recognition and adequate support to women's contribution in conservation and development of natural resources, government and other actors should design and implement active

and visible policies and programs. Mechanisms that help/enable to assess the impact of development and environment on women and men should be established/strengthened.

What Needs To Be Done?

Gender and environment are crosscutting to all sectors. Therefore, any strategy for change needs to be based on analysis of the structural causes of environmental degradation, which in turn recognizes the multiple levels of interactions with men and women. Women's and men's relationship with nature needs to be understood in the context of their given material reality.

For better understanding of impacts of environmental change with regard to gender, project design methods will have to focus on a number of interconnected sub-systems: social, cultural, economic, legal, institutional and technological, which impinge upon gender relations. Development interventions need to address rural women's short-term practical gender interests (access to clean water, fuel wood and fodder) as well as, long-term strategic gender interests, for example, land rights and the ability to exercise rights over land. Priorities will vary with locally defined needs, but a crucial ingredient is decision-making by women themselves in the process of participation and self-empowerment. This will require the support of male kin and community members who need to see women as active agents of social change rather than passive recipients of development. For, in the final analysis, the "environment" is not the natural concern of rural women per se, but a social construct whose management is dependent on the social organization of society.

There is more to be desired from institutions in linking with grassroots organizations dealing with environmental issues. There is also a need to give more attention to women's training as natural resource professionals with policy-making capacities in the field of land use planning, agriculture, environmental science and related fields. Gender considerations with emphasis on enhancing women's decision-making capacity have particular powerful role in influencing sustainable consumption decisions.

To address the lack of recognition and adequate support to women's contribution in the conservation and development of natural resources, government and other actors at any level should design and implement active and visible policy and programmes. Analysis of effects/impacts of environmental degradation on men and women is necessary also involving them at all stages of decisions and implementation.

A major issue that needs to be underlined is though legislation, policies and directives are basic frameworks in the process of eliminating gender-based discrimination in general and promoting women's involvement in environmental activities in particular, unless concrete actions and enforcement instruments are practiced, they will remain mere hypocrisy. Thus more efforts and work are needed to strengthen gender dimension of environment and reduce poverty among men and women. Sustainable development strategies and actions that do not involve women and men alike will not succeed in the long run. The recognition of women's contribution to environmental management needs to be promoted and supported by all concerned and grassroots women themselves.

Improvement of access to natural resources and non-natural resource-based income sources and skills that enable women to implement/manage sustainable livelihoods are critical to reduce and stop environmental degradation. The following are some of the possible actions that would help promote equal participation and ensuring equal responsibilities in environmental issues by women and men.

- Research activities should look into patterns of ownership of natural resources, livestock (access to & decision making); Assessment of perceptions about gender relations needs to be understood well in designing interventions. Research activities on either commodities or processes should take socio-economic dimensions into account with a gender focus. Patterns of

ownership, equal access to and decision-making on the use of major means of production by men and women help influence conservation and environmental protection.

- Non-natural resource based activities (that reduce dependency on land and land products) and which women can effectively perform and control should be identified with the communities. Non-farm Employment Generation Schemes (EGS) should give sufficient opportunities for women to benefit equally with men taking their specific needs and situation into consideration.

- Time and persistent efforts to create / bring out women's voices to express their interests, (dis) agreement need to be taken and worked out so that plans and strategies are not constrained by group and individual choices that have negative bearing on women's interest.

- Increasing women's participation as both managers and users of natural resources and enhancing the sense of ownership and responsibility of the process and outcomes is important.

- It is important that social equity be mandated in resource use.

- Awareness and sensitization should be provided on environmental issues with gender dimension based on the specific socio-economic and traditional practices of the areas/ regions.

- Activities, which have bearing on social and economic life of the communities that are environmentally friendly and sustainable, should be enhanced.

- Building alliances and strengthening linkage with organizations that are strong and concerned with environmental issues at all levels (national, (sub) regional and international organizations) provide opportunities for exchanging experiences and share good practices. It is necessary to facilitate closer interaction among various actors and stakeholders in environmental program and activities in a gender sensitive process. Women's and youth contributions through campaigns and grassroots actions are decisive and most needed.

Youth and Environment

Youth and women, among others, are key to ensuring the promotion and sustenance of useful traditional ecological knowledge and socio-cultural values. The United Nations General Assembly defined the term 'Youth', as those persons falling between the ages of 15 and 24 years inclusive (International Youth Year, 1985). In many developing countries, youth comprise nearly half the population.

The youth of today are the leaders of tomorrow. Children and youth inherit the responsibility of looking after the Earth. Furthermore, they are highly aware supporters of environmental thinking. It is imperative that youth participate actively in all relevant levels of decision-making processes because it affects their lives today and has implications for their futures. In addition to their intellectual contribution and their ability to mobilize support, they bring unique perspectives that need to be taken into account (Agenda 21, Chapter 24).

Dealing with environmental issues requires recognition of key players (youth and women) and designing multi-dimensional holistic/approach. Thus involvement of today's youth in environment and development decision-making and in the implementation of programmes is critical to the long-term success of environmental conservation and development. There is also increased need to engender the ideals of environmental responsibility and good practices in young people. While Youth Environmentalism holds profound local relevance, there is also increasing global significance.

The above arguments suggest that management and development as well as environmental protection concerns and local planning issues should be incorporated in development planning and educational curricula including public awareness

campaigns, with due regard to traditional ecological knowledge and socio-cultural values.

Among the major issues that need immediate attention is sustainable development that expands educational opportunities, promotes appropriate and new technologies, thus ensuring access to adequate food by vulnerable groups, employment and income generation to alleviate poverty and natural resource management and environmental protection.

Though the Environment Policy of Ethiopia emphasizes social aspects of environment, it has not made explicit the role of the youth in the protection and improvement of environment, cultural and natural heritage. Identifying needs and roles of the youth in the protection and preservation of cultural and natural heritage are critical and need to be recognized. Strategies and plan of actions should thus consider the participation of the youth in promoting positive perceptions and enhancing good environmental practices.

The formulation of Youth Policy of Ethiopia is underway. It is important that this policy takes into consideration the roles and responsibilities of the youth in environmental issues. It is imperative that to empower and motivate the youth in environmental associations pertinent actions that have positive effect in preserving and improving the environment and promoting economic and social development should be taken.

What Needs to be Done?

There are many ways and actions in which young people can be involved and take responsibility in tackling environmental problems. Some of these actions are the following:

- Enabling policy framework and strategies that encourage and motivate youth to actively participate in environmental activities and preservation of natural heritage is necessary. Such policy environment is important empower youth and motivate them in environmental associations and pertinent actions. Enabling policy environment should not be that 'just another' piece of paper to be drafted, but responsive and supportive of enhancing environmental culture and action.
- Involving youth in all relevant levels of decision-making processes is important. This has implications for their futures.
- There are various Youth Environmental Societies and organizations in the different parts of the globe working on the awareness and understanding, protection, preservation and conservation of the environment, both natural and cultural. The growth, development and connection of such institutions is important to inform, inspire and empower young people to make positive changes regarding environmental issues, both natural and cultural.
- Mechanisms that permit youth access to information and provide them with the opportunities to present their perspectives need to be in place at all (local, national and regional) levels. Conferences and other forums that offer opportunities to the youth to reflect their perspectives on social and economic development and resource management need to be encouraged and organized.
- Alternative learning structures need to be expanded to increase dialogue/reflection on the concepts of environmental awareness and sustainable development.
- Initiatives aimed at reducing the levels of gender balanced youth unemployment need immediate and concrete action.
- Support should be given to programmes, projects, networks, national organizations and youth non-governmental organizations to examine the integration of programmes that encourage the involvement of youth in project identification, design, implementation and follow-up.

All we need to make a difference on our natural surroundings is people, men and women, young and old to take up the challenge of environmental concerns, for a brighter, greener future for all.
"The Future Of Our Environment Is In Our Hands."

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W/ro Lebesech Tsega, Horn Consult

Host Communities at Risk of Being Turned Into Environmental Refugees: Environmental Impact of Refugees in Eastern and Western Ethiopia.

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Who are Environmental Refugees?

Environment includes all those natural features such as flora and fauna, water quality and quantity, tree cover and soil fertility that can be affected by proposed actions. It also includes specific social, health and economic aspects. Environmental conditions have direct repercussions on the inhabitants of a given area. People are turned into environmental refugees either by sudden or by the more gradual worsening of environmental conditions, which steadily undermine people's ability to grow sufficient food or maintain their health. Land degradation, water scarcity, and the threat of famine are powerful factors forcing people to move.

Environmental refugees are defined by El-Hinnawi (1985) as " those people who have been forced to leave their traditional habitat.... because of a marked environmental disruption... that jeopardized their existence and/or seriously affect the quality of their life ". El-Hinnawi notes three categories:

- Those temporarily displaced because of an earthquake or cyclone.
- Those permanently displaced because of permanent changes to their habitat, such as dams or lakes. This type of environmental refugee is generally caused by human made environmental disasters that permanently transform the land.
- Those who are permanently displaced because their original habitat can no longer provide for their basic needs because of environmental degradation. This type of environmental refugee is displaced by massive changes in the environment that render it practically obsolete for human survival, often due to human actions. Examples are deforestation and desertification.

Some others also include a fourth category of environmental refugees: those displaced because of policy implementation affecting the environment. In these cases there is no significant change to the land, only to the policy governing the land that force people to in involuntarily migrate. An example is national parks that either directly displace people or cut off their means of subsistence. Scholars suggest that in the last few years, the number of people displaced worldwide, due to environmental problems has for the first time outstripped those seeking refugee from civil war and persecution. Norman Myers, an Oxford University ecologist, estimates that currently 25 million people worldwide have been uprooted for environmental causes, exceeding the 22 million refugees from civil war and persecution (Douglas, 1996).

Some groups argue that the term 'environmental refugees' is misleading. Describing people as 'environmental refugees' weakens refugee status and undermines asylum laws. However, today, the cross boundary definition of UNHCR (United Nations Higher Commissioner for Refugees) is under dispute. A legislative status for environmental refugees is not yet created. Hence, there is a tendency of calling for a change in the UNHCR's narrow definition of a refugee. Current refugee status and rights of asylum, are only given to those with a well-founded fear of persecution for reasons related to race, religion, nationality, membership of a particular social group or political opinion. Environmental decline or destruction is not recognized as a cause of displacement or migration. Kibreab (1997) argues that the answer for the question why the term ' environmental refugees' has been so seductive lies in the agenda of policy- makers in the north who wish to further restrict asylum laws and procedures. Therefore, people are arguing for an extension of asylum law and /or humanitarian assistance to cover those forcibly displaced by environmental degradation.

Environmental Impact of Refugees

Most of Ethiopia's environmental challenges are consequences of the political turmoil that

it has experienced over the course of time. Massive deforestation and soil erosion combined with population growth, land tenure system and inefficient agricultural practices forced large numbers of peasants out of the highland farming areas.

Key current environmental issues in Ethiopia include:-

- Deforestation
- Famine
- Desertification
- Soil erosion
- Overgrazing
- Loss of biodiversity

Since 1900, the forested area of the Ethiopian highlands has declined from about 40 percent to slightly 2.7 percent, exposing soil to the forces of erosion. According to Norman Myers, the highlands have been losing topsoils at annual rate of more than one billion tons.

In recent times, the influx of large number of refugees to the country has added another dimension by further degrading already affected land. Ethiopia provides asylum to refugees from Somalia, Sudan, Djibouti, Kenya and various other countries. The current refugee population is around 150,000.

Table 1:Number of Refugees Residing in Ethiopia

No	Origin	Settlement Site	Number
1	Somalia	Eastern Ethiopia	50,906
2	Sudan	Western Ethiopia	93,500
3	Eritrea	Northern Ethiopia	3,871
4	Ethiopia	Northern Ethiopia	460
		Total	148737

Source: UNHCR Report, Jan, 2003

Today, as the refugee problem is growing, it is the developing world that is bearing by far the greatest and disproportionate burden of its consequences. It is evident that Ethiopia is facing severe environmental and ecological problems caused particularly by the presence of large number of refugees in the country. The impact on the environment and the consequences that it has for relations between host and refugee populations is less recognized. Requirements for wood-for cooking, heating, and construction of shelters, as well as clearing of forests for crop cultivation in areas surrounding refugee camps have led to massive deforestation. An extrapolation based on estimates by the office of the UNHCR suggests that international refugees and internally displaced people together consume some 2540 million tons of fuel wood annually, leading to the deforestation of 70,000-100,000 hectares each year.

Eastern Ethiopia – Somali Region

Recent studies indicate that Somalis and Sudanese refugees caused environmental degradation in the eastern and western parts of the country respectively

Due to the Ethio-Somali war of 1977 and related clan conflict, the influx of large number of refugees to the Somali National Regional State dates back to 1988. Somali refugees in Ethiopia were under 197,000 in eight camps in the year 1999, down from the peak figure of 600,000 before September 1994.These refugee camps were Hartisheikh, Rabasso, Daror, Cambaboker (all established in 1988), Darwonaji, Teferiber, Aisha and Kebribeyah (established in 1991). Since the influx of the refugees, the areas around their camps have been degraded. Informants assert that the areas around the refugee camps have always been fragile. British colonizers had once attempted to make a large part of Hartisheikh and its surroundings a game preserve, allowing only limited grazing. So for years, the sparse vegetation and forest cover was protected. Currently no forest is left.

Ethiopian Mapping Authority has recently studied the ecological damage in the region, especially of refugee concentration areas and the surroundings. The refugee areas considered in the study are Darwanaji and Teferiber in the northern part and Kebribeyah and Hartisheikh, in the southern. In an

attempt to assess the environmental status at both study areas, the Authority made use of satellite maps of pre-refugee arrival (pre1988), and post arrival (post 1998).

According to the study: -

- Dense forest gain in the decade (1988 to 1998) at Darwanagi- Teferiber was about 2.4%.
- Woodland lose within a decade accounted for about 11%, while scrubland lose was about 8%.
- When the total biomass is considered, the total green lose is estimated to be 7.5%.
- For Darwanaji- Teferiber, the amount of woodland and scattered trees have been decreasing, while forest areas are almost intact, because Darwanaji privately owned forest areas have been well preserved from encroachment.
- Kebribeyah – Hartisheikh in 1988, forest area had 82,768 ha. and in 1998 it was 708 ha.
- Forest depletion in a decade accounted for about 99%. The wood coverage has also decreased by about 29%.

- Total biomass in 1988 was 148,876.10 ha.
- Total biomass in 1996 was 133,640 ha
- Total biomass reduction within a decade was 15,235.30 ha.

The result of the environmental degradation analyses showed that the causal factors are natural and anthropogenic. The interplay of the local inhabitants and the refugees had a negative impact on the environment.

The direct involvement of the refugees in this regard includes:-

- Collecting of firewood for house heating, food preparation as well as for sale
- Buying charcoal from the local people
- Uprooting tree roots for construction of their "Dessa" (mobile house)
- Consuming chat that encouraged the expansion of chat plots which in turn led to clearing of vegetation
- Stress on natural resources due to urbanization process as the consequence of the long-term presence of refugees (indirect impact).

Western Ethiopia- Gambella and Mizan Region

The majority of the Sudanese refugees entered to the country in the late eighties or early nineties and are located in settlements in the vicinity of Gambella and Mizan in Western Ethiopia (Fugnido, Dimma, Sherkole, Bonga and Yarenja camps). Refugee concentration centers in the west are located in the areas where most of the remaining forest of the country is concentrated. Currently the total refugee population in the region is estimated to be 93,500. The refugee population in the west has been increasing steadily due to the continuing conflict in southern Sudan.

Since their arrival, refugees engaged in small farming, fishing and hunting activities. Unlike to the Somali refugees in the east, the Sudanese refugees are mostly agriculturists. Hence, clearance of vegetation for farmlands was a leading cause for natural resources degradation. Moreover, both the refugee and host community set fire in order to prepare farmlands, harvest honey from wild bees, control of tsetse fly, mosquitoes and other dangerous animals, to facilitate hunting and to locate and open up foot paths. Intensified hunting and over fishing are common activities. Refugees move out of their camps at an average distance of 12-15 Km searching for farmlands, collecting firewood and /or hunting purposes. Informants suggest that refugees have not enough food to support their livelihood, rely on the resources of the surrounding. Great numbers of wild animals are killed for daily food. Among the Sudanese refugees the Uduk hunt every thing including monkeys for food. Therefore, some animals reached to the extent of extinction in the region.

Major environmental impacts

The long term presence of refugees and related factors had a negative impact on the natural environment and the host communities.

Pre 1980, almost all the areas around Bonga and Fugnido camps were covered by dense forest. Currently all the areas are devoid of trees except some bushes, scrubs, grass and scattered trees. The area is therefore, on transformation from forest to exposed or bare area. Similarly, vegetation decrease is high in the remaining refugee settlement areas.

According to the study of Ethiopian Mapping Authority, the percentage estimation of decrease of woodland in Bonga, Dimma, Fugnido and Sherkole is 23%, 32%, 15% and 77% respectively.

Forest decreased in Bonga and Fugnido by 15% and 79% respectively. Bamboo and scattered trees have also shown significant decrease.

Protected areas are converted for agricultural and settlement purposes. Actions in refugee settlement areas are carried out against economic valuation of biological resources and ecological functions rendered by the protected areas. Hence, the biodiversity is highly affected. Moreover, indigenous trees are dying out steadily.

As the consequence of fierce competition for resources, conflicts occur frequently which in its turn affects development activities of the region.

The extinction of wildlife and water pollution are the other aspects of the impact.

Table 2: Trends in Vegetation Coverage in the Four Areas

Bonga				Dimma			
Class Name	*Area (ha) in 1990*	*Area (ha) in 1997*	*Area (ha) Difference*	*Class Name*	*Area (ha) in 1989*	*Area (ha) in 1997*	*Area (ha) Difference*
Woodland	25,547.1	19,475.4	- 6,071.7	Scattered trees	21,466.2	17,915.9	-3,550.3
Scattered trees	15,523.8	22,008.4	+ 6,484.6	Woodland	5,939.3	4,027.3	-1,912.0
Reverine trees/ vegetation	906.9	866.6	- 40.3	Bare area settlement	3,413.0	4,999	+1,586.0
Forest	14,838.7	12,518.8	- 2,319.9	Bush/ scrubland	12,483.7	16,351.7	+3,868.0
				Forest	21.6	-	-21.6

Fugnido				Sherkole			
Class Name	Area (ha) in 1988	Area (ha) in 1997	Area (ha) Difference	Class Name	Area (ha) in 1995	Area (ha) in 1997	Area (ha) Difference
Woodland	9,901.1	5,615.6	- 1,286.3	Bamboo	25,979.8	19,600.7	-6,379.1
Forest	6,704.0	1,381.9	- 5,322.1	Wood-land	8,905.7	5,966.6	-6,939.1
Bush/Scrubland	26,769.4	29,384.9	+2,615.3 40.3	Riverine trees	2,165.7	5,544.1	+3,378.4
Burned Bush/scrubland	53,151.5	1,176.3	- 51,975.2	Burned area	9, 278.3	13,601.2	+4,322.9
Bare area/settlement/	4,091.5	5,553.6	1,462.1	Scattered trees	14,462.2	18,575.2	4,113.0
Grass	3,134.37	2,104.2	-1,630.17	Bush/ scrubland	5,203.6	8,220.2	3,016.6

Source: Ethiopian Mapping Authority

Major factors of the crisis

Factors that contributed for the increasing deteriorations of natural resources in the regions under discussion include: -

- ⇒ The concentration of high number of refugees in large camps in an ecologically fragile area and depending fully on land and the forest for food, energy, housing and other sources of income.
- ⇒ The duration of their stay in relation with the absence of a pro-active environmental and land use assessment and planning.
- ⇒ Shortage of food provision to support the livelihood of refugees.
- ⇒ Intensified hunting of wildlife and fishing
- ⇒ Traditional practices of shifting cultivation and land clearing as well as setting fire (both the local people and refugees).
- ⇒ No commitment of refugees to conserve natural resources due to the hope for going back home.
- ⇒ Failure in proper camp site selection and the absence of sound spatial planning at regional and national level.
- ⇒ A weakness in planning to consider the impact on the natural resource, biodiversity and socio-cultural aspects.
- ⇒ Weak field level implementation of mitigation measures to counteract negative environmental management by stakeholders.
- ⇒ The 1980s resettlement programmes in the region where about 15,000 families have been settled, mainly in Abobo and Gog weredas of Gambella.
- ⇒ Natural hazards including drought.
- ⇒ Lack of refugee laws and regulations at national level.

Conclusion

Recent studies revealed out that the Sudanese and Somalis refugees have caused nearly irreparable environmental degradation in parts of western and eastern Ethiopia respectively. The western region, which is known for its wealth of indigenous species, has been particularly affected. In areas already marked by scarcity, the presence of many refugees could sharply increase competition over resources and lead to tense relations between refugees and their host. In a country where economic stagnation, population growth and rising unemployment is high, environmental problems such as deforestation and soil erosion are acute, the impact of refugee can easily disrupt the lives of local inhabitants. Host communities are, therefore, at risk of being turned into environmental refugees. Policy makers and stakeholders should generate programs that can address the socio-economic and environmental dimensions of the problem.

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Editor's Note

Addis Zemen of Miazia 2, 1995 reported the following on the situation in Assosa Zone Sherkole refugee camp under the title,

"Efforts being made to rehabilitate deforested areas in refugee settlements."

"The settlement's Natural Resources Development and Environmental Protection Project Coordinator reported that 300 ha. of forest was depleted for construction of houses and fuelwood. In the first 4 years 1,544,000 seedlings were planted on 130 ha. of land of which 1,130,000 have survived and in 2003, 600,000 seedlings will be planted on 60 ha. of land."

Ato Seyoum Mengistu, EPA

The following points transpire from the above piece of news:

- Environmental problems posed by refugees are gaining recognition by local authorities.
- There are some efforts going on to address the problems.
- Settlement areas have coordinators responsible for natural resources and environmental protection.
- In five years 63% of the deforested area was afforested.
- Seeding density in the first 130 ha is about 12000 seedlings /ha and 10000 seedlings /ha. in the second 60 ha.
- Survival rate on the first 130 ha. was 73%.

Important questions arising from the above information include: a) What species were lost on the 300 ha. of land deforested by refugees? b). What species were planted on the 190 ha. of land? c) What was the loss of biodiversity? d) Will the deforestation cease?

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