

The direct and underlying causes of forest loss

Forests are one of the most valuable eco-systems in the world, containing over 60 per cent of the world's biodiversity. This biodiversity has multiple social and economic values, apart from its intrinsic value, varying from the important ecological functions of forests in terms of soil and watershed protection to the economic value of the numerous products which can be extracted from the forest. For many indigenous and other forest-dependent peoples, forests are their livelihood. They provide them with edible and medicinal plants, bushmeat, fruits, honey, shelter, firewood and many other goods, as well as with cultural and spiritual values. On a global scale, all forests play a crucial role in climate regulation and constitute one of the major carbon sinks on earth, their survival thus preventing an increase in the greenhouse effect.

Forests have already disappeared in many parts of the world and deforestation rates worldwide during the 1980s were as high as 15 million hectares per year for tropical forests alone. In most parts of the world deforestation accelerated during the 1990s. It should be noted in this respect that deforestation rates tend to be obscured by the fact that there is no clear definition of forests. The latest definition given by the UN Food and Agriculture Organization, formally the main body responsible for forests within the UN system, is so broad that most green urban areas can be considered major forest eco-systems. Thus, the replacement of valuable primary forest eco-systems by monoculture plantations - in many cases an alien species such as eucalyptus or pine trees - or by biologically poor forests is seldom taken into account. Europe, for example, lost most of its primary forests during the 19th century. Yet, the latest FAO reports state enthusiastically that there is an increase of boreal and temperate forests in this region. A substantial part of these "forests" are biologically-poor production forests, lacking undergrowth, original soil biodiversity, and most original bird, mammal and reptile species. They are in fact more akin to monoculture plantations than to true forests.

Direct causes of deforestation

The most important direct causes of deforestation include logging, the conversion of forested lands for agriculture and cattle-raising, urbanization, mining and oil exploitation, acid rain and fire. However, there has been a tendency of highlighting small-scale migratory farmers or "poverty" as the major cause of forest loss. Such farmers tend to settle along roads through the forest, to clear a patch of land and to use it for growing subsistence or cash crops. In tropical forests, such practices tend to lead to rapid soil degradation as most soils are too poor to sustain agriculture. Consequently, the farmer is forced to clear another patch of forest after a few years. The degraded agricultural land is often used for a few years more for cattle raising. This is a death sentence for the soil, as cattle remove the last scarce traces of fertility. The result is an entirely degraded piece of land which will be unable to recover its original biomass for many years. It is a major mistake to think that such unsustainable agricultural practices only take place in tropical countries. Many parts of North America and western Europe have become deforested due to unsustainable agriculture, leading to severe soil degradation and in many cases abandonment of the area by the farmers.

In other countries, clearcut logging practices have been the main reason for forest loss. In the early nineties, Canada and Malaysia were famous examples of countries where logging companies ruthlessly cleared mile upon mile of precious primary forests. Here too, the historical perspective should not be overlooked. Countries like Ireland and Scotland used to be almost entirely forested, but were nearly completely cleared under British rule to provide timber for English shipbuilders. Today, logging still forms the most important direct threat to forests in regions like the Guianan shield (stable area of low relief in the Earth's crust), Central Africa, East Siberia and British Columbia.

The underlying causes of deforestation and forest degradation

During the last few decades, the forest crisis has prompted many international, regional and national preservation initiatives, yet many have had little success. There is general agreement that this is due to the fact that these strategies were too focused on the immediate causes of deforestation, and neglected the underlying causes which are multiple and interrelated. In some cases they are related to major international economic phenomena, such as macro-economic strategies which provide a strong incentive for short-term profit-making instead of long-term sustainability. Also important are deep-rooted social structures, which result in inequalities in land tenure, discrimination against indigenous peoples, subsistence farmers and poor people in general. In other cases they include political factors such as the lack of participatory democracy, the influence of the military and the exploitation of rural areas by urban elites. Overconsumption by consumers in high-income countries constitutes another of the major underlying causes of deforestation, while in some regions uncontrolled industrialization is at the heart of forest degradation with widespread pollution resulting in acid rain.

The causes of deforestation are many and varied, and it is impossible to cover them all. However some examples can show how these causes are closely interrelated one to each other.

The forces behind unsustainable agriculture

According to the FAO, 90 per cent of deforestation is caused by unsustainable agricultural practices, while logging and plantation forestry play a greater role in forest degradation. However debatable these figures may be, unsustainable agriculture is undoubtedly one of the major direct causes of deforestation and forest degradation in many countries of the world. A simplistic approach to the problem would imply blaming the "ignorance" of the farmers involved in this process. The process is however more complex. Few people actually decide that they want to leave their native land, go to the forest, cut it and convert it into agricultural land. They are driven to such actions by national and international forces with interests different to theirs. In some countries, forests act as safety-valves to avoid social uprisings, in the following way. The concentration of power and land in few hands results in large groups of dispossessed people, which may lead to confrontation. To avoid conflict, some of these people are offered free land within the forests. Access to forests is made possible through government-promoted road projects, either built to open up and "develop" the forests or resulting from the commercial activities of logging, mining, and energy generation. In the above example, it is clear that deforestation can take place only because a number of government policies - social and economic - indirectly promote it. Whilst the poor may operate the chainsaws or set the forest on fire, it is mostly governments and corporations who are behind such actions.

The far-reaching consequences of globalization

In other cases, forests are opened up for modern large-scale agriculture or cattle-raising aimed at the export market. For example, forests have been converted for cattle in Central America, for soy bean production in Brazil and for pulpwood in Indonesia. In the first case, the process originated in the explosive development of a fast food - hamburger - market in the US which required vast amounts of low-quality cheap meat which could be produced in nearby tropical countries. The result was widespread deforestation in Central America. Subsidized and highly intensive meat production in Europe requires an ever-increasing supply of grains to feed livestock. Soy bean is one of the major inputs for such production and enormous patches of forest have been opened up in Brazil - and in many other Southern countries - to ensure the economic sustainability of that sector through the supply of cheap grain. A similar situation occurs with paper: the continued growth of paper consumption, particularly in high income countries, depends on the availability of cheap wood or pulp to feed the paper mills. Forests are thus being cleared in Indonesia - and many other parts of the world - to give way to eucalyptus plantations aimed at supplying that market with increasing amounts of cheap raw material.

In the above cases, it is clear that the production of hamburgers in the US, of meat in Europe and of paper in high-income countries are a contributory cause of deforestation in Central America, Brazil and Indonesia.

Land tenure policies and inequalities

Ecuador offers an example which applies not only to most other Amazonian countries but also to many other Southern countries with deep forests. Since the 1970s there has been a great influx of farmers into the Ecuadorian Amazon, one of the most precious forest areas in the world. Most of these farmers came from the Andes and coastal regions of the country, where they were faced with landlessness, unemployment, and land degradation. Migration was strongly encouraged by the Ecuadorian Government, with a provision for land titles for plots of 45-50 hectares for the migrants. As farmers ran the risk of losing their land title if they did not turn it into agricultural or other "useful" land, deforestation was more or less obligatory.

In most cases, only a combination of a desperate situation at home and strong legal, economic or other incentives will make people migrate to the forest. In Ecuador, the migration was mainly government-driven, caused by the lack of land reform and sustainable agriculture in the Andes and coastal regions (push-factors) and a deliberate policy to entice people to move to the forest (pull-factors), through a public information campaign using false perspectives and land titles which often encroached upon the land rights of indigenous peoples. While the construction of roads by oil companies helped the farmers, it is also important to note that in countries which do not have such push- and pull-factors, the construction of roads through the forest does not automatically lead to migration. In Cameroon, for example, most farmers do not feel tempted at all to move from their semi-arid homelands in the North of the country to the tropical forest in the South, despite the fact that this forest is being increasingly opened up by logging roads.

Consumption and production patterns

It should be emphasized that it is seldom the production of food for the poor which causes deforestation, as the largest areas of forests converted to other uses are currently being dedicated to the production of cash crops and cattle. These products, which vary from coffee and beef to coca and soy bean, are in many cases almost exclusively produced for export markets in OECD countries. It is absurd to defend the production of these goods with arguments about food security, as some governments and international institutions (including the FAO) do, since Northern countries have excessively high levels of consumption.

Under the current free-trade oriented ideology, the standard solution of institutions like the International Monetary Fund for these problems is increasing exports, instead of decreasing imports. Meanwhile, it is the import of luxury goods for the wealthy, as well as weapons, which tend to lie at the roots of trade balance and balance of payments distortions, both in industrialized and in low income countries. One of the major contributory factors in deforestation is the failure of macro-economic bodies like the Bretton Woods Institutions to recognize this relationship between consumption patterns and macro-economic problems.

A global problem with many actors

Deforestation and forest degradation occurs both in Northern and Southern countries and its underlying causes also originate in both, although with varying degrees of responsibility. Industrialized countries have not only cut down or degraded their own forests in the past; many are still doing so today. This occurs either through large-scale clear-cutting - as in many areas of Canada, the US or Australia - or through the thinning and therefore degradation - of forests reducing them to a few commercially valuable species at the expense of biodiversity - such as in Sweden, France or Finland. At the same time, problems resulting from industrialization - such as acid rain - are having a strong impact. In the South, some forests are being clear-felled - mostly for unsustainable export-oriented agriculture, tree and oil-palm plantations and cattle - or are being degraded as a result of the selective logging of the more commercial species - such as mahogany.

Some underlying causes originate within the country while others can be found outside national boundaries. In this latter situation, the main responsibility usually lies in the North. Macro-economic policies imposed on the South through a number of mechanisms can also contribute to deforestation. One of the more obvious results of such policies has been the increasing incorporation of Southern agricultural exports to markets in Northern countries, usually at the expense of forests. The same macro-economic policies have resulted in the concentration of wealth in the North which, coupled with strong incentives to consumerism, have created unsustainable consumption patterns which have a strong impact particularly - though not exclusively - on Southern forests.

Southern governments and elites also hold responsibility for some deeper causes of deforestation. Government policies on indigenous peoples' rights - particularly those affecting territorial rights - have been the cause of much deforestation which would not have occurred if those rights had been acknowledged. Policies over land tenure rights in general have resulted in the concentration of the best agricultural lands in a few hands and the consequent migration of poor peasants into the forests, resulting in large-scale felling of trees. In most cases however government policies are linked to external actors such as multilateral institutions, "co-operation"

agencies and transnational corporations who must share the blame. Building access roads means that trees are chopped down. The road then opens up the forest to loggers, landless peasants, mining companies and many other actors, resulting in tree clearance. Road-building is one of the activities promoted and funded by multilateral institutions such as the World Bank and other regional multilateral banks and it allows governments to comply with the International Monetary Fund's policies to increase exports. Road-building is also linked to transnational corporations' interests, as they can thereby access natural resources and incorporate them into the global market.

The role of the military

Weapons imports constitute an important socio-economic, and thus ecological burden in many countries. Every dollar spent on weapons is one dollar less spent on education, health-care, sustainable technology development and sustainable development in general. It is also one dollar on the wrong side of the balance of payments. The export of weapons constitutes big business for many - particularly Northern - countries. Naturally, war and violence themselves place a major direct and indirect burden upon forests. In some cases, the military have direct interests in logging concessions or the production of cash-crops like coca. The influence of the military on governmental policies in many countries is profound. For the military, the inaccessibility of forests is a strategic problem. Indigenous peoples and other isolated groups of society can pose a threat. Opening up the forest and stimulating migration of people from the centre of the country to these isolated areas serves a strategic purpose. Oil and mineral exploitation within the nation is strategically important, even when one has to attract foreign companies with conditions which allows all profits to flow out of the country.

More indirectly, the continuing dominance of Cold War mentalities cause some of the world's macro-economic institutions to be so ruthlessly free-market oriented. Despite these obvious and not-so-obvious relationships, there seems to be a strong taboo on discussing the influence of the military on deforestation and other social and ecological problems. Clear figures are absent and little research has been done.

Moving forward

The international community - at least within the framework of the Commission for Sustainable Development's Intergovernmental Forum on Forests - has recognized the need for identifying the underlying causes of deforestation in order to find ways to save the remaining forests of the world. The Non-Governmental Organizations which participate in the Forum have offered to work in collaboration with governments and international agencies to identify the major underlying causes of deforestation in all regions of the world and to work out solutions. It is important, however, to realize that deforestation and forest degradation are not "technical" issues. Forests are not disappearing because people and their governments are ignorant or because there are no proper management plans. Forests are disappearing because a number of interlinked international and national policies prepare the ground for it to happen. It is therefore at that level that solutions must be found. In addition, it is crucial to reach out to the public at large in order to ensure that such changes are actually implemented in a way that both humanity as a whole and the people living in the forest areas benefit from them equally. This is obviously a huge and difficult challenge, but one which opens up some hope for the future.

