

The Role of NGOs for the Formulation of Sustainable Land Management Policies and Programs

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1. Abstract

Turkey is a country that has been seriously affected by soil erosion. Besides the natural factors causing erosion such as topography, geology and climate of the country, misuse of the lands and improper policies are the main negative human impacts causing erosion.

To correct improper land use and provide sustainability of the natural resources within watersheds, the contribution of local people is so necessary. NGOs can play very important roles in such participation.

As a Turkish NGO “TEMA” was founded under leadership of some prominent businessmen of the country in 1992, and it has achieved unbelievable successes within a short time.

TEMA’s aim is to raise the awareness of the people on issues relevant to soil erosion, land degradation, loss of biodiversity, and their economic and ethical consequences. TEMA has a new approach to sustainability like “Sustainable Survival to Replace Sustainable Development”.

2. Introduction

The main factors that cause soil erosion and land degradation are the rough and steep topography, geology and climate of the country. Turkey’s steep topography, variable temperature, precipitation regime and young pedological structure are three natural factors, which cause soil erosion. Besides these factors, misuse of land, overgrazing on pasture lands and forests, and over-harvesting of forests, fires, making farmlands and improper policies on forests are additional negative impacts which are stemmed from human activities.

As a result of these factors, soil erosion has become the most serious threat to Turkey’s nature and economy. It also caused many catastrophic disasters all over the country almost every year the severity of soil erosion in Turkey has been proved through several researches. A NASA report maintains that Turkey faces a serious desertification problem. Soil erosion affects 83.2% of the total area of Turkey. It is easy to see all kinds of advanced erosion as in a “live erosion museum” everywhere in the country. Each year 1.0-1.2 billion tons of topsoil is eroded from the landscape which is almost equal to the total loss of the continents of Europe, Africa and Australia or 1/20-1/25 of the total soil loss of the world.

Although Turkish Governments, starting shortly after the establishment of the Turkish Republic in 1923, have paid great attention to protection of forests, rangeland, soil and other natural resources, unfortunately any remarkable success couldn't be obtained till now. According to the 1973 inventory. Turkey has 20.2 million ha of forestland (26 % of the total land area of the country), 21.7 million ha of range land (28.3 %) and 27.8 million ha of agricultural land (36.3 %). The forests are degraded. The productive forest occupies only 10 % of the total area of the country. Land degradation is proceeding very rapidly on rangelands. In 1938, the total area of range land was estimated at 41 million ha but according to 1980 estimates this figure decreased to 21.7 million ha of which about 80-90 % is of very low quality. And 6.1 million ha of agricultural fields are situated on steep highlands, converts from forests and rangelands, which are prone to severe erosion.

Turkey is one of the most important countries in terms of biodiversity and valuable genetic resources in the world. It is homeland to over 10.000 plant species and more than 3.000 species have been classified as endemic. The reason for the extremely wide variation of herbaceous and woody plants in Turkey is the location of the country at the junction of the three major phyto-geographical regions: the Irano-Turanian, Ero-Siberian and Mediterranean regions. The continent Europe holds 11.557 species and only 2650 of the species are endemic. Unfortunately erosion and land degradation have also affected such richness negatively.

3. Impacts and Erosion Costs

It is evident that soil erosion is a physical process, but its consequences are economic and sometimes catastrophic.

3.1 Erosion Means Poverty

Erosion affects the fertile soils, and reduces their food production capacity, which means poverty. Agricultural productivity indexes have dropped between the years 1984-1993 by 39 %, 7.8 %, 25.4 %, 49.3 % and 29.7 % for wheat, maize, rice, rye and sunflower respectively. During this period, the export of agricultural products increased 5.3 times, whereas import of agricultural products increased 23 fold.

As mentioned above, most of the rangelands are degraded. Turkey has more than 37 million heads of sheep, 12 million heads of cattle and 10 million goats. Overgrazing results in severe degradation of both rangelands and forests. Although the population of Turkey has increased by 37 % between the years 1979-1992, the number of animals and the meat production have decreased by 22.7 % for cattle, 30.6 % for sheep, 41.5 % for water buffalos, 35.4 % for goats and 68.4 % for Angora goats. The per capita consumption of meat in Turkey is 16 kg/year, which is quite a low figure if compared to the other countries.

3.2 Not-So-Natural Disasters

Loss of vegetation and land degradation cause floods, landslides and avalanches. Each year many lives are lost and livelihoods are damaged; 74 people died in a mudflow and 64 people in a flood effect in two disasters in the country two years ago. It is clear that these are not-so-natural disasters.

3.3 Loss of Biodiversity

Land degradation also affects the biodiversity of the country. It is recorded that the sources of 12 valuable medical raw materials are lost forever and 504 plant species are endangered.

3.4 Migration to the Cities

Each year 1.2 million people migrate to the cities in search of better livelihoods. Since erosion and land degradation mean poverty, the people living in very low income rural conditions, with about 227 USD per capita and no prospects have had to move away from their homelands. The primary reason of migration is growth of the population (2.17 %), and inadequate land allocation, fractionalization by inheritance, decreased productivity in agriculture, forestry and animal husbandry and mechanization of agriculture. On the other hand, urban centers promise employment, services such as health care and schools and the illegal settlements are rented out in the future. Thus migration to the urban centers is considered an opportunity with low risk and high profits.

3.5 Other Economic Costs

The other important economic costs are the loss of nutrients from eroded soils and the problems related to the life span of dams. The loss of mineral plant nutrients and organic matter from the eroded soils is estimated to cost 640 million USD per year. As the soils are eroded, sedimentation reduces the economic life span of reservoirs and hydroelectric dams. According to a study by METU (Middle East Technical University in Ankara), 16 dams are already unproductive or almost filled up and the dams in GAP (Southeastern Anatolia Project) region will be filled with sediments long before the designated life span.

3.6 Why?

We are all affected by the impacts of erosion and land degradation directly or indirectly. The reasons behind this quiet crisis need to be tackled with an integrated approach that covers a wide range of problems varying from legislation, funding for poverty eradication and capacity building. As stated by the UN Convention, affected countries have to design a National Action Program, which includes all parties, namely the governmental organizations, NGO's, and the people themselves. Implementation requires a collective effort from all affected. Otherwise, the action programs are doomed and will end up on the dusty shelves of some organizations. For example, the land-use classification of Turkey indicates for every parcel of land how it can be used according to its capacity. However, the implementation of these rules failed because of a lack of political consensus or determination.

3.7 Other Reasons

- The varying sizes and unequal distribution of lands. The lands are divided into ever-smaller parcels by inheritance, which also hinders farmers to practice erosion control measures. (On a small piece of steep land, it is not easy to practice contour plowing).
- The workers in the agricultural sector do not easily adopt new technologies, which would increase productivity.
- The same reasons apply to building the infrastructure and to any corrective measure applied to the soil.
- As the agricultural lands lose productivity, people seek new areas in forest and rangelands to continue farming.
- Lack of investment in the agricultural (and forestry) sector. For example, the budget allocated to combat erosion and for reforestation is less than 1 % of the amount allocated for defense.
- Prime agricultural lands (forests and rangelands included) are allocated to industry, mining, slum settlements, roads and other purposes.

4. Afforestation, Erosion Control and Rangeland Improvement Activities done by Governments

Afforestation, erosion control and rangeland improvements within the concept of watershed management in Turkey go back to the early 1950's. Since then about 2 million ha of land were re-afforested, on 0.31 million ha of land erosion control measurements were carried out, and about 80 thousand ha of rangelands were improved. Of course, if the extent and severity of erosion all over the country is taken into consideration, it is difficult to accept such activities as satisfactory. Although the macro-plan of the country's afforestation, erosion control and rangeland improvement was prepared with the detailed surveys carried out in 484 watersheds between the years 1970-1980, unfortunately none of these could be put into practice till now, even as a pilot project. An other project known as the General Soil Conservation Master Plan which was prepared by the Ministry of Agriculture-Forest and Village Affairs in 1987 also had no chance due to lack of political determination and of local people's participation, as mentioned above.

5. A Turkish NGO Experiment: TEMA Foundation

The Turkish "Foundation for Combating Soil Erosion, Afforestation and Protection of Natural Habitats" (TEMA) was founded in 1992 under the leadership of Mr. Hayrettin (KARACA-UNEP's Global 500 Award recipient), Mr. Nihat GÖKYIGIT and 30 prominent businessmen. The aim of this foundation was to raise awareness on issues relevant to soil erosion, land degradation, loss of biodiversity; and their economic and ethical consequences. It thereby aims at creating public and political pressure to support the formulation of sustainable policies and programs, and to inform the public on global and national environmental problems.

TEMA carries out many projects on rangeland improvement and rural development in order to diminish the environmental and food security problems caused by land degradation and erosion. The foundation believes in the benefits of rural development, thus keeping local people on their own land. TEMA works with communities and acts as a catalyst in bringing government, universities, institutions and the private sector together in the implementation of various projects. Examples are: rangeland rehabilitation projects, rural development projects (Adopt a Village), training and education projects (courses, conferences, erosion field trips, books/booklets, posters, newsletters, video-tapes, media campaigns, theater plays, music programs, etc.), industrial plantation projects, afforestation and erosion control projects, establishment of arboretums, and preparation of documentaries.

TEMA is the only Turkish NGO focusing specifically on soil erosion and desertification. Within five years, TEMA has covered a good distance and TEMA's views are very well received by the general public, and accepted by governmental bodies. For the first time in the history of Turkey an NGO gave a conference at the parliament. TEMA has 126 volunteer members in the Turkish Parliament. It contributes in the making of relevant legislation. The Foundation contributed to the legislation on land degradation and on rangeland by making much needed comments on draft proposals. Organized countrywide TEMA has over 30.000 volunteer members, 170 volunteer representatives and a scientific committee consisting of 54 scientists from different fields. TEMA's target is to reach 1 million volunteers and 2500 representatives in the near future.

TEMA is also actively represented at the international level. TEMA is an accredited NGO of the UN Convention to Combat Desertification and Drought.

6. World Food Summit and Habitat II Conference on Human Settlements

TEMA is also a member of Mediterranean Information Office and European Environmental Bureau. There are close ties between TEMA and the European Parliament, the Environment Commission and GLOBE (the Biological Diversity Group). It has also joined the International Centre for Integrated Mountain Development (ICIMOD) and became a regional focal point for West Asia.

7. A New Approach: “Sustainable Survival” to Replace “Sustainable Development”

The traditional concepts of our world are rapidly changing. Here, the concept of human productivity which is the ultimate aim of the prevailing industrialization and development processes and which, it is suggested, is inadequate will be exposed from a different perspective.

Is it worthwhile discussing the productivity of humans without paying attention to the productivity of natural resources without which our blue planet and the life it supports can not continue to exist? It is our intention to seek an answer to this question.

Since the 1960s, the human race has become aware that if the existing production, consumption and the resulting pollution patterns continue at the same level, the life itself can not be maintained at a sustainable level. Along with the slow realization of this fact, a number of conferences have been held with the intention of determining the preventive measures to be taken.

After many conventions and conferences, the World Summit held in Rio in 1992 was a key meeting in which Agenda 21, a global activity plan for overcoming the environmental problems, was proposed and endorsed. Other important international meetings, including the XI World Forestry Congress, in Antalya, Turkey from October 13/22, were held in various centers in the world. What is the purpose of organizing conferences that follow one after the other with such a high degree of participation?

It is evident that the industrialized nations have compromised the developing nations not only by consuming natural resources that are intended for the whole world but by also exporting toxic wastes. It appears that a century old prophecy of an old Indian chief is finally coming true: *“The Whites are going to drown in their own wastes”*.

Human activities such as mining, timber trade, establishment of new settlements, and misguided policies, which cause irreparable harm to ecological systems, all increase the pace at which forests and wetlands are depleted. The destruction of these irreplaceable natural sources of reproduction is one of the leading causes of the loss of biodiversity. Scientists estimate that some 50 000 species are condemned to extinction each year mostly as a result of human activity.

Evidently, the primary problems are depletion and pollution of natural resources and the unabated annihilation of these resources through the continuing increase of the human population.

7.1 The Consumer Society

What kind of a future awaits our world given the production - consumption pattern, which is the driving force behind the modern economy?

The existing pattern of economies becoming consumer societies spells disaster for all concerned.

While establishing development aims, it should not be overlooked that the destruction of natural resources has not occurred only in the industrialized countries but also the assets of the less advanced have been depleted.

Al Gore, vice-president of the U.S.A., once declared, "When an American baby is born, the waste he is responsible for is equivalent to the refuse created by 30 Indian babies". In other words, one American baby consumes as much resources as 30 Indian children.

The consumption craze that has led to such grotesque inequalities in the sharing of natural resources has turned into a chain reaction that runs through the different sectors that it has helped to create. It is estimated that more than 1 billion hungry people can be fed with the money that industrialized nations spend on extra packaging alone.

Things that are meant to boot consumption, which is becoming more and more an end in itself are detrimental to the natural resources, the human health, the nature and the social psychology. The race for more consumption is turning human beings into robots.

Alan Thein Durning, in his work "How Much Is Enough", has stated: "It is a pity that people are bound together through a commercial culture consisting of advertising, national brands and chain stores while commercial centers are becoming the core of our communities, consumption has become not only the way we express ourselves but also our greatest means of entertainment."

The fact that the most profound values of humanity have been downgraded for the aim of superficial satisfaction constitutes a most pitiful aspect of the consumption society. In spite of all this, the consumer society has not delivered the happiness it promised.

7.2 "Sustainable Survival" to Replace "Sustainable Development"

The established pattern of production and consumption, created to consume more and thereby produce more, cause resources that we think are infinite in size and capacity such as air, water and soil to become polluted. Our world can not indefinitely sustain such a level of consumption. For this reason the aim of sustainable development, which is expected to provide comfort for all concerned and which tacitly implies more consumption and pollution should be re-examined.

Development entails production and production entails pollution. Those who consume, also pollute. Therefore the aim defined as sustainable development should be replaced with sustainable survival.

If our intention is to provide fulfillment and satisfaction for humanity, it simply is not possible to achieve this through consuming more and possessing more. Human beings should strive to retain their level of consumption at a point where they would satisfy their needs as well as appropriating for the needs of the posterity and they should appreciate the fulfillment and satisfaction such behavior may evoke.

We should seek to create a new pattern of sharing and a new life-style by discovering whatever is sufficient and not striving for more as this constitutes the only guarantee for the continuing existence of the human race. We should replace the dictum of sustainable development with the aim of sustainable survival for attaining such an end.