

are destroyed to move out of these danger zones without compensation or arrangements to resettle them properly.

Thus, the tin areas have environment whose topography is made up of dams (which claim lives of both human and animals annually) as well as “a lunar landscape of steep-sided mounds with multicoloured ponds or lakes” [13].

Nigerian environmentalists have agreed that mining activities such as tin-Jos, Coal-Enugu, and others have done great damages to the environment which will need a concerted effort especially adoption of better mining practices in order to remediate.

**4.4. Erosion, Desertification, and Deforestation: Loss of Biodiversity in the Nigerian Environment.** Erosion problem is also a major environmental threat in Nigeria as sheet and gully erosion have wrecked untold havoc in several states such as Abia, Adamawa, Anambra, Delta, Ebonyi, Edo, Enugu, Gombe, Jigawa, Kogi, Ondo, Ogun, and Lagos. In Lagos state and other coastal areas, coastal erosion has destroyed properties and valuable lands were washed away. Most of the flooding and erosion seen in cities are as a result of poor drainage system.

Places such as the eastern states of Nigeria (Anambra, Imo, Abia, Enugu, and Ebonyi) have regions prone to erosion. This has resulted in the entire loss of farm land and buildings. The situation is so pathetic that a whole clan in a southern part of Anambra state was forced to take refuge in a primary school. Places like Agulu and most part of Aguata and Orumba Local government areas are highly endangered with erosion invasion. The Northern part of the country has ecosystem characterised by the Savannah climate. Starting from the North Central region encompassing Benue to Katsina states in the farthest part of the North made up of the southern savannah, Northern savannah, Sudan, and Sahel savannah characterized by low foliage and little trees. The environment is marked by constant grazing and building of huts which affect the type of plant survival as well as desert encroachment from the Niger and the Chad republics at the furthest part of the country.

Deforestation is a serious problem in Nigeria, which currently has one of the highest rates of forest loss (3.3 Percent) in the world. Since 1990, the country has lost some 1 million hectares or 35.7 percent of its forest covers [9]. Worse Nigeria's most biodiverse ecosystems—its old-growth forests is that are disappearing at an even faster rate. Between 1990 and 2005, the country lost a staggering 79% of these forests and since 2000 Nigeria has been losing an average of 11 percent of its primary forests per year—double the rate of the 1990s. These figures mark Nigeria as having the highest deforestation rate of natural forest on the planet. As its forests fall, Nigeria has seen wildlife populations plummet downward from poaching and habitat loss, increasing desertification. It appears that Nigeria's swift economic development has exacted a high toll on its people and environment [9].

The problems of environmental degradation have continued to plague Nigeria, and they have defied proffered solution mainly due to improper applications and also the lack

of proper waste control and environmental maintenance. The major causes of environmental degradation problems were identified by the Vision 2010 Committee set up by the Federal Government. Aina and Salau [14] enumerated some of these problems as follows:

- (i) poverty as a cause consequence of environmental exploitation, with the poor scavenging marginal lands to eke out a living;
- (ii) bush burning for farming and ever-increasing depletion of young forests for fuel wood.
- (iii) uncontrolled logging accentuated by lack of re-stocking in many parts of the country. This practice is linked with the loss of precious biological diversity (nature's gene bank of raw materials for future development);
- (iv) gas flaring, Crude oil spill and the resultant problem of ecosystem destabilization, heat stress, acid rain and acid precipitation-induced destruction of fresh water fishes and forests in the coastal areas of the country. Nigeria alone accounted for about 28% of the world's total gas flared;
- (v) a general inability of the agencies responsible for the environment to enforce laws and regulations, particularly with respect to urban planning and development, prospecting for minerals and adherence to industrial standards, siting of public and residential quarters in flood-prone areas, unsettled dump site improperly reclaimed and converted to plots.

## 5. The Need for Pollution Prevention

Most of the pollutants in the environment are directly or indirectly the product of industrial activities/production. Awareness of the deleterious effect of pollutants in the environment is on the increase. Government, environmentalists, and communities for a long time have been frowning at the degradation of the environment due to man-made pollutants especially those that are by-product of industries. Industries on the other hand are under pressure by their communities to minimize the pollutants they generate. This has placed the manufacturing industries at high cost of revenue for pollution treatment as well as Billion of Naira for research into eco-friendly ways of manufacturing processes which minimizes pollution generation. Most of the pollution released from industrial processes includes discharge into the environment, namely: air, land and water. The best points of pollution prevention involves, source reduction (by using raw materials more efficiently); pollution control (substituting less harmful substances for hazardous materials); pollution management (eliminating toxic substances from the production process).

By implementing pollution prevention practices, companies often reduce their operational waste disposal, and compliance costs (<http://www.p2.org/about/nppr.p2.cmf/>).