

ENVIRONMENTAL POLLUTION CHALLENGES IN NIGERIA: REGULATIONS AND ENFORCEMENT FOR SUSTAINABLE DEVELOPMENT

by

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Abstract

Man's activities in his quest for development have led to the compromising of our environment. However for development in Nigeria to be sustainable, it should at the same time protect the environment, else the different environmental pollution challenges facing us will continue to multiply. On the basis of personal observation and secondary sources, this paper identified the various environmental pollution challenges confronting Nigeria and highlighted her environmental laws and regulations. The various agencies responsible for enforcing these laws were observed as well as the extent of enforcement and compliance. The paper proffered practical strategies for effective environmental regulation enforcement and compliance in order to reduce environmental pollution and improve the socio-economic development of Nigeria as a nation. The paper concluded by advocating that awareness creation through environmental education is the panacea for achieving environmental sustainability in Nigeria.

Key words: Environment, Pollution, Regulations, Enforcement, Sustainability

Introduction

Sustainable development is any development that meets the needs of the present without compromising the ability of future generations to meet their own goals, hence the capacity of the natural environment to meet present and future needs should not be compromised. To achieve sustainable development in Nigeria therefore some issues of environmental pollution and the enforcement of environmental laws and regulations need to be addressed.

Environmental issues did not gain official prominence in Nigeria until the 1987 Koko toxic waste dumping saga. This brought to the fore the exigent need to establish a regulatory body, the Federal Environmental Protection Agency (FEPA) in 1998 (JPTSI, 2012). This was followed by the Federal Ministry of Environment and other relevant agencies to tackle environmentally related issues in the country such as environmental pollution, sanitation, depletion of ozone layer, desertification, flooding, erosion, bush burning, deforestation, soil conservation etc. All these mentioned above are a pointer to the fact that issues of environment and in fact environmental pollution has taken a centre stage in the nations (Nigeria) development process (Evelyn and Tyav, 2012). Environmental pollution is the contamination of the physical and biological component of the earth atmosphere system to such an extent that normal environmental processes are adversely affected (Kempt, 1999). It can also be defined as the release of toxic harmful substances into the environment by their natural force or man and his resources which are harmful not only to man but other animals, plants and the entire surroundings. Thus the major sources of environmental pollution is anthropogenic though in some cases natural sources like landslides, earthquakes, tsunamis, hurricanes and wildfires have been implicated. Many researchers have associated environmental pollution with human activities and albeit persistent human interaction with the environment through industrial and agricultural processes (Ocheri (2003), Obehe(2004, Aja (2005). Jande (2005), and Aja (2005) also agree that unrestricted use of pesticides, insecticides, herbicides and indiscriminate dumping of refuse, excreta and animal dung as well as spillages from refineries, large scale bush burning are perceived as some of the leading factors of environmental pollution in Nigeria.

Environmental pollution and human efforts for the betterment of living standards are the opposite sides of the same coin. In the wake of industrialization, consequent urbanization and ever increasing population, the basic amenities of life viz, air, water and land are being polluted continuously. (Sharma, 2007).

Also construction of roads, houses and industrial buildings causes environmental problems (Olokesusi, 1987). Many of the urban poor cannot afford decent homes, hence they live in temporary structures that are usually filthy. The demand for infrastructure, houses and land, outships supply, thereby leading to congestion and environmental degradation (as shown in Fig. 1)

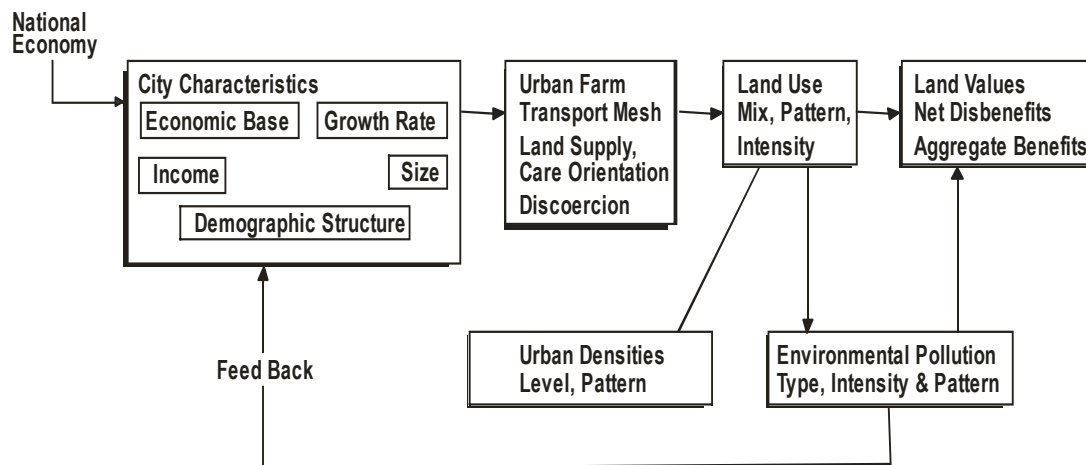


Fig.1. Links between urban economy, land use and environmental pollution, Olokesusi, 1987

The above figure shows that there are often strong interdependences among the various environmental problems and each have impacts on the environment, thereby determining the nature and intensity of environmental degradation (Olokesusi, 1987).

The degradation occur as Nigerians attempt to adjust their seemingly endless wants and desires for food, shelter, recreation, infrastructural facilities and so on to the land and other resources available to them (NEST, 1992). In line with the above, therefore this paper identifies

- The challenges of environmental pollution facing Nigeria today.
- The existing environmental laws and regulations.
- Regulatory agencies charged with enforcing these laws, enforcement strategies and compliance.
- Strategies for effective enforcement and compliances are suggested.

Environmental Pollution Challenges in Nigeria

As in most countries of the world, the Nigerian environment today presents a litany of woes. Every state of the federation suffers from one form of environmental problem or the other in varying degrees. The northern part of the country is being literally “blown away” by wind erosion and seriously facing desertification while the southern part is being washed away into the ocean (Babalola et al, 2010).

The national Agenda 21 acknowledged that Nigeria is confronted by environmental problems, the most important of which are: deforestation, drought and desertification, soil and coastal erosion, water pollution, oil pollution water hyacinth invasion, loss of biodiversity, flooding, urban decay and industrial pollution (UNESCO 1992). This paper however examines the pollution challenges facing the country under the following:

- **Population Growth and Urbanization**

As human societies developed rural-urban migration increased and the search for increased income and welfare resulted in large population living in relatively small areas under poor conditions of sanitation (urbanization).

This increase in human population and consumption pattern also led to the increase in wastes generated, thereby creating environmental problems of collection and disposal. Improper waste disposal has led to serious soil, water and air pollution resulting to increased diseases and death.

- **Advancement in Science and Technology (Industrialization)**

With the advent of Science and Technology, the nature, magnitude and impact of polluting activities began to expand. As industries multiplied, so did the waste products of combustion and manufacturing processes, creating environmental problems of disposal of nuclear and other hazardous substances (Amokaye, 2012). The scope of environmental pollution expanded to include atmospheric pollution, acid rain, noise pollution, climate change, resulting to the contamination of virtually all life-supporting elements.

The environment becomes highly polluted in the process of industrial mining, processing and disposal of mineral resources.

In Nigeria, cities such as Lagos, Port-Harcourt, Onitsha, Aba, Warri, Kaduna, etc where industrial activities dominate, these industries inject into the air, soil and water pollutants that deplete the ozone layer which increases global warming resulting eventually to climate change and causes different air and water borne diseases. In the Niger Delta area to be specific, whose environment have been seriously polluted due to oil mining and exploration, the blow out of off shore oil and gas wells, the dumping of drilling muds and oil soaked waste are major sources of water pollution in these areas. Different water borne disease including epidemic, dysentery, typhoid etc also occur (Evelyn and Tyar, 2012). Gas flaring in this oil exploitation region also reduces the quality of the air in the environment and increases global warming.

- **Deforestation**

With the rapid rise in domestic consumption of timber due to increased rate of building construction resulting from the rise in population and income, it would take less than 15 years to exhaust the forest of timber resources (NEST, 1992) Deforestation is a process where trees are felled for several purposes, but without replanting to replace the ones felled. This poses a lot of danger to man, animals and plants as it leads to erosion of the soil and storm which can cause destruction of properties, crops and animals (Omofonmwan and Osa-Edoh, 2008). Deforestation in general for agricultural development, urban growth, industrial expansion and pressure from an increasing population has

reduced the extent, diversity and stability of the Nigerian forest. The food and Agricultural Organisation (FAO) estimated that Nigerians destroy about 600,000 hectares of her forest every year through careless exploitation. Such careless exploitation of the forest has been implicated in a number of worsening environmental problems in the country including soil erosion and infertility, desertification and flooding.

- **Agricultural Activities**

The agricultural activities of farmers in Nigeria also have far reaching effects on the environment as well as human health. The use of fire to clear land produces secondary problems associated with the clearance of vegetation, such as erosions by wind and water and flooding (Evelyn and Tyvar, 2012). Sometimes too, farmers out of ignorance over fertilize their farms resulting in damaging soil tops. In another development indiscriminate use of profligate pesticide, fungicides and herbicides by farmers have caused serious problems. Many of these move through the air, water and soil and bioaccumulate in food chains leading to serious ecological and human health problems. (UNESCO, 1992).

- **Transportation and Housing**

Numerous vehicles such as motor cars, trucks, trailers, tankers which ply Nigeria roads on daily basis constitute environmental and contamination hazards. These release toxic metals like mercury and lead through hydrocarbon use. Also poisonous fumes such are carbon (iv)ioxide, oxides of sulphur, nitrogen oxides etc are emitted as a result of incomplete combustion of fuel and other carbon containing substances in exhausts pipes. These emissions results to serious air, soil and water pollution in addition to causing severe health problems like impairment of mental function and cardiovascular diseases. The use of loud horns by motorist, at their loudest level in towns and cities causes noise pollution.

Housing which is one of the basic needs of man also has its negative impact on the environment. It has been observed that unplanned housing projects with inadequate sewage system constitute a major source of water pollution in Nigeria, especially in urban environment which has greater concentration of people in one area (Evelyn & Tyar, 2012). Thus according to Gbehe (2004) “the greater the concentration of people, the greater the amount of pollution and the greater the sophistication of a society the more intricate and poignant its pollution”. Also solid waters generated in households which are dumped in water channels, streams, and rivers in some cases block the courses of these channels, streams and rivers resulting to flooding and floods usually causes erosion as well as destructive effects on both farms and houses.

- **Epileptic Power Supply (Electricity)**

Due to the epileptic nature of the electricity supply in the country, most industries, business firms and residential houses depend on electricity generators for power supply. This has in no small measure contributed to pollution of the environment. These generators which are run on hydrocarbon fuels emit hydrocarbons, toxic metals, CO, CO₂, and other poisonous gases into the atmosphere thus degrading the quality of air. Some of these gases also deplete the ozone layer. CO reacts with the blood vessel and prevent it from taking up oxygen, leading to suffocation and death. In Nigeria, several rural towns that had in the past enjoyed fresh and dry air are currently experiencing air pollution problems (Obajimi, 1998). Many people are exposed to pollutants like toxic metals, which may likely cause cancer 10 or 20 years later, without realizing it. Also gradual increase in atmospheric pollution can equally cause chronic toxic effect on trees which do not appear for 20 or more years and are irreversible (Asia, 2000). The use of power supply-generating sets also constitute nuisance and causes disturbance to the public due to the noise it usually generates. This is another disturbing issue of noise pollution.

Studies have indicated that the country would suffer large ecological and economic losses if these major environmental problems continue unchecked. Initial estimates indicate that the cost of unsustainable development for Nigeria may be as high as US\$5.1 billion per year. Corrective action and new investment programmes are needed to reduce and eventually prevent these losses (UNESCO, 1992).

Environmental Regulations and Regulatory Agencies

The role of legislation in inducing responsible attitudes and behaviours towards the environment cannot be overlooked. Legislation serves as an effective instrument for environmental protection, planning, pollution prevention and control. The basis of environmental policy in Nigeria is entrenched in the 1999 constitution of the Federal Republic of Nigeria. It gives the state the power to protect and improve the environmental and safeguard the water, air, land, forest and wildlife in Nigeria. The main environmental laws in Nigeria are as follows:

- The National Environmental Standards and Regulations Enforcement Agency (Establishment) (NESREA) Act N0. 25 of 2007 which has three subsidiary legislations: the National Environmental Protection (NEP) (Effluent Limitation) Regulation; the National Environmental Protection (NEP) (Pollution Abatement in industries and Facilities Generating Waste) Regulation and the National Environmental Protection (NEP) (Management of solid and Hazardous Waste) Regulations.

Note: This act repealed the Federal Environmental Protection Agency Act of 1990 (FEPA).

- The Environmental Impact Assessment Decree N0. 86 1992 Act Cap. E12. L.F.N. 2004.
- National Oil Spill Detection and Response Agency (Establishment) Act N0. 15 of 2006.
- The Harmful Wastes (special criminal provisions, etc) Act CAP. 165 L.F.N 2004
- The Nuclear Safety and Radiation Protection Act N0. 19 of 1995.

There are different agencies / bodies empowered with enforcing environmental laws in Nigeria. The primary body saddled with enforcing environmental protection laws, is the Federal Ministry of Environment (FME). The ministry sets out regulations for its enforcement body, the National Environmental Standards and Regulations Enforcement Agency (NESREA), which took over from the Federal Environmental Protection Agency (FEPA). The major agencies which regulate environmental laws in Nigeria are shown in the table 1 below.

Table 1: Major Environmental Regulatory Agencies in Nigeria

Regulatory Agency	Enabling Legislation
The National Environmental Standards and Regulations Enforcement Agency (NESREA)	The National Environmental Standards and Regulations Enforcement Agency (Establishment) Act N0. 25 of 2007
The Environmental Impact Assessment Agency	The Environmental Impact Assessment Decree N0. 86 1992 Act Cap. E12 L.F.N. 2004
The National Oil Spill Detection and Response Agency	The National Oil Spill Detection and Response Agency (Establishment) Act N0. 15 of 2006
The Federal Ministry of Environment (FME)	The 1999 Constitution of the Federal Republic of Nigeria

Other agencies have also been established in various sectors by different enabling legislations such as the Department of Petroleum Resources (DPR) which issues permits and also regulates environmental related issues for the oil and gas sector. The constitution also empowers each state to make laws within its jurisdiction, which protect its environment.

Enforcement and Compliance

The general approach taken by agencies in the enforcement of environmental law is to create regulations and guidelines to tackle environmental damage so as to prevent such damage. They also monitor potentially harmful activities and adopt punitive measures in cases where damage which could have been avoided, occurs. The other state run environmental bodies take the same approach as the federal counterparts. NESREA makes regulations, guidelines and standards for the protection of the environment. So far the agency has created thirteen regulations as a guideline for different sectors of the economy. The FME issues guidelines for environmental impact assessment to be used in different industries.

In addition, the agencies monitor the environmental regulations enacted by each state, ensures those regulations are being adhered to and issues licences and permits. The NESREA Act mandates the NESREA agency to enforce compliance with the provisions of international agreements, protocols, conventions and treaties on the environment and other such agreements as may, from time-to-time, come into force.

The EIA Agency ensures that environmental impact assessment reports are conducted by all private or public companies involved in projects which may have an impact on the environment. A casual look at our surroundings shows reckless attitude of people towards environmental preservation. We might be doubting if the fearful reports are real or justified, but we concede that man must correct the deterioration on his habitat before the pollution of the environment gets out of hand.

It is against this backdrop that the National Environmental Standard and Regulation Enforcement Agency (NESREA) has set a stage for the sensitization of Nigerians on the importance of clean environment. The agency said it will soon begin the enforcement of environmental regulations in the country after a sensitization workshop for the public and operators in the key sectors that will be affected by the 24 environment regulations currently in place (Okpara, 2012).

The Deputy Director and Lagos Coordinator of the agency, Mrs. Eunice Eze who disclosed this to newsmen in an interview said the workshop with the theme. "Operationalising the Implementation of the National Environmental Regulations" would help prevent the spread of diseases in the country, adding, "It has become necessary to invite the stakeholders to sensitize them on the importance of complying with the regulations. There are key players. So, we will make sure that all of them are invited to sensitive them to comply with the regulations stipulated for them".

However, the rate of environmental degradation in Nigeria today is worse than the pre-NESREA days. These problems raise new and complex issues, which requires going beyond the objectives and strategies of NESREA.

Strategies for Effective Enforcement and Compliance

Governmental intervention to regulate environmental pollution through law, establishment of regulatory agencies and imposition of sanitation to deter polluters may to certain extent enhance social welfare. However, these efforts may be inadequate, resulting in failure and sub-optimal environmental results unless adequately complimented with other measures. Nigeria continues to experience complex environmental problems of atmospheric, noise and water pollution, oil pollution, climate change including flooding, coastal erosion (Ajani, 2010) and perennial oceanic surge and municipal solid waste management (Amokaye, 2012). The reasons for such regulatory failure are varied, complex and wide. Many regulatory frameworks fail because government lacks necessary information and data to regulate environmental pollution (Daniel, 1996). There is also the problem of designing best practices to secure effective and efficient enforcement and compliance with international and municipal environmental laws. Thus environmental benefits arising from existing legal and institutional frameworks are minimal and sub-optimal resulting in social and environmental welfare losses which include increased emission of noxious and dangerous substances into the environmental, exposure of citizens to risk of epidemic, cancers and other related diseases associated with environment and degradation of the ecosystems.

For effective regulatory enforcement and compliance, the following strategies should be adopted.

1. Sound Legal Framework

For law to be continuously relevant in the sustainable development paradigm there must exist a sound legal framework for environmental protection and such legal framework must possess three essential characteristics (Amokaye, 2012). These include (a) It must be legally binding in nature and apply equally to all those issues addressed by them and should be based on sound social, ecological, economic and scientific principles.

- b. It should be made upon consultation with the people they affect and realistic in terms of implementation and transparency.
- c. There should exist an efficient and honest regulatory body for environmental monitoring and surveillance to ensure appropriate application of legal rules.

2. Capacity Enhancement

It is necessary to enhance the capacity of FME, NESREA and other responsible organizations to enforce environmentally friendly practices and move towards achieving sustainable development. This could be accomplished through

- a. Expanding the fundamental objectives and state policy in the constitution to include sustainable development as a national goal

- b. The government adopting the Polluter Pays Principle (PPP) as an instrument of environmental protection policy and management.
- c. Speedy translation of international agreement protocols and conventions on environment and application into national laws and regulations and their enforcement.

3. Integration of Environment into Economic and Sectoral Policies, Planning and decision making processes.

To integrate environment into economic and sectoral policies, planning and decision making processes includes: (a) Improving the provisions of the EIA Decree 86 of 1992, and ensuring its proper implementation. (b) in parallel with current practice at the federal level, establishing Sustainable Development Units (SDUs) in state budget and economic offices as the SDUs in the National Planning Commission and the Urban and Regional Planning Department of the Ministry of Works and Housing to enable sustainable land use management (c) adopting the system of National Accounting to adequately reflect the extent to which economic development activities have increased or decreased environmental pollution and natural resources on which future economic and social development depends (UNESCO, 1992)

4. Harmonization of Federal, State and Local Government responsibilities

An important step to achieving compliance and enforcement is to harmonize and enhance cooperation among the three tiers of government in the implementation of environmental laws and policies affecting the people. As opposed to the present confrontation attitudes where Federal, State and Local Governments regard each other as competitors, and jostle for relevance, the administration of the Nigerian state particularly from environmental perspective, must be done in a way to promote cooperation among the tiers of government because environmental damage has no trans-boundary hindrance (Amokaye, 2012).

5. Participation and Cooperation of other groups: Achieving compliance with environmental laws also includes (a) the installation of very effective machinery to enhance environmental awareness through public enlightenment and environmental education at all levels of the society (b) establishment of environmental data banks and information networks (c) creating avenues for building consensus and for the exchange of information among all stake holders and interest groups and (d) strengthening of mutually beneficial relationships with bilateral and multilateral environmental bodies including regional and international NGOs. When people become aware of the effects of their unwise use of the environment and are well-equipped with the techniques of environmental management, enforcement as well as compliance becomes effective and the national policy on environment will be easily achieved.

6. The use of Cost – Benefit Analysis: In choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages, distributive impact and equity) (Amokaye, 2012). In choosing environmental regulation suitable for environmental management, it is important to ascertain if the regulation will achieve the stated goals at the lowest possible cost, including both private sector compliance and public sector monitoring and enforcement. It should also be flexible to changes. There is also the need to streamline some environmental laws as well as agencies responsibilities to reduce cost and wastage associated with the administration of environmental challenges in Nigeria.

Conclusions

This paper in examining the various environmental pollution challenges facing Nigeria, as well as the environmental laws and regulations, also identified the core agencies responsible for enforcing these laws. It also discovered that enforcement of these laws and compliance are yet to be achieved as evidenced by the current level of environmental degradation in the country. However practical strategies for effective enforcement and compliance which entails a change in approach to environmental governance were offered. Government should also live up to its responsibility by been responsive to the plight of its citizens through providing basic amenities especially electricity. Environmental education at all levels of the society is highly indispensable in order to promote attitudinal change towards the environment which is a major step to tackling the environmental pollution challenges in the country.

Referenecs

- 5th Sharma, B.K. (2007): Environmental Chemistry 5th ed, *Goel publishing house, meerut.*
- Aja, J.O (2005): Environmental Education as a Panacea for a sustainable development in Nigeria: School environment in focus. *African J. of Environ. Laws and Dev. Studies.* 1 (1): 114-127.
- Ajani, J (2012). Rage of Nature: Flood ravage's communities across Nigeria: *Vanguard* 7th October. (available online @ <http://www.vanguardngr.com/2012/10/rage-of-nature-flood-ravages-communities-across-nigeria/>).

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- Amokaye, O.G (2012): Environmental Pollution and Challenges of Environmental governance in Nigeria: *British Journal of Arts and Social Sciences* 10 (1): 26-41.
- Asia, A.B (2000): Waste Land filling and waste incineration in Sylhet. *Report prepared for Sylhet City Corporation, Asia Urbs-Sylhet partnership, Bangladesh.*
- Babalola, Y.T., Babalola, A.D., Okhale, F.O. (2010) Awareness and Accessibility of Environmental information in Nigeria: evidence from Delta State. *Library Philosophy and Practice Retrieved 2/02/2014.*
- Daniel, E. (1996): Towards Optimal Environmental Governance. *NYULR* 74 (6): 1508 – 1515.
- Evelyn M.I, TayV, T.T (2012): Environmental Pollution in Nigeria: the need for awareness creation for sustainable development. *Journal or Research in Forestry, Wildlife and Environment* 4(2):
- Gbehe, N.T. (2004): Land Development in Nigeria: An Examination of Environmental Degradation Associated with land use Types. *Paper delivered at the Department of Geography, Benue State University (B.S.U) Makurdi* Jan, 2004.
- Jande, G.G (2005): Legal Mechanisms for the control of pollution on the high seas. *African J. of Environ. Law and Dev. Studies.* 1 (1): 1-13.
- Joint Professional Training and Support Intl (JPTSI) (2012): Environmental Impact Assessment study manual, *JPTs Lagos Nigeria.*
- Kempt, D.D (1999): The environmental dictionary. London. *Routledge.* P 12 9. *Questia.com Retrieved 30/06/2009.*
-

- NEST (1992): The Challenge of Sustainable Development in Nigeria. *An NGO Report prepared for United Nations Conference on Environmental and Development*, Rio de Janeiro, Brasil June 1-12: pp 152-172.
- Obajimi, M.O (1998): Air pollution-A threat to healthy living in Nigerian rural towns. *Proceeding of the Annual Conference of Environmental Protection Society of Nigeria*, Ilorin.
- Ocheri, M.I (2003): Environmental Health Hazards and national survival and stability: A need for Education. *Benue State University J. of Edu (BSUJE)* 4 (2): 67 – 174.
- Okpara S. (2012): Enforcing Environmental Regulations in Nigeria. *Retrieved 20/1/2014*.
- Olokesusi, A (1987): Characteristics of Environmental Problems in Nigeria and Management Prospects. *The Environmentalist*. 7 (1): 55-60.
- Omofonmwan, S.I.; Osa-Edoh, G.I (2008): The challenges of environmental problems in Nigeria. *J. Hum. Eco*(23(1):53-57.
- Onwuachu U.I (2007): Science and Technology for sustainable development: Challenges for the developing countries in the 21st century and strategies for solution *Journal of Scientific & Industrial Studies* 5 (3): 89-94.
- UNESCO (1992): Report of the United Nations Conference on Environment and Development (UNCED) Rio de Janeiro, 3-14 June <http://www.un.org/documents/ga/conf/151/aconf15126-lannex 1:htm>.