

Ethics and Sustainable Earth Economy: A Public Policy Analysis

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Abstract

Ethical approach to public policy analysis in relation to the preservation, protection and the improvement of human environment is gaining currency as environmental degradation and pollution continue unabated. The paper examined the critical role of ethics in public policy choices and decision making with a view to provide a middle ground or a fair deal with respect to the contradiction between economic growth and sustainable economic development. Theoretical explanations were attempted to provide a framework for the discourse such as the ecological modernization theory. Similarly, an evaluation of the Pareto-optimality and the alternative measuring toolkit, the cost-benefit analytical approach was attempted using a particular case study with a view to also understand the strengths and weaknesses of the two policy decisional tools for public goods, putting into consideration market and welfare economics with particular emphasis on the environment. The paper established that no society has ever reduced environmental pollution to zero level, hence, the expectations of present generation to pay the costs of environmental degradation and pollution for the benefits of the future generation is an ethical issue. The paper argued that the damage already done to the Earth and the resolve to minimize any additional damage through policy of equity and fair deal are moral and ethical responsibilities of the present generation. The paper concluded that ethical judgments vary with situation confronting nation-states as Pareto-optimal rule and the costs-benefits analysis cannot resolve the dilemmas of choice and decision making which require ethical criteria in the efficient allocation of resources (i.e. land resources) and fairness or equity on the issue of who pays for degradation and pollution control in public policy analysis given the character of politics, bureaucracies and economic interests that usually eclipse sound moral judgments and values of public policy actors.

Keywords: ethics, economic growth, sustainable development, public policy

Introduction

The survival of humankind on Earth is strongly connected to his economic activities given the quality and availability of economic goods for his satisfaction. This in effect, suggests that the quality of certain economic goods such as education, food, clothing, shelter, water, oxygen, health care etc, constitute some human economic needs necessary for human survival. Consequently, the available economic resources at the disposal of humankind are very critical to the production of goods and services for humankind's consumption and welfare. Economic resources therefore, can be categorized into three i.e. natural resources, capital or intermediate goods and labour (Miller, 1993:146; Parkin, 1998:42; Lipsey and Chrystal, 2004:40). However, the emphasis of this paper dwells essentially on natural resources, that is, resources produced by Earth's natural processes. These forms of Earth capital which according to Miller (1993:146) include the actual area of Earth's solid surface; nutrients and minerals in soil and deeper portions of Earth crust; wild and domesticated plants and animal, water, air, waste disposal, pest control, nature's dilution and recycling services.

Environmentalists and economists over the years have proposed a shift from Earth degradation economy to sustainable Earth economy. The basis and rationale for this proposition was hinged on the fact that, the current form of capitalism and communism and all other forms of economic ideologies have not worked out well sequel to the parasitic tendencies or relationship with the Earth capital (Miller, 1993:151; Giddens, 2009:195). For example, in Nigeria, the management of the natural environmental transformation is important to the attainment of sustainable development not only because of the local and global dimension of environments, but because of the devastation that can result from environmental mismanagement and its attendant degradation (Olomola, 2003:76). It is worthy to note that deterioration of the natural environmental quality has negative consequences on health, productivity and wellbeing of the citizens. Besides, reduced nutrient and ill-health for example, can also lead to human productivity losses and at the same time, raises the incidence of poverty (Olomola, 2003:76). However, in nations that are predominantly agrarian economy; such nations have a lot to lose from environmental problems that are associated with droughts, flood, desertification and erosion among others. Therefore, not only will agricultural performance be worst hit, there are also the tendencies for adverse consequences on food security in which agricultural GDP and the overall GDP will be negatively affected and these situations might render policies of economic recovery of the State a futile venture (Olomola, 2003:76).

In view of the above, and to checkmate these serious and devastating flaws, environmentalists and economists have agitated for a move from Earth plundering economy based in addition to unlimited economic growth to an Earth sustaining economy based on cooperation with the Earth and recognizing the wealth that truly sustains humankind is not money or property but the mother Earth (Miller, 1993:152). Consequently, the

emphasis of environmentalists and some economists which according to Miller (1993:152) dwells on the fact that, there is need to redefine what wealth, progress and national and global security is; and by this, ordinary citizens will be able to understand that global, national and local security depend on treasuring and putting infinite value on air, water, soil and wildlife that keep humankind alive. More so, humankind needs to see every human species as equally important, unique, precious and not primarily as workers and consumers and human economic machine (Olomola, 2003:152). And as Botkin and Keller (1998:641) put it “we must revere and love the land and not see it solely as an economic commodity to be used and throw away”. In this regard, economics as a limited subsystem of the ecosphere should not be used to dominate and degrade the Earth for short –time financial gains at the detriment of the entire ecosystem. The focus of this paper therefore, is to examine the morality of environmental policy-decisions, policy-choices and the morality of sustainable Earth economic behaviour within the context of the utilization of Earth resources or capital with particular emphasis on the inherent contradictions between economic growth and sustainable economic development and its attendant dysfunctional consequences to humankind, animals, plants and the mother Earth.

Ethics

Ethics according to Omoregbe (1990; 152); Keith and Frederick (1984:76) is a branch of philosophy which deals with the morality of human conduct. The term ethics is derived from the ancient Greek ‘ethos’ meaning moral character such as social rules or inhibitions from the society. For some economists, ethos exists in some notable theories such as Marxism, social ecology etc, while, from professional stand point, ethics refers to elements of professional practices or conduct (Nlerum, 2011:132). Great moral philosophers through the ages such as Socrates, Plato, Aristotle, Epicurus, St. Augustine, Kant, Bentham etc, have provided theories of ethics that can be used to determine the ethical course of action in any given situation humankind finds himself (Nlerum, 2011:132). These theories range from consequentialism, value clarification, utilitarianism, moral absolutism, situational ethics, ethical realism, ethical hierarchicalism, principle ethics, to cognitive ethics. Given the above range of ethics, it is evident that overtones of morality is reflected in all sphere of human conscience and behaviour and as equally observed by Nlerum (2011:133-134) in the following disciplines:

- Economics : ethics plays a role in the distribution of scarce resources
- Sociology : ethics is rooted in the dynamic of groups such as in intra/inter group relations
- Political Science : ethics plays a role in the allocation of power
- Law : ethics plays a role in codifying ethical constructs
- Psychology : ethics plays the role of defining, understanding and treating unethical behaviour
- Criminology: ethics plays the role of rewarding ethical behaviour and discouraging un ethical behaviour
- Hard sciences such as biology and ecology: ethics is better referred to as bio-ethics and environmental ethics.

Generally speaking, ethics is traditional divided into fields such as meta-ethics, normative ethics and applied ethics (Nlerum,2011:134). Ethical principles have therefore, been applied to diverse fields such as economics ,politics, family structure, sexuality, roles of individuals, war and the policy analysis of human use of the Earth’s limited resources which is the thrust of this paper. It must be emphasized that the application of ethics to policy analysis of human use of Earth’s limited resources raises the questions of morally right and wrong public policy decisions in relation to the management, protection, degradation, endangerment of the natural environment considering de-industrialization and ecological modernization theses within the purview of sustainable development debate. A good example in this regard, is the trade-off between a clean environment and a high level of income with its attendant opportunity cost, as the laws that require firms to reduce pollution raise the costs of producing goods and services (mankiw, 1998:5).

Public Policy Analysis

Policy analysis is a derivative of policy sciences which has benefited from the predictive apparatus of positive economics (Friedman, 1953 as cited in Idachaba, 2006:5) and for the normative economic concept of equity (Idachaba, 2006:5). Public policy according to Ujo,(2011:3) is government decision or no decision designed to address various social problems (as in this case environmental problems). Public analysis therefore, refers to the means in which various alternative policies decisions or means are selected for achieving a given set of goals in light of the relation between the alternative policies and goals(Ujo,2011:3).As noted by Ujo (2011:4), public policy can be divided in to three categories such as distributive, re-distributive and regulatory. Distributive policy involves the allocation of benefits to a particular group of population and the essential feature of distributive policy is that government fund is used to assist a particular group or organization. Re-distributive policy on the other hand, is aimed at shifting the allocation of wealth, income, property right among broad category of classes groups of a population. While, regulatory policy imposes some restrictions on the behaviour of individual groups (Ujo, 2011:6-7).The public policy analytical approach to this discourse lies within the purview of environmental policies and rooted in the political, economic and social systems. The political,

economic and social systems find expression in the constitutional frame work of the State, the State's politico-economic ideology, the value system of the population respectively.

Earth Economy

Economics as a subject matter is a science of administration or management of scarce resources to meet human needs efficiently (Mankiw, 1998:5; Cunningham et al., 2007:518; Ajisehiri, 2011:34). An important objective of economics as observed by Ajisehiri (2011:34) is to suggest ways in which social management of resources can be improved to reduce the scarcity of available commodity. Therefore, the term Earth economy in this discourse is conceived as Land resource economy. Over the years, economists referred to all natural resources as Land which focuses on the economics of the utilization of natural resources (Robert, 2008 as cited in Ajisehiri, 2011:34). The concept of land as adopted by classical economists and as equally observed by Maureen (1992) cited in Ajisehiri (2011:35) include not only natural terrestrial resources but also marine and other aquatic resources as well as those below the Earth's surface such as mineral. Thus for Ajisehiri (2011:35), the subject of natural resource economics, environmental economics and ecological economics overlaps substantially in their coverage. Ajisehiri posited that natural resource economics, environmental economics and ecological economics are all conceived with the analysis of the basic economics of managing resource use so as to reduce economic scarcity. For example, natural resource economics was previously known as land economics which emerged as a focus of interest in the early development of economics (Ajisehiri, 2011:35). Besides, Quensnay (1699-1774), as argued by Ajisehiri was the most widely known land activist who tended to stress agriculture and quality of land as the foundation for the circulation of economic wealth. However, the interest of political scientists and economists in natural resources as influenced by economic wealth of nation is of very long standing (Ajisehiri, 2011:36).

Ajisehiri, noted that during the late 18th century and in the 19th century, interests in natural resource economics accelerated as a result of enquiries about whether there are limits to economic growth and what possibly determine the limits or better still, what are the main factors that determine long-term economic possibilities and the likely extent of resource scarcity that humankind dare (i.e. land resources in the future). In an attempt to provide answers to these questions, two main constraints on economic growth emerged (Ajisehiri, 2011:36). They are:

- The diminishing marginal productivity land suitable for agriculture
- The need to engage in more marginal mining operations as minerals in the most productive mines are exhausted or become more difficult to recover

However, it is imperative to emphasized that, the constraints of economic growth as posed by what Malthus (1798) referred to as 'niggardliness' which equates to the fact that, an increase in income levels would be unsustainable should there be a significant rise in population levels. This condition therefore, prompted Malthus to suggest policies that would restrain population growth. Moreover, scientific and technological progress has also been identified to delay the spectre of increasing resource scarcity. In the same vein, Ricardo (1817), as noted by Ajisehiri (2011:37), recognized that scientific and technological progress could be counteracting force to the effect of diminishing resource productivity or economic scarcity. In a similar writing of Engel (1844), Engel was most dismissive of the possibility that limited available natural resources of diverse productive quality would place a limit on economic growth as nothing is impossible for science (Ajisehiri, 2011:36). Thus, the debate about the ability of the development of science and technology to offset increasing scarcity of natural resources continues unabated and as such, economic exploitation of natural resources emerged which covers economics of mining, the utilization of natural forests and wild fish stocks and the role of natural resource use in agriculture (Ajisehiri, 2011:36-37). In sum, the main focus of economic growth is primary production of industries that depends heavily on the use of natural resources as the quality of these resources could decline due to pollution and environmental deterioration caused by humankind's activity (Ajisehiri, 2011:37). It is also important to emphasis that economic growth is an increase in real GNP per capita over time but the observation of such trends does not result to the fact that growth is sustainable (Pearce et al., 1989:31). Therefore, sustainable economic growth on the other hand, is that real GNP per capita is increasing over time and the increase is not threatened by 'feedback' either from bio- physical impacts such as pollution, resource problems etc, or from social impacts such as poverty social disruption etc (Pearce, et al., 1989:31). There are of course, several reasons while sustainable economic growth is justified and seen as desirable moral value. These reasons which according to Holmberg and Sandbrook (1992:22) include

- Non suitability between environmental assets i.e. Ozone layer cannot be recreated
- Uncertainty i.e. our limited understanding of the life supporting functions of many environmental assets dictates that they be preserved for the future
- Irreversibility i.e. once lost, no species can be recreated
- Equity i.e. the poor are usually most affected by bad environment than the rich

Sustainable Earth Economy

Environmental degradation is in recent times receiving increasing recognition by governments, aid agencies and the general public as key economic development issues. This is consequent upon the depletion and degradation and the mismanagement of natural resources which has imposed high costs on developing economies. The impacts of environmental degradation often occur externally to any market system (Barbier et al., 1992:65). For example, Barbier and his associates noted that Third World economies especially those of the lower –income countries are highly dependent on primary production as the foundation of long-term sustainable economic development. Thus, maintaining or increasing primary production in agriculture, fishing, forestry and mining absolutely depends in turn on efficient and sustainable management of the Earth resource base which supports human activities (Barbier et al., 1992:65). In the same vein, Barbier and his associates argued that as developing countries industrialize and as their population increase and concentrate in urban settlements, the role of the environment in assimilating waste products will become increasingly important. Similarly, protection and conservation of key natural systems will be essential, not just for all potential value of genetic resources, recreation and tourism but, also because these systems provide important ecological functions which support economic activities and humankind welfare (Barbier et al., 1992:65). Therefore, sustainable Earth economy is a sustainable development which extends progress without exhausting resources beyond the foreseeable future. It is a sustainable development in which either per capita utility or well being is increasing over time with free exchange or substitution between natural and man- made capita or that per capita utility or well being is increasing over time subject to non-declining natural wealth (Holmberg and Sandbrook, 1992:22; Cunningham &Cunningham, 2006:329).

Towards Theoretical Explanation of Sustainable Earth Economy

In the nineteenth and twentieth centuries, the political economy of modern societies have been dominated by class conflicts of interests between owners of the means of production and labourers (non owners of the means of production), between workers and employers and specifically in Marx’s term, between the property owning capitalist class and non owning property working class (Giddens,2009:194). Giddens was of the view that in this era, industrial conflict was predominantly an issue of wealth distribution as trade unions and labour parties sought a more equal of socially produced wealth. However, Ulrich Beck (2002) took a radical view when he argued that the distribution of conflict is losing its importance as environmental risks are rising in post industrial time. As such, he posited that more people are beginning to realize that the fight for a share of the wealth or national cake is inconsequential when the cake itself has been poisoned as a result of Earth plundering economy (Beck, 2002:128). To put it more clearly, Beck argues that:

The knowledge is widespread that the sources of wealth are polluted by ever growing dangerous side effect which were not at all new, but has remained un-noticed for a long time in effort to overcome poverty. Besides, in the risk society, the un-known and un-intended consequences come to be dominant force in history and society (Beck, 1992:20-21).

In the same vein, Giddens (2009:194) noted that the widespread of industrialization produces more widespread and potentially serious side-effects in the form of environmental risks. Giddens maintained that industrial societies are slowly dissolving as environmental problems built up which obviously was an un-intended consequences of the push for economic growth and material prosperity. However, Beck (1999) contended that humanity today live in a world risky society, a new type of society in which risk consciousness and risk avoidance are increasingly becoming focal points. As Earth degrading economy does not have national boundaries no matter where industrial production and consumption take place. It must be stressed that the Beck’s risk thesis has suffered some criticisms as Sutton (2004) argued that there is yet no substantial evidence for Beck’s risk theory of the transition to risk society. More so, Beck’s risk theory has also failed to put into consideration cultural variability in the definition of risk (Douglass, 1994; Scott2000) as cited in Giddens (2009:195).

In this regard however, it cannot be gainsaid that there is a widespread awareness of environmental risks in the society. Evidences of these abound and, in effect, have informed the various international Treaties such as the Kyoto Protocol and the Earth Summit in Rio-de geneirio Brazil in 1992. According to Giddens (2009:195), the concept of risks holds a special place in current sociological debates on environmental issues and the direction of social change. As people become sensitized to risks, the arguments of environmentalists begin to make sense worldwide and to virtually all and sundry for a concerted effort to provide remarkable solutions.

The Ecological Modernization Theory

It has been argued by environmentalists that both capitalist and communist forms of economic systems and modernization have significantly failed (Miller, 1992:151; Giddens, 2009:195). In fact, Giddens argued that these two forms of economic system have delivered wealth and material success but at the price of massive environmental damage. This situation according to Giddens (2009:195) has prompted social scientists to develop

the ecological modernization theory which rejected the radical environmentalists' solutions which involves de-industrialization. Rather, the ecological modernization theorists focus on technological innovations and the use of market mechanisms to bring about positive changes and out-comes that would transform production methods and reducing pollution at its source (Giddens, 2009:195). The ecological modernization theorists foresaw the possibilities of leading European industries to reduce the usage of natural resources without it affecting economic growth. Though, the ecological modernization theorists maintained that such strategies may look unusual but does have a certain logic undertone. Instead of rejecting more economic growth, the ecological modernization theorists maintained that, an ecological form of growth is theoretically possible (Giddens, 2009:195). For example, the introduction of catalytic converters and emission controls on motor vehicles according to the ecological modernization theorists have shown that advanced technologies can make a big difference to greenhouse gas emissions. In this regard, ecological modernization theorists also argued that if consumers demand environmentally sound production methods and products, then markets mechanisms would be forced to try and deliver them (Giddens, 2009:196).

The ecological modernization theory proposes ecological transformation in five institutional and social structures. They include the following according to Mol and Sonnenfeld (2000) as cited in Giddens (2009:96).

- Science and technology i.e. to work towards the invention and delivery of sustainable technologies
- Markets and economic growth agents i.e. to introduce incentives for environmentally benign out-comes
- Nation-states i.e. to shape market conditions which would allow the above to happen
- Social movements i.e. to put pressure on business and the state to continue to move in the ecological direction
- Ecological ideologies i.e. to assist in persuading more people to get involved in the ecological modernization of the society

For Giddens (2009:196), science and technology have a crucial role to play in developing preventive solutions, building in ecological considerations at the design stage as this would transform current polluting production systems.

Nation-State and Sustainable Earth Economy

The attempt by most nation-states to shift from current Earth degrading economy to sustainable Earth economy requires not only ethical underpinnings just as the ethic behind capitalism, but strict international and national legislations, strategic urban planning and transport , local and individual lifestyle (Planet Forward, n.d.; Miller, 1993:151). That is why Swanson (1979:316), posited that through interaction come many of the values that determine and define humankind's attitudes and lifestyles. The emphasis of Swanson in this connection, is the fact that, the physical and psychological requirements of cultures, sub-cultures, and individuals are too varied to be integrated into a given ethic as there are different rational behind the preservation, alteration, utilization or destruction of any particular landscape (Swanson, 1979:316). Nevertheless, the inescapable fact still remains that, there is no practical substitute for land surfaces, no matter how ingenious and advanced is science and technology of this era; humankind is dependent on the eco-system of which humankind is a part. However, radical environmentalists have suggested a simpler lifestyle that will consume less energy and reduce pressure on the Earth resources (Henslen, 2009:445). For Henslen, at one extreme are people who claimed to protect the environment and that humankind must eliminate industrialization and go back to a tribal way of life. And at the other extreme are people who are blind of the harm being done to the natural environment, who prefer the entire world to go industrial at alarming rate (Henslen, 2009:447). Henslen posited that a middle ground is to be reach wherein, humankind realizes that not only that industrialization has come to stay, but also that humankind can control industrialization. More so, and as noted by Henslen (2009:447), controlled industrialization can enhance quality of life; and un controlled industrialization will destroy the environment, thus it is essential that humankind develops ways to reduce or eliminate the danger that technology portends to the society and these include the mechanisms for strict monitoring of production, use and disposal of technology. Consequently, if humankind is to live in a world that is worth passing to the next generations, humankind must seek harmony between technology and the natural environment (Henslen, 2009:447). Hence, political strategy by nation-states for a sustainable Earth economy becomes very imperative and, it is on this premise that the embrace of ethics of sustainable Earth economy by nation states will discourages Earth degrading types of economic growth but encourages Earth sustaining activities to prevent over-loading and degrading Earth's life-support system at present and in the future (Miller, 1993:153). The ethics of sustainable Earth economy discourages societal behaviours and activities such as:

- Non- degradable and throwaway products as in the use of oil and coal, nuclear energy, over grazing, ground water depletion, soil erosion, resource waste and pollution clean up instead of pollution prevention
- The creation and satisfaction of wants that lead to high levels of pollution, environmental degradation and resource waste (Miller, 1993:152).

However, strategic fiscal policies in this direction also include:

- The use of taxes and market permits to internalize the external costs of goods and services so that market prices of all goods and services reflect true costs
- The removal of government subsidies from high pollution producing, resource- depleting and resource wasting economic activities
- The discouragement of policies and practices that support current living standards by depleting Earth's natural resource capital for present and future generation
- The requirements of a standard environmental audit for all goods with openness (Miller, 1993:153).

Aside strategic fiscal policies of discouragements, the ethics of sustainable Earth economy, one can argue, is embedded in the following philosophy:

- A demographic transition to stable world population
- Sustainable development that emphasizes growth in quality of life instead of the quality of economic goods which does not deplete or degrade the Earth's natural capital for current and future generation
- The preservation of biological diversity at local, national, and international levels by setting aside and controlling the use of forests, wetlands, grazing lands, soil, wild life and representative aquatic ecosystems
- The limit of waste discharge into the environments to the rate at which wastes can be diluted, absorbed and degraded by natural processes with no harm to humans, other species or the functioning of the natural processes
- The recycling, reuse, solar energy, improving energy efficiency, education, prevention, appropriate technology, waste reduction and long-lasting, reusable, easily repaired products (Miller, 1993:153-154).

It must be emphasized that the afore-mentioned behaviours, strategic fiscal policies and the philosophy underpinning the ethics of sustainable Earth economy revolve around the firm belief that:

- Economics is a sub-system of the eco-sphere and as such, it must be integrated with ecology and decision making as most important condition
- Government subsidies and taxes must be used to encourage pollution prevention, resource conservation and waste reduction and the sale of marketable permit for resource extraction
- International lending institutions such as the World Bank, IMF and governments must be required to make loans that will only enhance the transition to sustainable Earth economy (Miller, 1993:154).

Nation-State, Neoliberalism and Environmental Politics: A Case of SAP in Developing Economies

The rise of neoliberalism in the 1980s and its institutionalization in the 1990s marked the beginning of a new direction to economic reforms. For example, the goal of neoliberal economic reform was to re-orientate especially Third World countries towards free market system (see, for example, Umorem, 2001:27; Omitola, 2011:208). It is worthy to note that the reduction of the State under neoliberalism (Castree, 2008:142) and the attendant reconfiguration of the State, market, civil society relations has indeed shifted the landscape of 21st century environmental politics (Corson, 2011:108). This condition became obvious when virtually most Third World countries adopted the neoliberal economic reform strategy branded in different nomenclature but widely adopted as Structural Adjustment Programme (SAP). The tenets of SAP include de-regulation of tariffs, encouragement of exports, liberalization of trade, privatization of poorly run public enterprises for better efficiency and commercialization of certain services and infrastructures hitherto social services (Omotayo, 2011:208). The attempt by Omotayo to re-assess both the short and long term effects of SAP from environmental science stand point on African States national environment was premised on the socio-historical structure of environmental control in African societies, failure of the free market mechanism, over exploitation of resources, under pricing of environmental goods, under evaluation of environmental degradation and the decay of urban environments in Africa. However, Arrow (1970:61-62) argued that the economic implications of the Earth system in terms of interlinkages, complexities and dynamic equilibrium were the basis for the production of economic externalities. Arrow (1974) as cited in Omotayo (2011:210) noted that the justification of environmental abuse by neoliberal economic reform strategy may be considered from the point of view of optimality in Perato's sense (see, for example, Cornes & Sandler, 1996:68-69) thus raising two fundamental questions whether in the social context, humankind can control the abuse of the environment if some groups of persons in the society benefit from the gross abuse of the environment and that would people in the society prefer short-term economic gains at the expense of environmental conservation? For Arrow, the state of affairs engendered by SAP at the time of its introduction was an in different posture by the majority of the people to environmental protection which prompted the much approval and wide spread support for SAP. The implications according to Omotayo (2011:210) were that peoples' right pronouncements and judgments of SAP went beyond environmental scientists ethical principles. Cooper (1979:15) posited that the strongest challenge faced by environmentalists was that traditional welfare economics could not measure the costs of loss of social utility using Pareto-optimality rule which looked for efficiency (i.e. the profitability of the uses of factors of production

for both individual and for social benefits) and not equity. Cooper (1979:15), argued that a rational and objective economic measure of environmental degradation is non-existent and this condition according to Cooper is referred to as irreducibility of externalities. More so, where this condition occurs, cost-benefit analysis must be introduced to attain Pareto-optimality (Pareto improvement). In this connection, Omotayo (2011:210), concluded that the criteria for categorizing public goods in Africa must change in response to the major tenets of neoliberal economic reform if the use of environmental resources is to have a sustainable future since the Pareto-optimality could not be seen as a fair deal, more so that Pareto-optimality rule presupposes that neoliberal economic strategy of a perfect competition and efficient allocation of resources of production is faulty and should have been put aside.

Neoliberalism and Externalities

The production of goods and its distribution and the use of economic goods or services involve externalities which can either be social benefits “goods” or social costs “bads” and usually un-intended and not included in the market price of an economic goods and services (Miller, 1993:147; ELC, 2007:21). For example, factories producing raw materials for heavy or light industries (such as automobiles and house paints) in which the automobiles sold emit pollutants into the environment as well as the waste of the chemical industry pollute the water body in the environment. Their harmful effects are external costs passed on to society as a burden and in certain instances to future generations. To this effect, and as noted by Miller (1993:147), insurance industries become a veritable tool to mitigate the ill effects of external costs and invariably health and medical bills go up for everyone who seeks the services of medical professionals. In the same vein, air pollution from automobiles and waste from chemical industries may be hazardous to ecosystem, thus raising the price of commodities such as lumber, paper etc, especially if these harmful effects are observed in the forest.

It is also evident that taxes may increase because the State may need or spend money to regulate the land, air and water pollution and the degradation caused by producing and using automobiles and by mining and processing raw materials used in heavy and light industries (Miller, 1993:147; ECL, 2007:42-43). In sum, environmentalists are of the view that the increase in harmful or negative externalities is a clear and dangerous signal that the economic systems more especially, Neoliberalism as earlier elucidated in this discourse are seriously stressing the ecosystem (Miller, 1993:147). For pro-growth advocates however, externalities have been observed to be minor imperfections in the economic system which can be cured from the profits made from more economic growth (Miller, 1993:148). The ethical and moral questions regarding the internalization of external costs by producer are that: should producers be rewarded for degrading, polluting, depleting and wasting resources? Or should a producer be at a competitive disadvantage having believed that it is morally wrong to pollute environment any more than can be handled by Earth natural processes? Knowing well that his profits will decline and his industry may go moribund for taking very expensive pollution controls measures which other market competitors disregarded.

Miller (1993:148; ELC, 2007:21) in this regard, posited that that the addition of taxes, the passage of strict legislations and other policy-strategies by government such that producers will include by force these expenses in market price of all economic goods as potent and reliable way to deal with the problem of external costs. Consequently, the market price of an economic good would be the true cost which is the internal costs plus its short and long-time external costs. That is why Miller (1993:148), maintained that internalizing external costs by producers requires the strong political will of nation-states as very few people (i.e. producers) will be willing to increase their cost of business unless other market competitors follow suit. However, Miller argued that, if enough of external costs of pollution and resource waste were internalized, economic growth would be redirected, there would be increase in the beneficial parts of the GNP, and decrease in harmful parts increased the production of beneficial goods, raised the net economic welfare and help sustain the Earth. More so, pollution control and waste reduction, recycling, and re-use would be more profitable than waste management. A major drawback according to Miller (1993:148) is the fact that, at times, it is difficult to internalize external costs because it is not easy to put price tag on all harmful or negative effects of making and using economic goods as people disagree on values they attached to various costs and benefits.

Cost-Benefit and Environmental Public Policy Analysis

The Cromulent Economic Blog (2005: unpagged), observed that the notion of zero pollution objective is not an ideal policy to be pursued and that this notion is a fundamental challenge for most environmental economists. It is argued by environmental economists that if pollution is bad, shouldn't the States design policy to completely eliminate pollution (The Cromulent Economic Blog, 2005: unpagged). The State according to The Cromulent Economic Blog often recommend policies that appear on the surface to be anti-environmentalist, yet the state has genuine concern for solving environmental problems. Again, the ethical question is: can this observation be reconciled in response to efficient allocation of public goods with respect to public choice and taking cognizance of ethical criterion? Providing an answer to this question, The Cromulent Economic Blog (2005: unpagged)

argued that the answer lies in understanding scarcity, as humankind has unlimited wants but live in a world with unlimited means. Moreover, the scarcity of resources provided the foundation for economic decision making, hence, scarcity of resources devoted to one end or course are not available to meet another which brings about opportunity cost of any action which include environmental policy.

For example, funds used by the State to clean up oil spillage in its water bodies cannot be used at the same time to provide social services to its citizenry. Hence, environmental economists are confronted with the challenge of recommending policies that reflect scarcity in this particular context at the societal level (The Cromulent Economic Blog, 2005: unpagged). It is worthy therefore, to note that for both individual and society, scarcity informs trade-offs and the reality underpinning trade-offs will definitely make the complete elimination of pollution undesirable when opportunity cost is put into consideration (see, for example, Mc Connell & Brue, 2005:32; ELC, 2007:31-32). While this is acknowledged, the ethical questions become how much pollution should be eliminated? How should this decision be made? Who gets to decide? In the bid to find answers to these public goods and public choice related questions, the cost benefit analysis is usually employed (The Cromulent Economic Blog, 2005: unpagged).

The cost-benefit analysis provides an organizational framework for quantifying and comparing the costs and benefits in monetary terms of a proposed policy action. Although, the final or overall decision may be informed and not necessarily determined by a comparison of the total costs (losses) and benefits (gains) (The Cromulent Economic Blog, 2005: unpagged; de-Rus: 2010:2). It is worthy to note that, the benefits (gains) derived from environmental regulations include for example, a significant decline in human and wildlife mortality, species preservation, improved water quality and better recreation opportunity which involves strict fiscal policy measures.

On the other hand, the costs (losses) are usually observed in higher prices for consumer goods and higher taxes as well. The costs that reflect in higher taxes have only market effects and are readily measure in monetary terms. While the costs that reflects in higher prices have none market effects for which monetary values are not directly feasible to be assigned and thus becomes a complex problem as value assignment is to be inferred and not observed (Barbier et al., 1992:81; The Cromulent Economic Blog, 2005: unpagged). However, some ethical questions posed are: should monetary value be assigned to un-abused natural habitat? Or/and should monetary value be assigned to a balanced ecosystem such as the mutual interdependent existence of diverse species of plants and animals? If the answer agrees that intangibles positive externalities are too valuable and priceless to be assigned monetary values, then the ability to use cost-benefit analysis becomes limited when environmental problems are put into consideration. Nevertheless, The Cromulent Economic Blog, 2005: unpagged) revealed that environmental economists tend to favour cost-benefit analysis in policy arena because of the discipline and transparency it provides in evaluating policy options, most especially, the evaluation of absolutes i.e. tangible externalities. Hence, environmental economists will on occasion advocate for environmental policy regulations that do not seek to completely eliminate pollution (The Cromulent Economics, 2005: unpagged).

Box 1: provides a case study of a typical environmental cost-benefit analysis.

Box 1: Comparative benefits of floodplain and upstream development in north east Nigeria

In north east Nigeria, an extensive natural floodplain occurs where the Hadejia and Jama'are rivers combine to form the Komadugu Yobe river, which drains into lake Chad. The Hadejia-Jam'are floodplain provides essential income and nutrition benefits in the form fertile soils for agriculture, grazing resources, forest products and fishing for local populations. The wetlands also serve wider regional economic needs, such as providing dry-season pasture for semi-nomadic pastoralists, agricultural surpluses for Kano and Born states, ground- water recharge of the Chad Formation aquifer and a reserve of wide foods and other natural 'insurance' in times of drought. In addition, the wetlands are an important winter habitat for many migratory birds, and contain a number of forest reserves. The region therefore has important tourism, educational and scientific potential.

However, in recent decades, the Hadejia-Jama'are wetlands have come under increasing pressure from drought, and from upstream and downstream water development. Upstream development are affecting incoming water, either through dams altering the timing and size of flood flows or through diversion of surface or ground-water for irrigation .Increased demand for water downstream, especially for irrigated agriculture, may lead to diversion of water past the wetlands, through construction of bypass channels. Intensified water use within the floodplain itself, notably for irrigated wheat production, is also putting pressure on the wetlands.

A recent study compared the economic benefits of fourteen agricultural crops, fuelwood and fishing in the Hadejia-Jam'are floodplain with the potential net returns to an upstream water development, the Kano River Project (Barbier, Adams and Kimmage, 1991).The economic importance of the wetlands demands that the benefits it provides must be considered an opportunity cost of any scheme that diverts water away from the floodplain system. When compared to the potential benefits of the Kano River project, however, the economic e return to the floodplain appear much more favourable, with a net present value per hectare over five times higher. This contrast is even more apparent when relative returns are compared in terms of average water use. Traditional exploitation of the natural floodplain is a far more efficient use of scarce water resources, yielding net returns per cubic metre over a thousand times higher than the anticipated returns from the Kano River Project.

Adapted: Barbier et al., 1992, p: 80

From the above case study, the traditional exploitation of the natural floodplain has been observed as far more efficient user of scarce water resources, yielding net returns per cubic metre over a thousand times higher than the anticipated returns from the Kano River project. This implies that; the forgone of Kano River Project (as opportunity cost) may have greater negative environmental impact as there is likelihood of increased environmental pollution or abuse of the Hadejia-Jama'are floodplain. While, the foregone of the Hadejia-Jama'are floodplain (as opportunity cost) may have lesser negative environmental impact as there is likelihood for less environmental pollution or abuse of the Kano River project. However, with respect to equity regarding public policy- decision for example, the forgone of Kano River Project may subject the populations that will rely heavily on the dam project for portable drinking water and other domestic water use to great difficulty and hardships. While the foregone of the of the Hadejia-Jama'are floodplain may equally portend doom for socio-economic activities in which the wetlands provides dry-season pasture for semi-nomadic pastoralists and agricultural surpluses for Kano and Borno states, ground- water aquifer and a reserve wild foods and other natural insurance in times of drought. In which case, a strong Pareto criterion becomes obvious in this situation should either of the project be embarked upon, that is, some groups are made better off while no group is made worse off (see, for example, Johansson, 1993:10-11).Therefore, if Pareto improvement is to be achieved in this particular situation, there is no denying the fact that ethical criterion would not be desirable to ensure a fair deal. However, the efficient use of scarce water resources given the exploitation of the natural floodplain as in this particular case study is still in accord with Pareto-optimality rule that is informed by traditional welfare economic approach which cannot measure the cost of loss of social utility using Pareto optimality as earlier argued by Cooper (1979:15; Grand Le et al., n.d. :140). In addition to copper's argument, cost-benefit analysis is an alternative analytical toolkit as the Pareto-optimality rule emphasizes on profitability of the uses of the factors of production for both individual and social benefits and not equity. Besides, Pareto-optimality rule is still fraught with what Cooper (1979:15) referred to as irreducibility of externalities wherein, rational objective of measurement of environmental pollution and degradation is non-existent. Although, the notion that the cost-benefit analytical toolkit is a better alternative is subject to debate (The Cromulent Economic Blog, 2005: unpagged).Then if cost-benefit analysis is assumed to have incorporated equity and fair deal in decision making(Pareto improvement) regarding environmental assessment impact, the ethical question is: how and who decides what is morally good for the public? When public choice theory re affirms that virtually all political systems have their short-comings as politicians and bureaucrat may have powerful incentives to pursue other agenda that may not go down too well with the achievement of Pareto-optimality for possible optimal-

outcome(Cornes and Sandler,1996:134).

Conclusion

Politics, bureaucracies and economic interests have questioned the reality of ethics, public policy analysis and the contradiction between economic growth and sustainable economic development. Thus, the ethical concern for the environment became imperative when the world rose in defense of the eco-sphere in 1992 Earth summit in Rio-de Janeiro with a number of concrete recommendations on how governments, organizations and individuals should act in view of the contradiction between economic growth and sustainable economic development. One cannot deny the fact that economics has a vital role to play in the struggle towards sustainable use of natural resources, economic development and improved analysis of both the impacts and the causes of underlying degradation. As these, become very crucial in the year ahead of nation-states. However, the expectations of present generation to pay costs of environmental degradation and pollution for the benefits of the future generation are ethical issues. First, we must realize that intergenerational equity lies on trust and sustainable development. Second, the issue of efficient allocation of land resources and equity or fair deal in relation to who pay for degradation and pollution control cannot be resolved by simple rules as observed in Pareto-optimality rule and the cost benefit analysis given that, moral judgment varies with situations confronting nation-states as evident in situational ethics . Third, it is evident that environmental damage and the market system co-exist regardless the economic ideological principles of nation-states as no society has ever reduced environmental damage and pollution to zero (Grand Le et al., n.d.:140; The Cromulent Economic Blog, 2005: unpagged).The recognition of the already damage to the Earth and the resolution to minimize any additional damage(through the policy of equity and just) that may pose serious threats to the needs of the future generation is a moral and ethical obligations of today's generation.

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