

SUSTAINABLE DEVELOPMENT IN NIGERIA: THE ROLE OF ADULT EDUCATION IN ENSURING SUSTAINABLE MANAGEMENT OF THE ENVIRONMENT

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Abstract: Rapid urbanization has led to many unfavourable conditions, like the development of slums, overcrowding and sub-standard living conditions as well as poverty. This is a vicious cycle of cause and effect, as all the problems lead back to the root cause of poverty. This paper focuses on the environmental issues in Nigeria, especially in Lagos state. Lagos is the largest urban city in the country and faces different challenges in engendering environmental sustainability. The government's efforts at sustaining the environment seem like a losing battle in the face of the overwhelming and often peculiar circumstances surrounding the urban poor. The paper examines the various factors that contribute to environmental degradation, government's efforts to combat them, and concludes by suggesting a model of operation for the government and other stakeholders, along with commensurate adult education programs.

Keywords: sustainable development, adult education, methods, environment, Lagos

INTRODUCTION

The environment is everything that relates to our surroundings and therefore affects the way we live in this world. It is a combination of the air we breathe, the nature and disposal of materials, the mobility of the waters on the surface and below the earth as well as the one we drink, the plants and animals around us and our symbiotic relationship with them. The environment thus

evolves from the way we treat these natural and often man-made resources, and the effect on the overall condition and health of our planet.

Sustainable development, even though a desirable entity, remains a constant challenge to Nigeria as a developing country. Most urban cities in the nation continue to grow with little or no commensurate redistribution of amenities, and especially in rural areas, to service the citizenry. This is further exacerbated by lack of environmental consciousness as showcased, for example, by the careless use and misuse of natural and material resources in a manner that constantly creates environmental pollution and hazards to humanity. For example, the flagrant and uncaring disposal of nylon materials, especially the small sachets popularly used to package water for sale, as well as other non-degradable material have variously constituted drainage blockage, resulting in floods and other disasters. All these and other problems act as a deterrent to the aspiration of Nigeria to join the league of developed nations, and align with the millennium development goals (MDGs). Some of these contributory factors also account for the slow rate of development in Nigeria. Nigeria still ranks low in the rate of development, according to the Human Development Index by the United Nations (2004).

Nigeria was one of the 189 countries who, in the year 2000, made a promise to free people from extreme poverty, and multiple deprivations, as itemized in the 8 MDGs; pledging to, among others, eradicate

extreme poverty and hunger, ensure environmental sustainability and develop a global partnership for development to be achieved by the year 2015. In September 2010, the world recommitted itself to accelerating progress towards these goals. The MDGs are to help provide a framework for the United Nations as a body to help advocate for change, connect countries to resources and knowledge, and coordinate efforts at the country level.

Nigeria has become more urbanized within the past two decades and has over 40% of her citizens living in urban areas. Lagos state is peculiar, as the majority of her population live in the urban area. According to the government's official website (2011), more than 85% of the state population lives on 37% of the land area in the metropolis. This brings forth problems of overcrowding, poverty, environmental degradation, traffic congestion, among others. Estimates of the United Nations and the Lagos State Regional Master Plan currently puts the population of Lagos to be 10.6 million and it remains one of the most populous states in the nation, with a high and increasing population density of 1,590 people per sq km. There is no doubt that the growing nature of the population puts the rather conservative figure for the state to be much nearer the 17 million mark projected by the Lagos state, LSG (2011). Three quarters of these inhabitants are said to live in slum conditions in the urban areas. Lagos is used as the example of the largest urban area in the country.

Lagos is the largest urban area in Nigeria. It also boasts of a large industrial district as a result of being the nation's capital for many years. The change of the nation's capital to Abuja has done little to reduce the population of the die-hard Lagosians, and many still commute for business to the city proper from neighbouring towns and semi-rural areas. Increased urbanization and the initial mass migration to Lagos had led to the creation of shanty towns and overcrowding, which put a strain on urban planning efforts to stem the rise of density of housing, improper land use, the proliferation of slums and unsanitary conditions. Many buildings had also sprung up with blatant disregard for urban planning regulations (like building without creating proper drainage or worse still, blocking the drainage system in a bid to use every available land space). This situation is compounded by the lack of amenities and poor management of scant resources. It is no stretch of the imagination therefore, to find that there is overcrowding, urban pollution, damage to roads and the sewer/drainage system as well as poor garbage management, which may lead to the breakout of diseases and epidemics. All these have contributed, in no small measure, to current natural disasters like flooding and environmental pollution (air and water).

Lagos has been exposed to erosion, sewage blockage with nylon, solid waste and other non-biodegradable products that have led to many natural disasters and deaths, especially among the slum dwellers, who are more vulnerable to floods and other resultant environmental 'pay-backs'. Further adding to the plethora of environmental pollutants is that occasioned by the increased use of generators, as a result of the inadequate supply of electricity. Every household uses an average of two generators, which means that there is increased level of pollution to the ozone layer, along with the regular industrial and traffic emissions. The pollution level in Lagos has undoubtedly risen in recent times.

The typical urban poor are a special breed of people. They are probably migrants in search of better lives, are moderately educated and are unemployed or underemployed, desperate to fit in, adapt, cope and make a better living condition for themselves and families (as it will be shameful to go back to their village defeated). They are different from the rural 'genteel' poor and are circumstantially reduced to the level because of the high cost of urban living. They often belong to low and middle level income people, like support staff (drivers, cooks, clerks, artisans and even teachers and other middle income earners), who cannot afford to live in the city proper where they work. They are often found to live in slum conditions characterized by the lack of basic amenities and abject poverty. Unfortunately, push and pull factors continue to result in urban migration of people in a search of greener pastures, even though majority of the populace remain in rural Nigeria. Overpopulation, inadequate facilities and poor urban planning have plagued the efforts to promote environmental sanitation in Lagos and the government is fervently battling this by ensuring that newly developed areas and commuter towns are better planned, while working on improving the old one.

This exposition focuses on Lagos metropolis, and in particular, the environmental factors that affect sustainable development aspirations are examined with a view to creating a workable model that can add value to sustainable development efforts in Nigeria. The paper mainly focuses on the MDGs goal 7 (ensuring environmental sustainability), but is inevitably linked with goal 1 (eradication of extreme poverty and hunger), leading to goal 8 (developing a global partnership for development) out of the 8 MDGs, as the key goals to help promote environmental stability and global collaborations, UNDP (2012). The UN has recorded some progress to this effect in Nigeria, albeit very slow.

Environmental challenges

The Earth Summit of 1992 adopted the Agenda 21 which supported a global program of action for sustainable development in the 21st century by encouraging global partnerships to improve socio-economic and environmental development, especially in urban areas through more effective land use planning and the provision of adequate social infrastructure to support good environmental practices. However, Lagos as an urban metropolis faces several challenges. This paper considers environmental issues of air, water and noise pollution, garbage disposal and sewer/drainage mismanagement as a result of poverty, and as contributors to environmental degradation. Mabogunje (2002) had linked the high rate of environmental degradation and pollution to urbanization. Lagos is a highly polluted city and was once rated the dirtiest. The different contributing factors to the pollution are hereby examined:

Noise pollution

There are many contributors to noise pollution in the state, starting with religious organizations, to the noise of traffic, generators and music entrepreneurs, among others. All of these are more felt in the poorer areas where they proliferate. Generators, which are common to every household in Lagos, form the major source of noise pollutants in the state.

Air pollution

Air pollution occurs as a result of the emission of certain harmful gases into the atmosphere. Nigeria normally has a hot and humid climate and commuters in Lagos often find themselves spending a long time on the road due to the inevitable traffic. This may lead to the inhalation of the harmful gases emitted into the atmosphere from the mostly second-hand vehicles on the road. The horrendous traffic situation in Lagos, according to Bakare et al (2012), was found to further exacerbate noise and air pollution because vehicles remain static on the road for prolonged periods of time in the 'go slow', and invariably spew carbon monoxide into the air, which is inhaled by commuters in the public and private vehicles, and was found to be a contributory factor to air and noise pollution. All these are again intertwined with other forms of pollutions as the thirsty and static commuters purchase the available drinking water from the ever-present hawkers on the road and litter the road after. Air pollution therefore occurs from several pollutants like traffic emission, generator and industrial pollution, among others.

Water pollution

Water easily gets polluted, given that the source is largely from the ground. The sewer system in Lagos

leaves a lot to be desired, and so waste water can find its way to the source of well water. There is no gainsaying the importance of drinkable water for human sustenance. There is the Lagos State Water Corporation as the main source of pipe borne water supply. However, statistics indicate that more than half of Lagos inhabitants get their main source of water supply from alternative self-generated means like the borehole (Household, 2011). When one adds the 12% that gets from small scale vendor (who invariably get their supply from boreholes) and the 9% who use dug-well water to the projected 56% that officially claim to use borehole water, it is apparent that the majority do not benefit from the government-produced tap water scheme. According to the household survey in Lagos state, only a meagre 3% claim they rely on the pipe borne water as their main source of water supply. Unfortunately however, even though everyone calls it 'borehole' water, majority cannot afford the expensive professional digging that will ensure that clean water is attained at a certain depth. Many can only manage to dig to the water level, which is ultimately a well, and can easily get contaminated by surface water from sewer, erosion etc. Another, more serious fallout, apart from the fact that the indiscriminate digging of boreholes (which has become the norm as the government seems to have abandoned its responsibility to provide potable water) can lead to long term environmental problems, is that contaminants may leak into the water system from the surface like heavy metal and microorganisms. Also, surface pollutants can seep through the soil and pollute the aquifer. Incidentally, borehole water is not normally purified before consumption and this can result in toxicity and lead to gastro-intestinal problems, apart from the water pollution. The lack of adequate potable water supply therefore makes Lagosians more vulnerable to natural and other disasters.

There is also the issue of water packed in small sachets for sale popularly called 'pure water' which is ironic, as there is nothing pure about it. Selling this type of water to thirsty commuters in the usually hot and humid weather is common, as it is the cheapest available drinking water. In spite of the interference of the national agency for food and drug administration and control (NAFDAC) - the regulatory body for consumables, to ensure that this water is made under hygienic conditions, there are still a lot of the unregulated products slipping through to the unwary or desperate consumer. The production of pure water is unfortunately a booming business, where quick money can be made for the urban poor. A typical entrepreneur was quoted as saying:

'I make money from sachet water. The process is simple – I bought a small sealer, there happens to be

a borehole in my house so water is not a problem. I bag and seal the water with the hand-sealing machine. Hawkers come to carry the pure water from my house – no hassle, cool money.’

Pure water is supposed to meet NAFDAC standards and some are appropriately produced. However, many are produced and bagged under unhygienic conditions and still find their way to the market and have been known to cause diarrhoea, cholera and typhoid fever, among others. Unfortunately, this is what many can afford, in lieu of the non-available potable water, and because it is cheap. Analysis of pure water carried out by Edema et al (2011) confirmed that many of the sachets contain more bacteria and other elements and may lead to epidemics. A sachet of water is now sold for 10 kobo (an equivalent of less than a dime), a recent increase from the usual 5 kobo (less than 5 cents). The thirsty commuter simply buys any available and cheap water, as long as it is chilled, and he typically throws the nylon on the road, which, apart from causing disease also adds to environmental pollution. The empty water sachets are carelessly thrown in the streets, along with other empty wrappers, and the wind blows them into the drains.

Consequently, the torrential rains of early 2012 caught Lagosians unawares and wreaked havoc on life and property through massive flooding. This rains that went on for over fifteen hours straight and with water levels reaching up to 5 feet in some areas, damaged roads, property and even took lives. Again the subsequent flood practically shut down the entire state, forcing people to remain indoors. The overall outcome was to draw more attention to the pitiable state of the drainage system and how unprepared the government was to handle emergencies like this. Especially with the pitiable condition of the national emergency response team, who are ill-equipped to handle emergencies.

Garbage disposal

The cultural belief is that gutters are meant for dirty things and the natural inclination is to throw garbage into the nearest gutter, as there are usually no public waste disposal points available. The result is that many of the nylon used to pack water and other non-degradable items often find their way into the sewers and block the drainage system. There is thus the need to enlighten people that the gutter is the worst place to dispose of garbage by showing them the repercussions, and conscientize them to link their action with flood and other disasters. The state government has constituted a solid waste disposal agency that now coordinates garbage disposal in the state for a fee, as opposed to the previous ‘every man for himself’ practice. Incidentally, poverty again has made the urban poor take a dim view of having to

pay for garbage disposal, as the norm is to find a ‘suitable spot’ and make it a refuse dump, not to talk of the notion of separating garbage, which is foreign to the poor. Ironically they are the ones who generate the higher volume of peculiar garbage that is less bio-degradable, due to their diet patterns, poverty etc. There is also a lot of **visual pollution** in Lagos with many low hanging power-lines, overcrowded billboards, indiscriminate refuse heaps and the open storage of trash. All these result in different forms of **environmental pollution**.

Sewage and drainage problems

Blockage of the drainage system has caused floods and other natural and man-created disasters like collapsed buildings and erosion, among others. The government is encouraging individual household taxation for garbage collection by the constituted authorities, rather than the wheelbarrow pushers, using Landlords or Residents Associations as a point of contact. The issue of gutter-building is another sore point. The government makes it compulsory for new buildings to have its own gutter, but the house owners merely dig a hasty one in front of their homes to obey the law, disregarding the input of a professional engineer, who will understand that there is a science to it, as it must be designed for water to flow or slope in a particular direction, else it will add stress to the drainage system.

Drains are often clogged because Nigerians have a habit of throwing refuse in the drains - bread wraps, sachet water nylon, paper, and all kinds of refuse that the wind blows into the drains. The drains get more than half filled with the refuse from homes and when the rains arrive, the water has no path through which to flow and therefore takes over homes, which people have to vacate. Another problem is that houses are built in the slum areas without proper soak-away or properly designed drainage system. The typical landlord is more interested in how much mileage he can get out of a building space and so cuts corners to maximize his profits. There are homes without proper toilets, not to talk of refuse disposal, all of which cause all kinds of problems to the tenants and the environment and result in environmental pollution.

The management of solid waste did not become an issue in Nigeria until the early 1970's, when the oil boom changed the average Nigerian's socio-economic condition and led to the generation of different and higher volumes of waste, compounded by the emerging industrialization and urbanization. This, and the fact that the world press once declared Lagos to be the dirtiest capital, led to the creation, in December 1991, of the Lagos State Waste Management Authority (LAWMA) who is now responsible for the collection and disposal of

municipal and industrial waste, as well as drain clearing, among others. There is also the Lagos State Wastewater Management Office (LSWMO) whose duties include clearing the drainage system. The recent rains have clearly exposed the inadequacies of management of the environment. We even have a Ministry of Environment (federal environmental protection agency - FEPA) whose duties include raising awareness, educating and enlightening, along with preparing a master plan for the drainage and sewer system, designing and constructing primary and secondary collectors and its maintenance, as well as the collection and supervision of storm waters, erosion control, environmental sanitation and protection, among others, LSG (2011).

Part of the palliatives already in place includes a compulsory environmental cleaning exercise that was enacted in 1985 and compels all Lagos inhabitants to stay in their homes and clean out their environments with no vehicular movement every last Saturday of the month until 10 a.m. There is also a compulsory cleaning time for markets every Thursday of the week (ironically, these same days often constitute the dirtiest, as un-navigable roads make it difficult for the garbage trucks to reach their destinations, thereby creating a temporary eye-sore with the generated garbage heaps left on the roadside for collection). There was also the creation of more incinerators and other more central garbage disposal facilities. Lagos is now generally a cleaner place than in years before. It is also mandated that people create proper gutters with their buildings. Although the government has an environmental protection agency on hand, along with rapid response crew for disasters (National Emergency Management Authority), the management and implementation of policies are obviously not properly synergized.

Energy generation

The declaration of the year 2012 as the international year of sustainable energy for all is a testament to the dedication of the UN in the bid to provide a vital advocacy platform to increase awareness of the importance of addressing energy issues as instituted since the Rio conference. This is in line with the UN General Assembly's recognition that access to modern, affordable energy services in developing nations will help achieve the MDGs quicker for sustainable development and the improvement of the standard of living, especially of the lower class. This is with the understanding that sustainable development is impossible without sustainable energy. There is already the dire pronouncement that one in every five on the planet still lacks access to electricity. The UN further accede that the inefficient use of energy harms economic productivity, while energy-related emissions contribute significantly to

the dangerous warming of our planet, leading to climate change, which puts the world at risk and robs us of our collective future. Overall, at this current rate of progress, the year 2015 is becoming increasingly unrealistic as a goal to achieve recordable progress, unless more drastic action is further taken.

The supply of stable electricity is the backbone of any economy. Nigeria is still seriously challenged by this and its national electricity board, the Power Holding Company of Nigeria (PHCN) struggles with the generation and distribution of enough power to service the entire nation. The result of this is that many households and businesses still make do with alternative power generation through the use of generators, lamps etc. Majority of the population patronize the PHCN, largely because they are the sole provider of electricity. Up to 85% of Lagos residents experience interruption of power supply on a daily basis (Household survey, 2010). This, one might add, occurs when there IS actually power being supplied, and often the power generated is so low that it is not capable of powering much. The Lagos household survey further reveal that 61.8% of households resort to the use of generators (this would be a conservative figure, given the nature of electricity supply), with a mere 3% using solar energy. It is therefore not farfetched to assume that most households use the generator everyday - there may be a difference in the grade and size of the generator itself. Middle to high income households may own the more expensive and probably less noisy generators, which may emit less harmful gas. Again, it is the poor that suffer, in that they can only afford the smallest grades of generators which are prone to more noise and with more harmful gas emission. The small generator - from 1Kva to 1.5Kva (popularly known as "I-better-pass-my-neighbour") are the ones used by lower income level groups for running small scale businesses as well as household entertainment and management. There have even been reported instances of entire families killed by carbon monoxide inhalation from these generators because they were trying to keep their powered small generators safe from thieves by putting them inside their small apartments. Apart from the cost implication of the generator, there is again the issue of maintenance with the use of petrol or diesel to power them. All these also depend on what is being powered. Small businesses use generators and some medium scale businesses that cannot afford to have a break in electricity supply, or the low current (like those engaged in freezing foodstuff, etc) actually use the generator most of the time, generating air and noise pollution and contributing to the greenhouse effect. Apart from increased noise pollution, generators have, no doubt, added to environmental

pollution with the increased emission of CO₂ gas into the atmosphere. Onakuse and Lenihan (2007) blame all these on the government's unfulfilled promise to generate more power. They note that 3200 megawatts was generated at the peak in 2006, this dropped by 30% in spite of the projected 5198 mw promised before the end of that year. There was also the projected increase to 10806 mw by December of 2007 and 3821 mw by 2008, up to the ultimate capacity of 15853 mw by 2010 (MAN, 2006).

The UN agrees that the poor are disproportionately affected by environmental degradation and the lack of access to clean, affordable energy services and that the UNDP is to help countries to strengthen their capacity to address these challenges, especially through learning about and adopting best practices, innovative policies and linking partners through pilot projects. A notable part of this aspiration is to strengthen the national capacity to manage the environment and help poverty reduction efforts, while supporting sustainable, low-carbon, climate resilient development pathways. The declaration of the year 2012 as the international year of sustainable energy for all is a testament to the dedication of the UN on the bid to provide a vital advocacy platform to increase the awareness of the importance of addressing energy issues as instituted since the Rio conference. According to the United Nations Environmental Program, UNEP (2003) further adjudge that better use could be made of the natural gas released as a result of oil production by the oil-rich Nigeria, currently wasting natural gas for producing energy lost to flaring, especially as a source of carbon emission, and as the world's highest natural gas flaring country with 42.6% of its total annual gas production being wasted.

Poverty reduction

It has so far been established that most causes of environmental degradation are intertwined as they all inevitably lead to poverty. Poverty remains the root cause of most of environmental degradation, along with the lack of adequate information. The recent government policy to withdraw oil subsidy without providing adequate alternatives to cushion the blow has merely exacerbated poverty in Nigeria. The human development index still ranks Nigeria as 156 out of 187 (which places Nigeria below the regional average), with the multidimensional poverty index at .310%. The government has ample policies and programs, yet little impact has been recorded over the years in terms of achieving a substantial impact on poverty reduction. According to Moses (2004) between 65 to 70% of the populace still live below the poverty level, with many living on less than a dollar a day. Therefore, the MDG goal 1 – to eradicate extreme poverty and hunger remains a

challenge in developing nations and little progress has been made towards achieving this goal in Nigeria. This is, one might add, at the instance of lowering the standard, from the near-impossible aspiration of totally eradicating poverty, to its mere reduction. Many factors are responsible for the recalcitrant poverty, and ironically, the same factors that seem to stymie progress are the same root cause that leads to poverty in a vicious cycle. People decimate the environment partly because they are poor and lack the necessary environmental education, and every effort to reduce poverty have seemingly met with staunch opposition in the face of government bureaucratic road-blocks, maladministration, unemployment, endemic corruption and serious lack of education and awareness. There is therefore an inextricable interlink between poverty and environmental degradation in a cause-and-effect vicious cycle.

There is the National Economic Empowerment Development Scheme (NEEDS) as Nigeria's answer to a poverty reduction strategy, to help reduce poverty on a sustained basis, and it has been said to achieve a slow and steady progress. Lagos state, and indeed Nigeria, have further met different challenges head-on by instituting different policies and bodies to implement them. There is obviously no shortage of constituted bodies as seen throughout the paper. However, Onakuse and Lenihan (2007) insist that it is not the lack of poverty-eradication policy creation that is the bane of sustainable development in Nigeria, but cited rather, the consistent failure of the political machination, compounded by corruption, leading to the systemic abuse of public trust. They claim that the use of ad hoc task forces (many of which abound at the state as well as nation levels) ultimately disarticulate sustainable development.

Government efforts

Several ideas and policy implementations formulated by the government have so far been discussed including compulsory environmental sanitation days, different agencies to handle specific environmental issues, institution of environmental laws and the creation and maintenance of public amenities. There is also an emergency disaster response operation that is rather ill-equipped to deal with the natural and man-made disasters. Nigeria has thus far been lucky not to have disasters of epic proportions like in other nations, or the prospects would have been grim. In terms of collaboration, Lagos state has issued a global invitation to partner interested countries geared towards accelerating the integration of Africa into a continuously globalizing world thereby enhancing sustainable development. The government is also trying to attack the issue of land tenure through its urban policies that promote easier

access to land. It is necessary however, to ensure that women are target beneficiaries, as they are currently under-served in terms of land ownership etc. Ultimately, there are many problems to tackle (education, environment, socio-economic growth, provision of basic amenities, among others), and the government could easily get overwhelmed, unless good planning is ensured by focusing on the urgent issues first, while combining those that go together, in order to accelerate development.

The popular slogan reduce, reuse, recycle is contrary to the natural belief of the common man who lives in poverty, and believes that garbage should be terminally disposed of and not reused. In the first place, they generate more garbage, most of which is hardly recyclable. This opens up a wide gap in fundamental education for people to imbibe the new culture to sort out garbage for recycling. It again probably offends their sensibility to have to pay to have their garbage to be disposed, as the natural inclination is to throw waste into the nearest gutter. Re-orientation will be necessary to un-learn certain bad habits, to educate and empower the people. Already, poverty is causing self-degradation, a new development of people scavenging and making a living off of refuse dumps. Recycling is currently something that is almost foreign to Nigerians as there is generally no culture, for example of having different disposal bags for bottles etc. This constitutes a fertile area for adult education, where suitable awareness campaigns can be mounted. Nigeria could benefit, for example, from one young man's idea. Edwin Broni-Mensah's simple idea of GiveMe Tap, suggests using recyclable containers to obtain free tap water everywhere. Of course, this could be successful where everyone actually has access to the tap water to begin with.

Adult education

Adult education remains the most comprehensive method of reaching out to all concerned, whether it is the urban poor, the government or any other stakeholder. All the issues treated earlier further affirm the necessity for a synergy between different socio-economic policies and more involvement of the lower income group in urban planning and management and education to help them adapt and better manage resources. Adult education is all types of education given to adults for positive change and to ensure a better quality of life for them. It is to help equip, re-fit and empower the populace. Adult education will help the people to be more aware and treat their environment with more respect and in a manner that will not jeopardize future generations. If the poor suffer the more, then they should be more of the target for adult education in the form of

awareness campaigns and information to let them know the benefits of environmental preservation, and bring it to them in less intimidating and definitely less expensive ways. If they are made to appreciate the value of a cleaner environment, especially for the future generation, then the environment can be better sustained in economically and socially responsible ways. In this discourse, environmental education is viewed as a method of helping to attain environmental sustainability. Adult education is ultimately meant to empower the marginalized, equip them with better survival tools to fit in, adapt and cope, while giving them a better quality of life and dignity and is thus the veritable method to ensure sustainable development. It is therefore necessary to design special anti-poverty strategies that will enable sustained livelihoods in an integrated manner, with policies that specifically address issues of development, sustainable resource management and poverty reduction simultaneously. All these are achievable through appropriate adult education, human development and capacity building, especially at the grass-roots level.

THE MODEL

The following model is therefore proposed for developing nations to use to encourage rapid progress in the achievement of the MDGs.

This model considers several key integrated objectives to achieve in a bid to arrive at the central goal of better management of the environment, putting the people at the very centre. This is because sustainable development involves the synergy between the environment, economy and the society. The model is premised on the efficacy of adult education as a change agent to help engender awareness and conscientization in the government and the citizenry, and develop coping skills as well as a positive attitude towards environmental issues.

Some measures are to be taken to ensure that human well-being is the first consideration of every government, using adult education as a tool and method to empower the masses through participation and commensurate programs, while the government is made more aware of its fundamental responsibilities to the people. There is the need to seriously tackle poverty, using a more integrated approach that will include skill development, job creation and the provision of amenities in a seamless manner. There are currently so many agencies for varying purposes as mentioned in this paper, which may breed overlapping duties, unnecessary competition or even rancour. It is necessary to prune down some of these and further strengthen the remaining few to ensure effectiveness and efficiency.

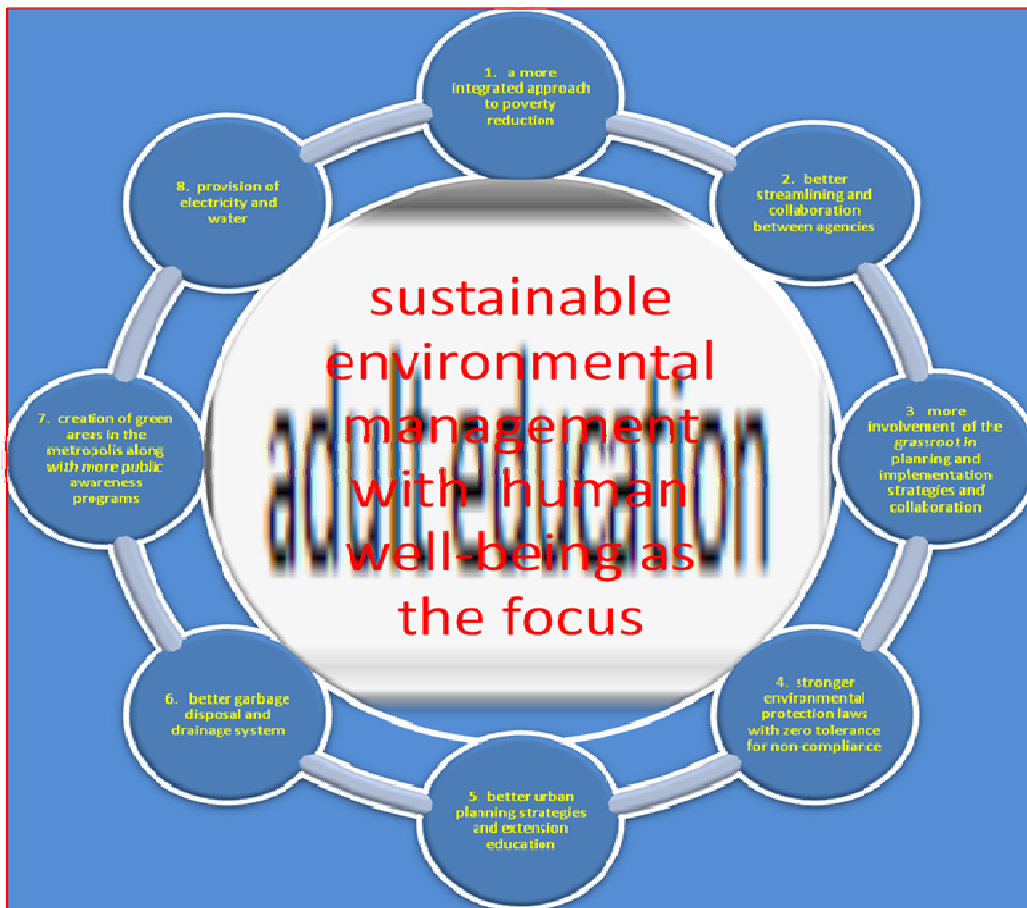


Figure 1: Model for sustainable environmental development. (Bakare, 2012)

Since the people are the central focus in all efforts for better environmental management, nothing should be done without their cooperation. There should be more involvement of the grass-roots in policy making and implementation and in taking decisions on issues that affect their lives. This empowerment will make them more committed to ensuring success. Current environmental laws should be strengthened with more stiff penalties instituted for non-compliance. The government needs better urban planning strategies, especially to cope with issues arising from rapid urbanization and the creation of slum areas in and around the metropolis. Extension education is a good way to reach out to people, starting with inclusion of environmental education into regular

curriculum. There is also the need to aggressively target the slum areas for garbage disposal and ensure a functional drainage and sewer system. The 3R system of reduce, reuse, recycle should be emphasized. The creation of green areas in the city adds beauty and ecological balance to the system. The meager spaces available should be optimally managed to ensure that there are breaks in the overcrowded buildings with the creation of parks and gardens, while encouraging more tree planting. This could be done in collaboration with establishments as part of their corporate social responsibility. The public should also be bombarded with different, even graphic, audio-visual campaigns that will help the urban poor un-learn certain bad habits and encourage

more environmentally friendly behaviours, using the different media. All these will be easier to achieve if the government, on its own part, ensures uninterrupted power and water supply as well as the provision of the basic amenities necessary for people to function on a daily basis. It will also be a good move to practice a green economy.

RECOMMENDATIONS

Government involvement would be in these areas: creation of compulsory green areas in the metropolis, better provision of electricity and potable water, more effective garbage disposal, better urban planning strategies that will create better drainage and sewer systems, more stringent laws against environmental pollution, a more concerted effort to accelerate poverty reduction as the root cause of all the problems, more public awareness campaigns on the consequences of environmental pollution (air and water), and the benefits accruing from treating the environment more kindly, use of more biodegradable materials for consumers as well as more people-friendly land tenure laws. The proliferation of regulatory bodies mean there may be duplication and overlap of duties and this may cause rancour instead of cooperation. It is therefore necessary to streamline these services and rather empower the key organizations to perform their duties more efficiently and effectively. There is usually help and collaboration opportunities from outside the country, and there is no shortage of global partnerships for development outreach, but there is the need to stop sabotaging our own efforts internally and begin with cooperation from within and the 8th goal of the MDG will be easier to achieve.

Other pertinent steps to take include making environmental and development education compulsory and an integral part of school curriculum to 'catch-them-young' and further institute public campaigns that create continuous awareness, using all available media as well as through extension education and relevant trainings. Public competitions and awards could be created to recognize cleanest local government, school, state etc, and encourage collaborations between communities, NGOs, local industries to forge stronger commitment to environmental issues. It is necessary to create more green areas in the metropolis, even within the little spaces available. There is also the need to make it a policy item to ensure that green spaces are enforced in new urban development areas, and as much as possible, within the Lagos metropolis itself, as well as tree planting, to ensure ecological balance and encourage good conservation practices.

People should be educated to stop the indiscriminate dumping of refuse and the government has promised to continue routine maintenance to clean the drains

often and dredge canals and drainage channels to free them before the rainy season while also embarking on a massive enlightenment campaign. Clearly marked refuse bins should be placed strategically around the city to encourage recycling and reduce littering. Urban renewal programs should prioritize and target more urgent areas first. Sustainability occurs when there is a synergy of environment, economy and the society with human well-being as its central focus. Responsible consumption should be encouraged with the conscious choice to patronize certain categories of products. Other environmentally-friendly education will help in disposing of garbage appropriately, recycling and the use of eco-friendly products as well as the promotion of clean and efficient energy - favouring alternative energy, and all these can be enhanced through consistent public education. There is currently scant public information directed at this form of knowledge to target the urban poor, specifically in Lagos. We could, for example, encourage going back to using the bicycle (which also promotes good health) instead of other motorized machinery that cause environmental pollution, congestion and stress, to mention a few. It will also be good to start the campaign from the university environment, leading by example. There should be a more concerted effort to run a paperless community and practice recycling and conservation. It will be more effective to also encourage the youth to spread the knowledge outside the community.

CONCLUSION

It will be difficult to achieve optimally or develop in a way that will not adversely affect the future generations unless drastic steps are taken to change the current situation. This must be done in a manner that embraces education and puts the people at the centre of activities right from the policy to the planning and implementation stage as well as evaluation. According to the MDG targets, goal 7 proposes that, in order to ensure environmental sustainability, governments are to integrate the principles of sustainable development into the country's policies and program and reverse the loss of environmental resources; halve, by the year 2015 the proportion of people without sustainable access to safe drinking water; and to have achieved, by 2020, a significant improvement in the lives of, at least, 100 million slum dwellers. This is with the cooperation of the UN. Unfortunately, indications reveal that this may remain a mirage, given the present circumstances in Lagos and the progress made so far as shown in this paper. It is therefore necessary to intensify efforts, through various forms of education and information dissemination (using methods like self-education as well as the each-one-teach-one principle and mass education), to hasten the achievement of these laudable goals. This should,

above all encourage a platform that will help reduce poverty and allow the vulnerable to live in dignity and prosperity.

This paper has examined the environmental situation in Nigeria, with special emphasis on urbanized Lagos. It has reviewed government's efforts so far to embrace the MDGs and it concludes by suggesting a model of operation to help tackle environmental stagnation and encourage sustainable overall development. It has also tried to create a scenario where development will be more socially and economically sustainable. The paper has serious implications for environmental sustainability and has contributed a model of operation to knowledge. Ultimately, human beings form an integral part of the ecosystem though our activities seem to affect the nature of the environment more than other organisms. We must ensure that our ecological footprint does not overshoot what the natural earth can re-generate. Since a healthy environment is vital to human survival, and human activity is the major cause of environmental change and degradation that affects all species and the natural system, it is our duty to save the environment, not only for our sake but for the coming generations.

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