



Plantain Theory of Sustainable Development

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Abstract. The essence of this study was to explore the feasibility of designing a theory of Sustainable Development for Africa and specifically, Nigeria. This was because; the dominant form of development is not sustainable. The impetus for this study, rest on the fact that human species augment its kind, however, the natural resources required are exhaustible, the environment for hosting human beings, is degraded geometrically by human activities. There is a problem, waiting for the future generation of Africans and Nigerians. The study was approached from the 'explorative research' perspective, with 'musa paradisica' (plantain), adopted as metaphor of the theory because it constantly reproduces itself. Thus, any element of Sustainable Development must be regenerative in nature. The approach yielded certain fundamentals of Sustainable Development as identified in the case study of 'Singapore' under 'Lee Kuan Yew' to include; benevolent and patriotic leadership, which would embark on national investment which reproduces its kind for the present generation to meet their needs, without depleting natural resources for future utilization, human capital accumulation, State directed investments among others. These and many others, should regenerate itself as the 'plantain tree does for its cultivators. This was the essence of plantain theory of Sustainable Development.

Keywords: plantain theory; Nigeria; Africa.

Introduction

Human Society is a continuous one, which expects everyone to live to his prime before exiting the earth gracefully for others to take over. Human society is individual writ-large, which constitutes the community and then the state in the quest for a better life in a continuous basis. Men then moved into a political community where they elect a few persons headed by one in form of a Government to provide services for the society, while they contribute by way of taxes. The services, which the Government provides on a continuing basis, contribute to Development. The men in society therefore expect the continuous provision of Development on a sustainable basis to the society in what the political philosophers had claimed was the divine and moral function of the State. It is instructive to note that the bulk of goods and services provided by the State are derived from the environment. Its care must therefore be factored into the development processes in what is known as 'Sustainable Development'.

The urgency for a theory for Sustainable Development was made more urgent given the fact Africa is very wealthy yet so poor. According to the late Mazrui (1980) in terms of resources, Africa is one of the best-endowed regions of the world, but it is still the least developed of the inhabited continents. This is the pathology of technical backwardness. Africans have the poorest per capita incomes. This is the pathology of maldistribution. While the continent is rich in resources, it so fragmented that it includes the majority of the poorest nations of the world. The paradox here is of a rich continent, which contains many poverty-stricken societies. This is the pathology of a fragmented economy and technical knowledge. Estimate of Africa's resources indicated that, Africa has 96 per cent of the former non-communist world's diamond, 60 per cent of its gold, 42 per cent of its cobalt, 34 per cent of its bauxite and 28 per cent of its uranium. Africa's iron reserves are probably twice those of the United States and its reserves of chrome are the most important by far outside that of the former Soviet Union. All these are fast

depleting from excessive exploitation to sustain the economies of the African states through trading and export of crude mineral resources.

Sustainable Development focuses on man's ability to harness non-renewable resources rationally without devastating the ecosystem beyond rehabilitation, and leaving some resources for succeeding human race. The concerns for others imply integrating economic, social and environmental objectives in community development. It is to strike a balance between economic factors and other community elements, which man exploit for his survival. The search for a theory to address Sustainable Development predicament in the African continent, was further driven home by the very fact that, Africa has been considered the proverbial tortoise, which is always coming last in the race for development. African states come last in development indices in the global scale. It contains the majority of world poor nations by the World Bank ranking. On close examination, it could be deciphered that it is the lack of a systemic approach to development, which causes most wars in Africa hence, the continent contains the highest number of war torn countries.

The essence of Sustainable Development, was brought to the fore with the success of the United Nations World Commission of Environment and Development (UNWCED), otherwise known as the Brundtland Commission which conceptualized Sustainable Development. It should be noted that it did not provide a conceptual framework, which would provide internal and external consistency in the formulation of Sustainable Development to guide states and leaders in the pursuit of development, which would conduce to Sustainable Development. It is this wide gap between the propositions of the Brundtland Commission and the conceptual guide towards Sustainable Development, which is the major objective of this study. It seeks mainly to develop a theory of Sustainable Development herein referred to as the 'Plantain Theory of Sustainable Development'. Its subsidiary objective is a contribution to the global quest for what needs to be done in pursuit of Sustainable Development.

Sustainable Development: Its desirability

It is both an historical fact and an explanatory paradigm that men are gregarious; in other words, they seek the company of others, since no man is self-sufficient. They require the company of others for independent living. The acquisitive disposition of each of the men soon brought them into conflict, by which they soon required a superior authority to superintend over them in their social relations and provide on a continuing basis for them what they could not provide for themselves on a continuing basis.

The human society is a continuing one, and the Government would always be there while service delivery would forever be desirable to sustain lives in the society. On the citizen's side of the civic equation, they must pay taxes, obey the laws and support the Government in its quests to provide the services on a sustainable level. It is further instructive to be circumspect of the fact that, the resources (human and materials) resources for the provision of services on a sustainable basis are scarce but nonetheless allocatable.

Another urgent need for the exploration of the concept of 'Sustainable Development' arose from the fact that the United Nations World Population (the total number of living human on earth) was 7.349 billion as of July 1, 2015, by the medium fertility estimate by the United Nations. According to the most recent estimate, the human population is expected to reach 8 billion people in the spring of 2024 (www.geohive.com). In spite of this tendency for the World population to keep rising, the estimated available agricultural land, that is the share of the land area that is arable, under permanent crops and pastures in 2008 amounted to 1,384 M ha, out of a total 4,883 M. To use 1,386 M ha to cultivate food for 7 billion people raises an enormous challenge. The problem is aggravated by natural challenges such as droughts, desertification, diseases which attack crops and manmade wars. This background gave

the impetus to the exploration of this novel concept of 'Plantain Theory of 'Sustainable Development' to guide governance in contemporary world.

Ekong, defined the need for sustainable development in the following thus:

'man is the only creature that deliberately recombines materials
In his environment to fashion out culture. In the process, he makes
Choices that threaten the natural environment. A society with complex
Technology and high level of industrialization affect the natural environment
more negatively than simpler ones. Lack of technology
Exposes the simpler societies to catastrophic natural events as floods,
Drought, crop failure famine etc. Industrialization demands energy
Consumption from all sources and produces solid and toxic waste as
by-products as well as smoke, fume, sulphuric and nitrous oxides,
which come back to earth as acid rains that destroy plant and animal
life and corrode iron roofings. The other factor is population growth, which has
outstripped food supply and necessitated pressure on the environment (1988:333-
4).

There is therefore the need to strike a balance between extraction and restoration especially when the natural capitals being extracted are irreplaceable.

This is where it tasked the intellect of the Government on the processes of resource management and allocation through the principles of Sustainable Development. Beside the scarcity of the required resources, it is herein canvassed that most of these resources, particularly natural resources are exhaustible assets, hence irreplaceable. It becomes imperative therefore to be systematic in the pursuit of Sustainable development. In this pursuit, it is imperative to understand the composite nature of 'Sustainable' and 'Development'. Sustainable Development therefore, refers to the development of human resources both natural and human and its combination with all other factors of

production with appropriate policy by the political leadership to ensure continuous productivity of the economy as the plantain plant does in a continuing basis.

The Conceptualizations: 'Sustainable and Development'

In order to develop a general theory for the practice, policy formulation and evaluation of 'Sustainable Development' in any situation, it was considered a moral obligation to assemble the contents of the terms because of their value-laden nature.

a) '*Sustainable*' in order to be able to formulate a theory which encapsulates its essence, we consulted sources which revealed Sustainable to mean;

i) a phenomenon is 'sustainable' when it has a foundational base or 'terra firma' with the substratum which would serve as a rack upon which the superstructures would rest.

ii) It refers to an observable fact, which is strengthening and invigorating thereby augmenting itself as it were.

iii) A thing is sustainable when it reinforces and promotes itself.

iv) An intervention, which recreates its kind, is sustainable.

v) It is redemptive and self-preserving.

vi) The continuance, repetition and persistence in action of any social action would mean that it is sustainable (Thesaurus, 1971).

b) '*Development*' this is certainly the most controversial concept in the Politics of Development, which has been subjected to myriads of interpretations and different approaches. The controversy also surrounds the manifestation and interpretation of the impact of the concept. Thesaurus, (1971) also averred that the term refers to;

i) Outgrowth, production, offering 'to be the effect' and 'to be derived from'. It provided a lead to the point that development takes place upon something that is planted or an intervention.

ii) Dissatisfied with these descriptions, we probed further in the growing body of literature on the subject matter and we found four main strands of interpretations of the concepts namely;

- a) Development and Economic Growth;
- b) Development as Modernization;
- c) Development as Distributive Justice;
- d) Development as Socio-Economic transformation

Analysing each of these was considered unnecessary, as it would be out of the focus of this study. However, one of these conceptions was considered relevant to the objective of the study. This was the contents of 'Development as distributive Justice' generated by Dudley Seers.

In 1969, Dudley Seers conceived of Development as involving not only economic growth but also conditions in which people in a country have adequate foods, jobs and the income equality among them. As he put it;

'The questions to ask about a country's development are three;

What has been happening to poverty?

What has been happening to unemployment?

What has been happening to inequality?

If all these three have declined from high levels, then beyond doubts this has been a period of development for the country concerned' (Seers, 1969 cited in Gana, 1983:92).

Eight years later, in 1977, Seers added the vital issue of self-reliance. He argued further that emphasis in development should no longer be on overall growth rates or on patterns of distribution. The crucial targets from now on should be on;

Ownership as well as outputs in the leading sectors;

consumption patterns that economise on foreign exchange,

(Including imports such as cereals and oil), institutional capacity

for research and negotiation; and cultural goals of the country (Seers cited in Gana 1983: 93).

According to Dudley Seers' conception, which was adopted as the operational explanation of 'development' for this study, its contents could be distilled to consist of the followings;

- i) The State should reduce 'poverty' through the production of goods and services (investments), which would process the raw materials obtained within its economy through Keynesian policy framework.
- ii) Reduce 'unemployment' through generating industrialization by utilizing the resources available and creating agricultural inputs and strategies. Functional education at all levels is the sine qua non in this direction.
- iii) Inequality in the state, the persistence inequality could be managed by the state through progressive taxation in which the rich would have to pay more while the state deploys the accruing resources to infrastructural development.
- iv) Self-Reliance- industrialization, food production and sufficiency, and the consumption of local products, which would reduce imports and save foreign exchange. These also imply human capital accumulation.
- v) Institutional capacity-In the march towards Sustainable Development, the state was enjoined, to create institutional capacity for research and innovation. These require the strengthening of all the relevant institutions. A governmental structure resting on a sustainable base is able to capture the above indices in its policy outputs coupled with a patriotic leadership that would be able to achieve Sustainable development.

The Problem

The crux of the problem, which generated this exploratory quest for the plantain theory of 'Sustainable Development', is that man by nature reproduces his offspring, who in turn creates new generations. However, the land area and the natural endowment which are meant to sustain man and his generations in the global space are not augmenting itself as the human species do. The natural resources and land area are daily being degraded thus; it is decreasing in available quantity through human

activities and consumption. Consequently, while human species are increasing daily, the available natural environment and its resources are decreasing. The eminent deficit of resources to sustain human being in the global space especially in Africa raises the desirability for understanding and adopting the concept of 'plantain theory of Sustainable Development. The concept of the plantain theory of Sustainable Development seeks to evolve a governance system especially in the third world and particularly in Africa, which would take cognisance of Sustainable Development processes in the management of natural resources (adopt technology, use optimum resources, add values to minimum natural resources extracted) to satisfy the needs of the present generation without mortgaging the opportunities for the unborn children.

This constitutes a problem because natural resources are exhaustible; land areas are being degraded daily, yet human being are coming into the world daily. The search for a functional formula to balance the situation constitutes the problem being explored. The principal issues include; what approaches would be adopted by states in Africa to reduce poverty, unemployment, inequality and incrementally lead to self-reliance? The task of identifying the paradigm of Sustainable Development is a critical one because as indicated, there are variants of development many of which are not sustainable. Furthermore, the resources are scarce and exhaustible yet the human race is sustainable. This is what makes the quest for Sustainable Development an urgent one.

The Brundtland Commission (1982) provided a lead that the world system should meet the needs of the present human race, without compromising the need requirements of succeeding generation. As much as this advice was given, there have been no theoretical nor institutional mechanism to enforce nor superintend how states particularly those in the Third World are observing and practicing Sustainable Development in the quest for Development.

One of the steps pursuant to the practices of Sustainable Development, and advocacy is the novel 'Plantain theory' as a step towards the incremental attainment of the

Sustainable Development in the third world. This is more so, since it has been, recognised that the World's present development path is not sustainable.

The adaptation of the theory into public policy structure of the third world societies would be an incremental step in the direction of instituting a framework for Sustainable Development.

Framework of Analysis: Operculum Metaphor

The concept of operculum metaphor means that, all those who reside in the coastal zones or regions of most states with littoral zones have one similar occupation. This is fishing. In the fishing community, when people go to the market to buy fresh fish, what they do often is to lift the mouth cover of the fish or open the operculum of the fish up by the side of the mouth, to check the colour of gill of the fish.

When the gill of the fish is reddish, it means the fish is still alive and the blood is circulating. However, when it turns grey, the fish is bad. This is because the gills of the fish are the blood vessels. When it is red, blood is still circulating and grey, blood had stop to circulate and the fish is soft and may be bad.

The spectacular thing about the operculum is that it is located at the head. Thus, when the head of the fish is bad or rotten, it affects the entire body of the fish. Thus when it becomes bad, it starts from the head and affects the entire body.

Similarly, a leader who shows the way, which the country should go, and provide for the welfare of the entire citizens, leads the country right. This is leadership.

The Approach of the Study

The approach of this study was 'Exploratory study', based on conceptual analysis and theory building intended merely to explore the research questions and does not desire to offer final and conclusive solutions to the existing problem of Sustainable Development. It was conducted to determine the nature of the problem and not to provide conclusive evidence, however to provide a better understanding of the problems. Exploratory research tends to tackle new problems on which little or no

previous research has been done. As Babbie (2007) averred that it is often an initial research and form the basis of more conclusive work. It may not have a rigorous methodology.

The aim of this method of study was to gain familiarity with the phenomenon, and acquire new insight into it in order to formulate problems that are more precise or develop hypothesis. It was meant to gain experiences that would help to formulate investigation that is more definitive. One critical importance of the method was its ability to give indication on 'why', 'how' and 'when' Africa would be able to attain Sustainable Development.

Jacob (1994) averred that the recognition of the linkages between the degradation of the environment in the pursuit of socio-economic development led to the discourse on Sustainable Development. This concern was one of the principal reasons for the United Nations World Commission on Environment and Development (WCED), otherwise known as the Brundtland Commission (1982) which defined Sustainable Development without a theoretical backup.

Jacob, then defined 'Sustainability' as 'continuity through time'. She then submitted that Sustainable Development in the main involved (i) progress in economic and social development should enhance rather than degrade the resources base and (ii) interventions designed to achieve such progress must not compromise the ability of future generations to meet their needs and aspirations. She then defined Sustainable Development as a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional exchange are all in harmony and enhances both current and future potential to meet human needs and aspirations.

Obasi (2001), raised the necessity of 'Sustainable Science in Africa' pursuant to Sustainable Development. He said if Sustainable Development is the business of meeting the need of the present generation without compromising that of future

generation, then there is a grave need for Science of Sustainable Development. This was as he pointed out, (i) of the 49 least developed nations in the world, 34 of these states are in Africa; (ii) That 46 per cent of the malnourished in sub-Saharan Africa have an average 300 kilocalories per person deficit. (iii) Regional average food production per person in Africa has been on the decline in the last 40 years. (iv) Food production in sub-Saharan Africa has been outstripped by population growth. (v) That since the mid-1980s the rate of food consumption long outstripped domestic production.

vi) Africa food security index is the lowest in the world with the exception of North Africa.

These problems are more critical when considered in the context of globalization, unfavourable terms of trade, debt burden, declining agricultural production political instability and numerous civil strifes. The question to ask is what the role of Sustainable Science is that would be able to invent the use of biotechnology in the development of new crop varieties with high yield. Improved irrigation, science based climate study and interdisciplinary cooperation among research centres related to climate and environment.

Stiglitz (1997), in his submission, 'An agenda for Sustainable Development in the 21st century, admonished that we have to learn from theory and best practices. Some countries, which have been mired in poverty for decades, have broken out of it; it shows that development is possible. He pointed at the Asian Tigers emergence as great examples. In these states (Korea, Malaysia, and Thailand), no one now lives on less than US\$1 per day. Africa could do same as depicted by the case of Uganda, which has achieved 6 % growth rate through sustained reforms. The literature pointed out that for one hundred years, there were two dominant paradigm of economic management, one was focused on the market mechanism (liberal) and the other on Government control (Socialists), but today, the government controlled had collapsed by the ruin of communism, while the market has remained. Government however must have a role in

the market economy. The challenge however is in understanding which policy is appropriate.

The Government can become effective by reducing corruption, which raises the cost of doing business, and discourage investments and undermine confidence in the government. Building transparency and competition into the market mechanism and wrapping it into sustainable development theory is desirable, but this is a challenge.

Mclean and McMillan (2003), in their description of the term as the concept that stresses the balance between the interests of economic growth and environmental protection; emphasizing the importance of intergenerational transfers, the preservation of non-renewal resources and a variety of loosely defined principles regarding the responsibilities and accountability of policy makers. Essentially a reiteration of the principles of cost benefits analysis with a full recognition of the externalities involved in policy implementation, with an ecological veneer.

Ekong (1988) averred that Sustainable Development came into international public policy agenda in the 1980s, when after Gro Harlem Brundtland chaired the UN sponsored conference on Environment and Development (UNCED) where the popular conception of the phenomenon was defined as an 'economic and social development that meet the needs of the current generation without endangering the ability of future generations satisfying their needs and choosing their lifestyle.

Sustainable Development thus involves conservation of finite resources through direct reduction of amounts used, use that is more efficient and seeking alternatives.

The concern with the environment was captured succinctly in the review, this was because, whatever the form of development, resources are extracted from the environment, and mankind remains in the environment to enjoy its benefits thereof. The challenge is how to strike a balance between the extraction of resources from the environment and how to restore it back. It is important because we live in the environment and others are coming after us to do it.

There is an agreement in the literature that in order to achieve a balance use of the environment for Sustainable Development, the acquisition of science based knowledge and techniques was considered and incorporated into social policy.

In order to extract non-renewable resources and balance the interest of people now, protect the environment and reserve for the future, better techniques of processing and adding value to what have been extracted is required. This is a function of the acquisition of education with science bias.

The pursuit of Sustainable Development in the 21st century enjoined us to learn from Plantain theory, history and other best practices how some have done so before now. Development is possible, the challenge remained 'how' to achieve a balance and ensure its sustainability. It then raised an alert that to structure the conundrum of sustainable development, its seedlings or elements must be planted for sustainable development to germinate and be manifested. It should be remembered that for over 100 years, the two dominant paradigms of development were; the 'market' (liberal) and the 'Government' (Socialist), but the former has survived while the latter has collapsed. It however advised that even in classical 'market society' the Government do intervened to adopt appropriate policies.

It was further espoused discreetly across the literature that any pursuit of Sustainable Development, should embrace the followings; (i) Leadership who should show the way to go and direct his public policies in that direction. The way to go should embrace democratizing science and technological base education (ii) The importance of balancing the human exploitation of the land for livelihood. (iii) The adaptation of appropriate policies with incentives to encourage market driven development.

Every theory of sustainable development is expected to subsume these critical elements in its theorising.

Plantain Theory of Sustainable Development

Plantain is a common food plant dominant in Africa, Latin America and many parts of the world and serve as a staple food crops for some countries some of which are; Uganda, Rwanda, Ghana, Cameroon and Nigeria to mention but a few. Its scientific name is *Musa Paradisiaca*. *Musa* being the genus name and '*Paradisiaca*' being the specie name. They are large perennial, herbaceous plants that consist of underground stem the 'corm', 'bulb', or rhizome with 200-500 fibrous roots from which it propagate by sprout or suckers. This is an illustration of sustainability. Thus, any policy pursued by the state, and investment meant for Sustainable Development, should be able to behave like the sucker of '*musa paradisiaca*', for sustainable human development.

It is lower in sugar and rich in protein contents (it is recommended as staple food for diabetic patients). Its process of fruit production is known as parthenocarpie that is, without cross-pollination. Genetically Plantains are triploid with 3 sets of chromosomes which aids its propagation by suckers. It has the ability to regenerate from the corms and quickly recover when damaged by fire, flood and even wind (sustainability). Each corm of the plantain is able to propagate 3-9 suckers. This is an illustration of sustainability. Thus, any policy pursued by the state, and investment meant for Sustainable Development, should be able to act like the sucker of '*musa paradisiaca*' that is, augment itself, for sustainable human development.

The logic of Plantain Theory: An Analysis

The logic of sustainable Development derivable from the nature of *Musa Paradisica aka* Plantain, would be espoused further in the case study of 'Singapore under the leadership of Lee Kuan Yew. It stressed the situation in which a leader generate and execute social and economic development policies in which every project duly implemented serves as the plantain 'bulb' or 'rhizome' by sprouting into several other positive indices in terms of human development which are beneficial to the society. Thus; by fixing the stem in the environment (this imply leadership, which planned to keep hunger away), because it is perennial, it last for a very long time before it could be

destroyed. Each stem of Plantain has 200-500 fibrous roots, which feeds it from the soil, rich in protein and low in sugar. Plantain is a crop, which illustrates the concept of Sustainable Development. Anything done in the name of Sustainable Development should be enduring and exhibiting the properties of a Plantain tree. As stated earlier, it withstands adverse conditions such as flood, wind and fire, and sprout to continue to feed its own with high protein content as diet.

Consequent upon the Plantain theory of Sustainable Development, a state in pursuit of Sustainable Development should produce a leadership with long term plan, which would serve as the Plantain roots. The Planning or 'forethought' for this purpose should generate the elements of Sustainable Development being human capital accumulation from educational institutions (well-funded, where its human inputs would not be selected by ascription). As the Plantain is planted, the Government initiates a programme of intervention, which would extract resources and add value to it by processing and manufacturing to lessen the pressure of extraction. The right technology is required to do this (it is expected that, the first step, in the theoretical processes of sustainable development would supply this).

The leadership should have good governance as its ideology and practically manifest this by mobilizing everyone along. When it would have been done, the situation would augment itself as a plantain plant on a continuing basis hence sustainable development. Sustainable Development would have reduced poverty in the larger population of the people to attain 'Pareto Optimality' when Industrial investments would have been provided to add value to the extracted natural resources. It would also reduce the army of the unemployed people. Inequality would have been reduced considerably, while Self-reliance on the economy would be incrementally realised. In all these, the state should be the initial driver along with private concerns to show the way to go and continually supervise by occasional interventions. The domestic consumption would be centred on the goods produced locally in order to minimise the rate of foreign exchange

flight through the excessive consumption of imported goods. There can be no Sustainable Development without the State playing significant role in the globalised economy.

Singapore and the Plantain Theory

Singapore is one of the 'Asian Tigers with a rapidly growing economy than other high performing ASIAN economies (HPAEs). The economy also got a head start because they had a better-educated labour force and a more effective system of public administration;

There is nothing miraculous about the HPAEs superior record of growth; it is largely due to superior accumulation of physical and human capital.

Fundamentally, sound development policy was a major ingredient in achieving rapid growth. Education policies that focused on primary and secondary schools generated rapid increases in labour force skills. Policy interventions took many forms; targeting and subsidizing credit to selected industries, keeping deposit rates low and maintain ceiling on borrowing rates to increase profits and retained earnings, protecting domestic import substitutes, subsidizing declining industries, establishing and financially supporting government banks, making public investment in applied research, and establishing firm and industries specific export targets (World Bank, 1993). A third world of Singapore transited into the category of the first world, with high human development indices (HDI), low corruption index, become a tax haven so much that millionaires from first world choose to reside there (Face book owner (2012) and the wealthiest man in Australia (2013) are all residing there) (Frank, 2014). The ingredient of sustainability driveable is leadership.

At the beginning, Singapore got the following indices of development right; there was massive investment in education, as this got better, crime rates dropped. There was enormous investment in housing, today about 80 per cent of the population have publicly subsidized home.

Meritocracy was built into the public administrative system and the salary of ministers and top civil servants equated that of top professionals in the private sector to help recruit and retain talent in the public sector. The economy received greatest attention with sound macroeconomic policies. The state established many industries and subsidized them. Corporal punishment was introduced right from school levels. These, were driven by patriotic leadership to move into the category of the first world.

Elements of Sustainable Development

It is instructive to state that, the history of the rise of Singapore from the third to the first world status could be gleaned from the following basics;

- i) Leadership-which should be benevolent and patriotic dictatorship. In fact, many claimed that some form kind of dictatorship is needed to get economic development going. Economic development requires the accumulation of capital and that, in turn, requires low wages and high savings rates. This is more easily accomplished under an autocratic government that is capable of imposing its will on the people than a democratic one that is responsive to the wishes of the electorates (Soros, 2004: 109).
- ii) Investment in human capital accumulation (establishing schools of all categories) and ensuring that they are subsidized. This would create a literate citizenry who would act as the rhizome of the plantain plant. This would be the source of the critical mass that would sprout like the plantain in industries and supply labour support to all forms of industries that would be established.
- iii) State policies-to set up investments in industrialization. The State often retains the power to interfere in the economy, though that have become increasingly subject to the forces of global competition. If a government imposes conditions that are unfavourable to capital, capital will seek to escape. Conversely, if government keeps down wages and provides incentives for favoured businesses it can foster the accumulation of capital (Soros, 2004:109). Singapore as Soros opined, itself became a capitalist by setting up

well-managed and highly successful investment funds. In the Asian model, the state allied itself with local business interests and helped them to accumulate capital. The strategy required government leadership in industrial planning, a high degree of financial leverage, and some degree of protection for the domestic economy, as well as the leverage to control wages (Soros, 2004:110). This is both a function of leadership and benevolent dictatorship, which could be civil or military as seen in the Asian (HPAEs).

iv) The producers of the 'wealth of the nations' is derived from the critical mass generated by the investment in human capital accumulation. The wealth is not derived from the tax incomes, rather in their ability to combine technical knowledge to convert natural resources to wealth. It is the pursuit and use of technical knowledge to create the wealth of nation.

The Plantain Theory: Outcomes

The application of the Plantain theory of Sustainable Development, in the economic management of the state along the pattern canvassed herein, would address the fact that science and technology has dominated the world today. It would recognised that it has inevitably caused geometric depletion of the earth's natural capital, at a rate in which it is doubtful, if the coming generation would be able to meet half of the current natural capital for their own development as well. The current system of the exploitation of natural resources is likely to generate *environmental deficit*.

The application of the theory of Sustainable Development captured herein, is expected to realise the essence of the IFAD Strategic Intervention framework which spelt the contents of any Sustainable Development efforts to include;

- i) Political Sustainability –government commitment in establishing an enabling environment, stakeholder interest, strong lobby groups and political influence/pressure.
- ii) Social Sustainability-Social support and acceptability, community competence, social cohesion.

- iii) Ownership –whether or not community, local government and households accept and own the outcomes of the projects in ways that are sustainable.
- iv) Institutional Sustainability – institutional support, policy implementation, staffing, recurrent budgets.
- v) Economic and Financial sustainability-resilience to economic shocks, financial viability, reduced household vulnerability and increased capacity to cope with risks/shocks.
- vi) Technical Sustainability –technical soundness, appropriate solutions, technical training for operations and maintenance, access to and cost of spare parts and repairs.
- vii) Environmental Sustainability –projects positive / negative contributions to soil and water preservation and management, resilience to external environmental shocks (IFAD, 2006).

Natural capital consists of fossil fuel, which is an irreplaceable asset. Resources derived from here should be processed so that we depend on crude resources very slightly. Thus, the little extracted, should be used to create further wealth and make man depend less on the natural resources or capital to enable succeeding generation to also savour in the abundance of nature. Fossil fuel should be treated as 'capital' not as 'Income' so that the logic of capital augmenting itself would be applied to natural capital. This depends extensively on the acquisition of science and technology. Hence, school enrolment to accumulate human capital is a sine qua non condition for Sustainable Development.

Conclusion

It had been established that Sustainable Development (SD) does not start with the production of goods, but with the development of the critical mass of the people, though, their education, organization, discipline all of which are preceded by leadership. The leadership then present picture of the future, which confront African States with specific concern for Nigeria if certain steps are not followed. This included, growing

population with a decreasing food security index. The budget in Nigeria now is in trillions, this is made nonsense by corruption and lack of service delivery and an uncontrolled population explosion. Sustainable Development behoves on the state to ensure this is curtailed if not eliminated, as was the case in Singapore. The state should carefully select develop programmes which are sustainable in all the felt need requirements to ensure its suitability.

The distribution of public good should be on utilitarian basis in order to lift every person out of poverty, (where it does not lead all,) let it not make them worst off than they were initially. This would be moving towards Sustainable Development.

The primary condition for sustainable development is the emergence of a leader among the people. A leader who realised the available stock of natural capital and seek to convert into increasing the Human Development Indices of the people. He should increase the quality of education of the people and generate the desire to care for everyone and dissuade the development of 'Prebendal' social norms among the people. He then pursues the expansion of educational opportunities from where human capital shall be accumulated.

Recommendations

Leadership is crucial in the pursuit of Sustainable Development (SD), especially benevolence and dictatorial one which is a patriotic moderniser of the state. The leader should understand the principles and problems of Sustainable Development and the need requirements (massive scientific education, industrialization, balancing environmental extraction and degradation) and ensuring that the system augments itself. Every person in the process should sacrifice and be adequately compensated when the gains are to be distributed.

There can be no attainment of Sustainable Development without the state playing significance role in the economy. The current interpretation of 'market liberalization' as

absolute non-presence of the state in economic development would not lead Africa and Nigeria specifically to achieve the aim of this study.

Last but not the least, is a crucial element of Sustainable Development, which must be upheld at all time, is the treatment of all ethnic groups in the polity based on equal right and justice. This is to generate peaceful environment for development of Sustainable Development. The practice of 'majoritarian tyranny', in which the majority ethnic groups as in African states, and particularly in Nigeria (winner takes all), marginalizes the 'minority ethnic group, is counterproductive to the attainment of the objective of this study. This is because very often, the major resource of the state is located in the locality of the minority ethnic groups. Balancing these two extremes, provide the environment for the growth of Sustainable Development along the line of canvassed in this study. This is one of the strategies to provide for the need requirements of the present generation without mortgaging both the environment and the chances of future generation.

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