

Sustainability in our contemporary society

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Abstract

Sustainability originates from the word, sustain- the ability to preserve. Both are alike but differ in their own way. Sustainability is based on one principle: Things that enable people survive and attain better living conditions directly or indirectly from their natural environment. The natural environment is a foundation to any other definition of sustainability. This is because the environment determines people's association with the world. Here also, Le Chatelier's principle is used to illustrate the nature at which the categories of sustainability affect themselves.

Keywords: Sustainable development, environmental sustainability, agricultural sustainability, economic sustainability, cultural sustainability, socio-political sustainability, life sustainability, Le Chatelier's principle.

INTRODUCTION

People believe that sustainability originated from significant concerns bothering our unintended social, environmental and economic consequences of rapid population growth, economic growth and consumption of human resources. This is partially correct because sustainability does not only have to do with the 'social, environmental and economic' sector, but also has a hand in agricultural, socio-political, and cultural sectors. The need for sustainability sprung about the sustainability development project which is conceptually composed of the environmental, economic and socio-political sustainability.

CATEGORIES AND INFLUENCES OF SUSTAINABILITY

• ENVIRONMENTAL SUSTAINABILITY

Environmental sustainability is the protection of our immediate environment. Environmental protection is concerned with the 'protection' of our natural resources. Showing an example from a country such as Nigeria, the Niger Delta areas are water-polluted. This could be as a result of individual lackadaisical attitude towards the wellbeing of the people that inhabit such areas. Though they possess a governmental-sponsored environmental protection agency called the ASEPA (Abia State Environmental Protection Agency) at Abia State, Nigeria. This group is responsible for periodic inspection of areas in Abia State to ensure general sanitation. There are also other such organizations in various places in the world. Even with these agencies, everyone would agree that there is no thorough control over pollution of our environment and even land.

-SOLUTION TO LACK OF ENVIRONMENTAL SUSTAINABILITY CONCERNS

I believe that if there is to be a change in the attitude of the public towards environmental protection then, there should be concerns over the preservation and good usage of our natural environment. This is first achieved by self transformation because it is one corner of the universe which one is certain to improve as illustrated by Aldous Huxley. Gloria Anzuldua said, "I change myself, I change the world." Environmental sustainability also deals with the adaptation to climate for our own benefit. This shows that environmental sustainability reaches out to other parts of sustainability; for example, the climate affects our agricultural produce and activities. This is the reason why HRH, the Prince of Wales, addressed United Nations climate conference COP15, Copenhagen (December 2009) saying, "The future of mankind can be assured only if we rediscover ways in which to live as part of nature, not apart from her." The United Nations 2005 World Summit refers to the 'interdependent and mutually reinforcing pillars of sustainable development' as environmental, economic and social development. As seen, the interdependence of the first two is evident; 'it is perhaps the greatest challenge of our time to satisfy the needs and wants of burgeoning populations within the binding constraints imposed by our physical environment.'

• ECONOMIC SUSTAINABILITY

Economic sustainability is various strategies of making the most out of our available resources. This is where the finance sector of a county overrules. They decide the general use and management of these resources obtained by taking certain decisions or carrying out specific actions which would economize the use of these resources.

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Our economy is sustainable if our resources are not used up faster than they are renewed by nature. No economic

system is taken as sustainable unless it accommodates the ecosystems on which it depends. Our current system is badly flawed regarding the notion of perpetual economic expansion. ‘We urgently need to apply human ingenuity to the goal of using far less from nature to meet our needs.’

- **BUSINESS SUSTAINABILITY**

Business sustainability is somewhat dependent on the economic sustainability, as the effects of the economy must affect the business in its plans, actions, schedule and decision making. As far as sustainability is concerned, every part affects the other as represented in the ‘*Ivan’s food web of sustainable development*’, therefore, if we endeavor to change one wrong factor, it affects other parts positively or negatively.

-SOLUTION TO LACK OF BUSINESS SUSTAINABILITY CONCERNS

Once we change all other sectors, like the economic sector, for the good, we would be propagating business sustainability. Like Dr. Jonathan Foot, Chief Environmental Officer, EDF Energy, addressing Sustainable Development 2010 Conference, London(February 2010) said, “Doing the right thing on climate change, saves money, retains customers, creates new market opportunity and takes you beyond just compliance. It reduces risk exposure and reduces risk to shareholders.”

- **SOCIAL AND SOCIO-POLITICAL SUSTAINABILITY**

SOCIAL SUSTAINABILITY

If environmental protection is concerned with the preservation of our natural environment and resources, and economic sustainability is concerned with seeking durable growth solutions therein, then the sociopolitical sphere is a representative of purely human element in the equation. Social development and socio-political sustainability are intimately related concepts but are not entirely interchangeable. The distinguishing feature of social development is that it is executed within the institutional mechanism and constraints prevailing in that given entity.

- SOLUTION TO LACK OF CONCERN AS REGARDS TO SOCIAL SUSTAINABILITY

It could be pursued by the granting of budgets. Financial and human resources can be utilized to uphold societies by improving educational opportunities, by embracing the marginalized and the forgotten, by improvements to health care and hygienic conditions and by endearing knowledge of financial and entrepreneurial activities.

SOCIO-POLITICAL SUSTAINABILITY

The realm of socio-political sustainability deals with the decisions and roles of leaders which affect our everyday life. The recent problem of most countries is as a result of indecisiveness on the side of the leaders

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Decisions should be made by leaders after careful thoughts and planning because the society comprises of people of different life standards, styles, and status.

- **AGRICULTURAL SUSTAINABILITY**

Agricultural sustainability is the preservation and the protection of our agricultural produce. Agriculture has changed consequently since World War II. Food and fiber productivity boosted due to new technological advancements, increased use of chemicals, and government policies that favored maximizing production. These changes allowed few farmers with reduced labor to produce the majority of the food and fiber we use today.

-SOLUTION TO LACK OF CONCERN AS REGARDS AGRICULTURAL SUSTAINABILITY

Agricultural sustainability can be improved by improving other sectors, such as the environmental sustainability and socio-political, which affect agricultural sustainability.

- **CULTURAL SUSTAINABILITY**

Cultural sustainability has to do with the preservation of our culture, ethics, norms and values. The most important aspect of cultural development is to remind people culture and ethics, regardless of place, origin or belief and to promote culture to avoid extinction. Cultural sustainability also has to do with enabling religious pluralism because not all norms are equally valid though religious beliefs mostly help the society in advancement.

-SOLUTION TOWARDS LACK OF CONCERN AS REGARDS CULTURAL SUSTAINABILITY

Cultural sustainability is influenced by social sustainability when this is improved cultural sustainability is propagated

- **LIFE SUSTAINABILITY**

Most people might wonder what life sustainability is all about. Life sustainability is influenced by all the above mentioned categories of sustainability. By improving them, life sustainability is improved. Life sustainability is the protection of ones life from factors that could endanger it. Life sustainability does not only have to do with the other categories of sustainability but it is also influenced by scientific factors and other abstracts.

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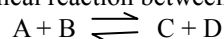
All factors must be maintained above danger to ensure life sustainability, including the scientific factors and the abstracts.

FUTHER CONTRIBUTIONS

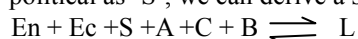
The three pillars of ethical choice are pluralism, rights, and responsibilities. In the balance of rights and responsibilities, the government has a major role to play. They should consider some rights and responsibilities that might endanger the society and should strike them out. They should only encourage rights and responsibilities that will be beneficial to everyone. The decision of what is should be broadly beneficial as to affect everyone in the society positively, the attitude of a non-partisan. For this reason, the norms and values of a society are important.

ANALYSIS- Similarity between Sustainable Development and the Le Chatelier's Principle of Chemical Equilibrium

From general analysis of the above concept, the main aim of man is to sustain life- Life Sustainability. Therefore man engages in all other aspects of sustainability in order to promote life. Presently, there is no society that does not lack, even to a minor degree, any of these aspects, but it is striking that the lives of all people are not much as stake as naturally expected though some others who are not very much fit die. This is because nature must remain at equilibrium and a disturbance in the system of equilibrium will cause a shift in the system to nullify the disturbance and attain equilibrium. This is quite similar to the famous Le Chatelier's Principle of Chemical Equilibrium. According to the Le Chatelier's Principle, when a constraint alters the equilibrium of a system, the system nullifies the effect of the constraint by shifting in an opposite direction to the action/effect of that constraint. Example in a chemical reaction between two substances, A and B:



A decrease in the concentration of C, D or both will bring about a shift by the system towards the product-deficient side, whereas a decrease in the concentration of A, B, or both will bring about a corresponding shift by the system towards the reactant-deficient side. So also is the case for sustainability; if we are to represent the various aspects of sustainability by their first letters such as Economic sustainability as 'Ec' and social and socio-political as 'S', we can derive a similar formula



Likely, a decrease in L (Life sustainability) will shift the system towards the product-deficient side in order to nullify the effect. This can be seen naturally when there is an excess increase in mortality rate, one of the reactant side (En, Ec, A, S, C and B) would shift to nullify the effect; often in the case of high mortality rate, there is enough raw material for use for the living population hereby introducing economic sustainability. These raw materials will help preserve the life of the existing population thereby promoting life sustainability in an attempt to keep the system at equilibrium. However, when the reactant side is reduced, maybe economic sustainability, environmental sustainability or business sustainability, the lives of the existing population is at stake as only the fittest survives. In economic downfall, most people would die of poverty, in environmental most people would die of ill health whereas in business most people will die of poverty and ill health arising diseases. This is for the system of nature to attain equilibrium. This is the reason why health personnel and sanitarians warn people that a bad environment places inhabitants' lives at risk; this is because nature must seek equilibrium. An increase in life sustainability also brings about a shift in that there is an increase in the reactant side (similar to Le Chatelier's principle as well) i.e. an increase in the population signifies that there is also an improvement in the other aspects of sustainability. A growing population is significantly improving their living conditions, such as the environmental sustainability, agricultural, etc. Also an increase in the reactant side will shift the system in order to seek equilibrium; there will also be an increase in the living population. Cultural sustainability might not affect life sustainability much; the extent to which various aspects affect life sustainability is illustrated in the 'Ivan's food web of sustainable development' given later in this paper.

Therefore, the Ivan's Theory of Natural Equilibrium states that: Nature is always at equilibrium, so, an introduction of a disturbance to the sustainable system of nature will bring about a shift in order to nullify the effect of the disturbance of the system of nature.

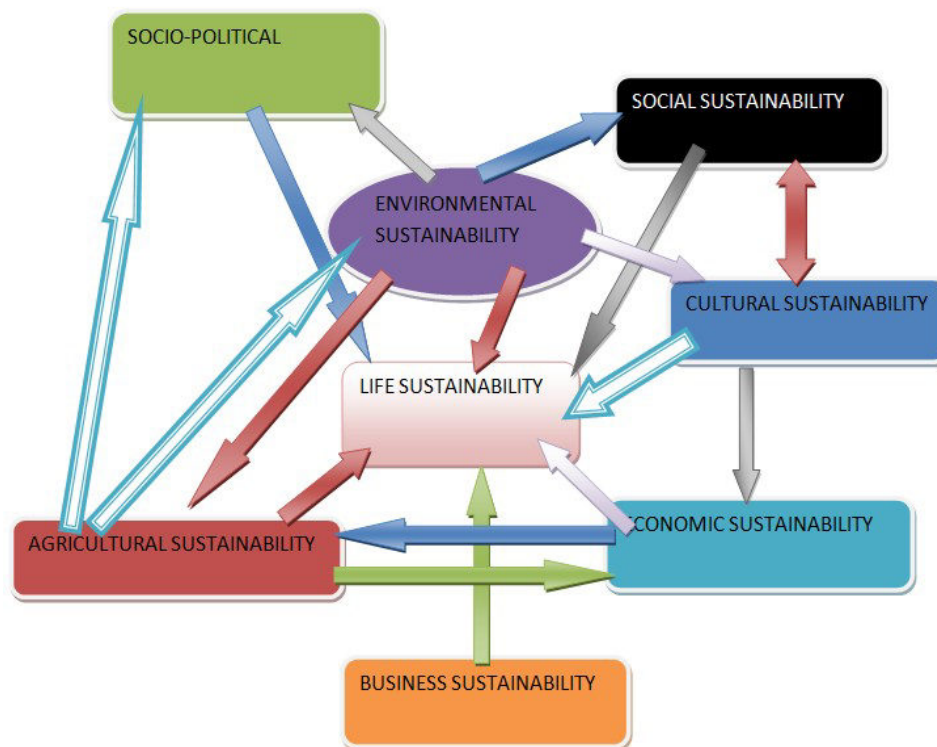
CONCLUSION

Sustainability is important in making sure that we have and will continue to have resources, water and agricultural produce to protect human health and environment. If we are able to establish the right mindset, we would create a survivable life for everyone to live. The ingredients of sustainability are the placing of morality over politics and responsibility over desire.

DIAGRAM:







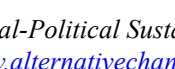
IVAN'S FOOD WEB OF SUSTAINABLE DEVELOPMENT

Ivan's food web of sustainable development is a diagram in the form of a food web that shows the extent at which changing a particular factor in the area of sustainable development affects other categories of sustainability.



KEY

The arrows how one factor affects the other or how they affect each other.

-  Affects the other but quite negligibly
-  Has an influence of 1%-25%
-  Has an influence of 26%-50%
-  Has an influence of 51%-70%
-  Has an influence of 71%-90%
-  Has an influence of 91%-100%
-  Affects each other equally (91%-100%)

IVAN'S FOOD WEB OF SUSTAINABLE DEVELOPMENT

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