

## THE TRIPLE BOTTOMLINE ACCOUNTING AND SUSTAINABLE DEVELOPMENT

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### ABSTRACT

In considering the problems and inefficiencies of the traditional financial accounting model, this study aims at suggesting a framework and methodology of accounting for sustainable corporation, which will be based on the principles of sustainable development and information needs of both economic and non-economic stakeholders. A new framework of accounting is achieved by the integration of existing environmental and ecological techniques with economic considerations. In this way, managerial horizons and responsibilities are widened and important communication channels are opened between some important disciplines, public and private authorities and a range of communities. The account does not measure in absolute terms the sustainable development that a corporation has attained, but provides a comparative mechanism for easy assessment of sustainable development between corporations. The paper suggests that the traditional framework of accounting should be expanded to take into account ecological and social performance in addition to financial performance.

**Keywords:** Accounting, Sustainable development, Corporations, People, Profit, Planet, Ecology

## INTRODUCTION

The triple bottom line (TBL) also known as ‘people’ planet and profit’ or the three pillars, captures an expanded spectrum of value and criteria for measuring organizational success: economic, ecological and social performance,(Elkington1994). With the ratification of the United Nations standard for urban and community accounting in early 2007, this became the dominant approach to public sector full cost accounting.

In the private sector, a commitment to corporate social responsibility implies a commitment to some form of triple bottom line reporting. This is distinct from the more limited changes required to deal only with ecological issues.

The notion of accountability clearly relates to the provision of information to stakeholders, information that can be verified to build trust in its value, as the foundation of social, environmental and economic performance. In accountability’s relationship to sustainability, however, there has been little clarity. Sustainability accounting, defined broadly here as the “triple bottom line accounting”(Elkington, 1994), is made up of three forms of accountability;

- Social-the most immature form,
- Environmental accountability, and
- Economic (or financial) accountability.

The triple bottom-line perspective on accountability broadens the financial accounting to include a wider set of impacts and performance measurement for organizations. In other words, TBL accounting means expanding the traditional framework to take into account ecological and social performance.

However, the problem exists on how to measure such diffuse and diverse fields, as encapsulated under the accountability sustainability analyses, within a common methodology. This new perspective on accountability’s contract role also requires a different kind of assessment for sustainable development which has been defined strategically in the Brundtland Report (UNCWED, 1982) as: *Development that meets the needs of the present without compromising the ability of the future generation to meet their own needs.*

The traditional financial accounting reporting provides rational actors (typically shareholders and other financial market participants) with the wherewithal to pursue their economic self interest. In doing so, the actors move funds from less economically desirable ends towards more economically desirable ends and thereby encourage the development and innovation of “better economic activities through the maintenance and stimulation of competition” (Hines 1984). It is this process, apparently which produces economic growth. As the economy grows (the successful organizations grow and successful investors become even richer) “it floats all boats” as a result of the trickle down theory, in that the spending by the rich ensures that all people are financially better off. Being financially better off, they are also better off in every other way that is their welfare is increased. We can see that based on these assumptions, the empowerment of the rational investor will lead to improved welfare for all. While for many, this statement has a superficial veracity, it ignores the growing gap between rich and poor (Hertz 2001). It ignores the increasing levels of defensive expenditure that the economically successful feel forced to undertake (Robertson, 1990; Ekins, 1992). It is challenged by estimates of foe example, well being or “sustainable welfare” (Van Dieran, 1995; Jacobs, 1991; Daly and Cobb, 1990) and it entirely ignores the increasingly parlous state of the

environment (UNEP, 2002; WWF, 2004; Meadows, Randers and Meadows 2004; Millennium Ecosystem Assessment Board, 2005; EEA, 2005) which has if we remain with economist argument, been treated and measured as income when it is in fact capital (Pearce, Markandrya, and Barbier 1989, Ekins, 1992).

Another criticism often leveled against the present accounting model has emerged from the history of accounting. It is argued that accounting has been co-opted by the bureaucratic function within organizations in a largely successful attempt to create an internal control mechanism. It is also argued that the investor owner community has “hijacked” a limited set of purely financial indicators to judge their own narrow definition of successful financial performance. Either way, the function of accounting has developed a limited and often negatively connoted meaning. There are some complex arguments that offer grounds to suggest that the hegemony of financial accounting used without a wider perspective of accountability is being discredited.

The scope and quality of information and the investment model of organizations have been severely damaged by the lack of broader accountability arrangements in place through company or regulatory practices. An example of dangers of investing in organizations that simply report financial information is cited in a study by New Consumer of 128 UK companies (Chryssides and Kaler, 1993). The study identifies thirteen (13) categories of ethical issues that are not controlled within the present “classical” accounting model; disclosure of wide information, pay, benefits and conditions, equal opportunities, community involvement, environment, other countries, respect for life, political involvement, and links with oppressive regimes, military sales, and marketing policy.

In consideration of the above problems and inefficiencies of the traditional financial accounting model, the researcher intends to suggest a framework and methodology of accounting for sustainable corporation, which will be based on the principles of sustainable development and the information needs of both economic and non- economic stake holders.

### **The Nigerian Experience**

Nigeria has undergone rapid socio-economic and physical development since independence. The country therefore faces numerous challenges to achieve development that is economically and environmentally sustainable. Development achieved so far cannot be described as sustainable because the various development processes have misused or over exploited the natural resources and in the process, affected the environment negatively as well. The ecosystem of the country has been disturbed as a result of rapid population growth with great pressure on the natural resources (Federal Office of Statistics 1999). Apart from the issue of natural and manmade disaster, global environmental matters constitute enormous threat. Meanwhile attempts are now being made in designing a statistical system that will describe the inter-relationships between the natural environment and the economy.

The natural resource stock account is one of the major satellite accounts being currently developed in the environmental and economic account at the Federal Office of Statistics. The issue of valuation is also being properly considered. The system of Integrated Environmental and Economic Accounting (SEEA) developed by the United Nations Statistical Division, applies three categories of valuation in different version. These are, maintenance costing of natural asset, depletion and (environmental quality) degradation, and contingent and related valuations of welfare efforts of environmental degradation. However, for

reasons of data availability and compatibility with conventional accounting rules, Nigeria has adopted the market valuation approach.

It is observed that the issue of environment in Nigeria are basically on human population, land use and soil conservation, water resources management, toxic and hazardous substances, agricultural production, air pollution, noise pollution, working environment and settlements (Nigerian Federal Office of Statistics ). Current efforts are also targeted towards the measurement of deforestation, soil degradation, loss of biological diversity and wildlife and coastal degradation.

Deforestation for instance, is one of the top priority environmental problems in Nigeria.

The present effort in developing resource and environmental accounting will definitely improve economic performance measures and the measure of sustainable income and growth.

### **The Bottom Lines (The three Ps)**

The triple bottom line is made up of social, economic and environment' the "people, planet" phrase was coined for shell by sustainability, influenced by 20<sup>th</sup> century urbanist Patrick Goddess's notion of folk, work and place , [Brown, Dillard and Marshal 2006] 'people, planet and profit succinctly describes the triple bottom lines and the goal of sustainability

*People* [human capital] performs to fair beneficial business practices towards labour and the community and region in which a corporation conducts her business .A TBL company conceives a reciprocal social structure in which the wellbeing of corporate, labour and other stakeholder interests are inter dependent.

A triple bottom line enterprise seeks to benefit many constituencies, not exploit or endanger any group of them .The 'upstreaming' of a portion of profit from the marketing of finished goods goes back to the original producer of raw materials , i.e., a farmer in fair trade agricultural practice. In concrete terms, TBL business would not use child labour and would monitor all contracted companies for child labour exploitation, would pay fair salaries to its workers, would maintain a safe work environment and tolerate working hours, and would not otherwise exploit a community or its labour force. A TBL business also typically seeks to "give back" by contributing to the strength and growth of its community with such things as healthcare and education.

*Planet* (natural capital) refers to sustainable environmental practices. A TBL endeavours to benefit the natural order as much as possible or at least do not harm and curtail environmental impact. A TBL endeavours to reduce its ecological footprint by, among other things, carefully managing its consumption of energy and non-renewable and reducing manufacturing waste as well as rendering waste less toxic, before disposing of it in a safe and legal manner. "Cradle to grave" is uppermost in the thoughts of TBL manufacturing businesses which typically conducts life cycle assessment of products to determine what the true environmental cost is from the growth and harvesting of raw materials to manufacture to distribution to eventual disposal to the end user (Jorgensen, 1993). A triple bottom line company does not produce harmful or destructive products such as weapons, toxic chemicals or batteries containing dangerous heavy metals for example. Currently, the cost of disposing of non-degradable or toxic products is borne financially by government and environmentally by the residents near the disposal site and elsewhere. In TBL thinking, an enterprise which produces and markets a product which will create a waste problem should not

be given a free ride by society. It would be more equitable for the business which manufactures and sells a problematic product to bear part of the cost of its ultimate disposal.

Ecological destructive practices such as over-fishing or other endangering depletions of resources are avoided by TBL companies. Often environmental sustainability is the more profitable course for a business in the long run. There is a hint in a number of studies, that the better financially performing companies do, indeed manifest a better level of observable social responsibility and/or social and environmental reporting behaviour (Murray et al, 2006). Environmentally sound are often specious when the course of the business is analyzed over a period of time. Generally, sustainability reporting metrics are better quantified and standardized for environmental issues than for social ones.

*Profit* is the economic value created by the organization after deducting the cost of all inputs including the cost of capital tied up. It therefore differs from traditional accounting definitions of profit.

In the original concept, with a sustainability framework, the “profit” aspect needs to be seen as the real economic benefit enjoyed by the host society. It is the real economic impact the organization has on its economic environment. This is often confused to be limited to the internal profit made by a company or organization (which nevertheless remains an essential starting point for the computation). Therefore, an original TBL approach cannot be interpreted as simply traditional corporate accounting profit; it considers social and environmental impacts.

### **Accounting for Sustainable Development**

An integrated and comprehensive framework and methodology of accounting for sustainable development has not been successfully applied to an individual corporation ( Birkin 1997). For the purpose of a practical example, it is necessary to construct such an account from the best examples of several corporations and institutions taking into consideration the following factors: Industrial Metabolic Process, Environmental Account and stakeholders.

#### *Industrial Metabolic Process*

This is the part of account that corresponds most closely to existing internal planning and control systems. It is best understood in terms of two information flows: eco balance accounts and “life cycle assessment”. However, when these two information streams are regarded from the point of view of operations management and reporting, they are sufficiently different and important to justify separation.

For example, the eco-balance(sometimes referred to as “mass balance” but this name excludes energy flows and fundamental ecosystem dependence) can be constructed from existing source documents within the corporations such as the material receipt invoices, waybills, stock records and sales dispatches. And the eco balance can be compiled and operated by existing company internal- information providers- such as cost clerks, technicians and accountants. On the other hand, the preparation of a life cycle assessment of the corporation incorporating a complete “cradle to grave” view requires much information external to traditional corporation data bases and expertise not found among traditional providers of corporate information.

## **Environmental Accounts**

Environmental accounts encompass different modules grouped under three main headings:

- Physical flow accounts (such as mass balance): - resource use, energy, air emissions, waste, waste water, material flows etc.
- Monetary flow accounts (measured in monetary units such as currency)-: environmental protection expenditure, environmentally related taxes and rents, subsidies, goods and services etc.
- Assets accounts (measured in physical units where possible in monetary units-: resources, land, water, forests etc.

Figure 1 below lists the parameters of eco-balance input/output analysis at the total corporate level as developed and applied by Dr Christine Jasch, director of the Institute of Ecological Economics (IEE) Vienna.

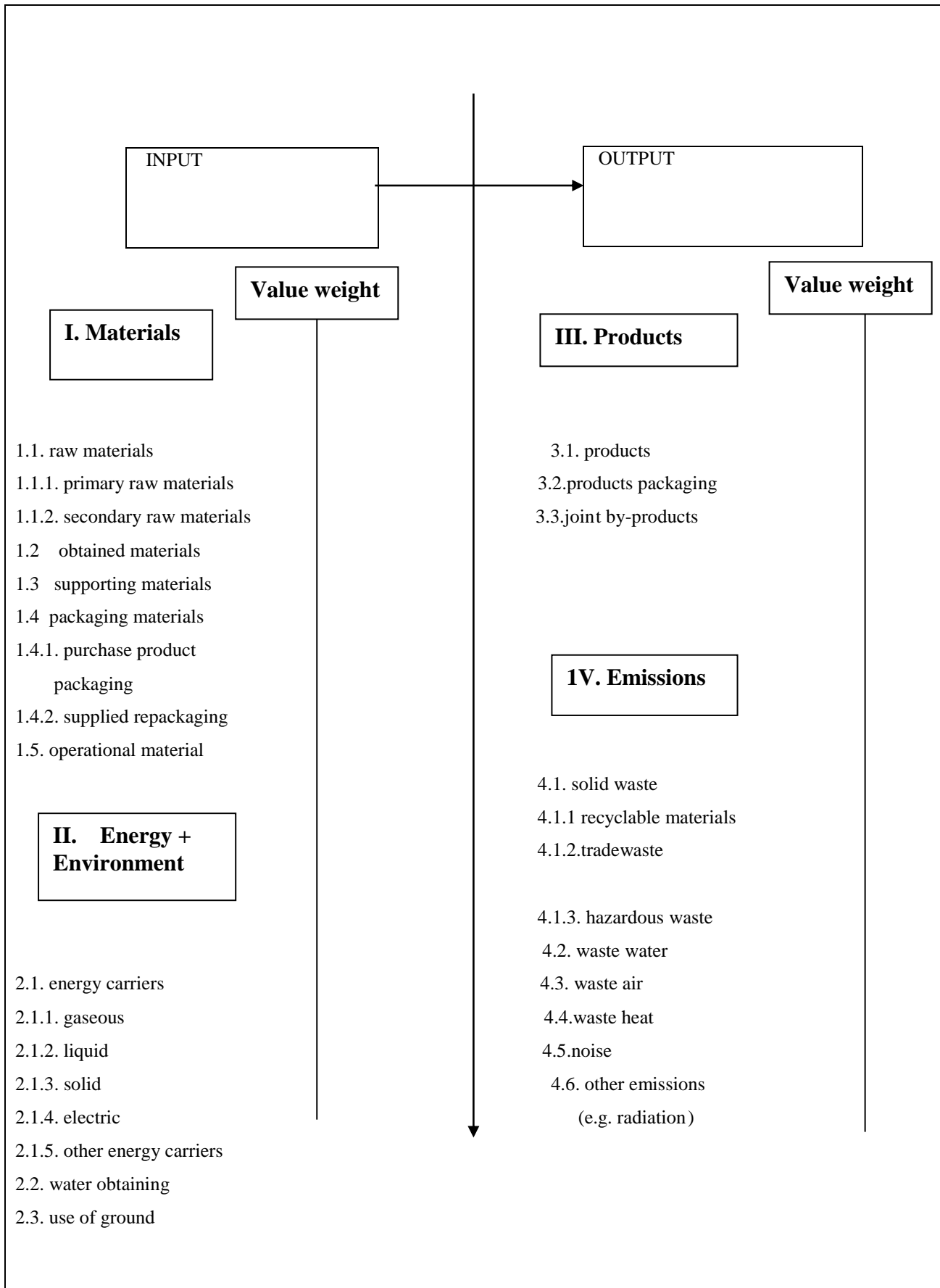


Figure 1. Parameters of the Input/Output Analysis

Source: Journal of Environmental Management and Health (1997)

*The regulatory bodies provide the value weight for the items which have no specified value, based on the type of company and the extent of their operations.* Analysis of the input and output describes the intake from the environment and the impact of the corporation's activities to the environment which helps in assessing such corporations on the field of sustainable development.

However, in order to optimize an industrial metabolic performance, it is necessary to consider more than internal functions alone. The information flow provided by life cycle assessment enables the corporations to embark on the systematic improvement of products and processes according to the objectives of cleaner technology and ultimately in accordance with the principles of sustainable development. While the engineers of many corporations are making use of life cycle assessments for development purposes, few are using the technique to construct an account. The Danish Engineering Company Danfoss refers repeatedly in qualitative terms to the use of life cycle assessments within those pages of its annual report dedicated to product and process development and while quantitative performance improvement information is also given, the two are not linked.

### **Stakeholders**

Stakeholder reporting is achieved through many different communication channels and these channels can vary according to stakeholder needs and the nature of any particular piece of information. While the actual content of the stakeholder reports may vary considerably, it is of some use to classify corporate stakeholders and their information needs within a framework for reporting purposes. Table 1 below provides that kind of classification based ideas initially promulgated in the Corporate Report (ACCA, 1975) and updated by Woodward (1993), and which has been used successfully to analyze empirically the extent of stakeholder information provision by business enterprises.



Table 1: A model of corporate stakeholder information needs

Stakeholder	Information needed to assist in determining/assessing/evaluating	Information source
Owners: existing and potential shareholders (including holders of options and warrants and their advisers)	Share trading decisions, Comparison with earlier years/other companies Managerial performance, future performance	Corporate report Value added statements Forecasts
Lenders: existing and potential suppliers of short and long term funds	Security of investment Value of collateral Cash generating ability	Corporate report Cash-flow statements Independent valuations
Human resources: existing, potential and past employees and their representatives	Security and prospects Information for collective bargaining Position progress and prospects	Employee/employment reports at local(site) level Corporate report
Business contacts customers, suppliers, competitors and those interested in business amalgamations	Long-term viability Ability to meet obligations Product information Economic comparisons	Product literature Trade press releases Corporate report
Governmental/regulatory All aspect of national and Local government and Quasi-government	Economic indicators (balance of payments; output; employment; e.t.c) Tax data	Central Statistical Office returns Special reports Corporate report
General public: taxpayers (central and local),community interest and pressure groups, interest groups and representative bodies	Role of the enterprise in the community and how all its actions affects society at large	Media Surveys/reports/ investigations Corporate report
Natural environment: in reality, groups of concerned individuals claiming to represent environmental interests	The total effect of the enterprise on the natural environment	Environmental reports Life-cycle analyses Sustainability surveys Environmental impact assessments

Source: Accounting for the Sustainable Corporation by Frank Birkin and David Woodward (1997)

It should be noted that the stakeholder identified as “the natural environment” stands apart from the other interest groups shown, in that it has limited ability to demonstrate the three elements inherent in being a stakeholder of interest claim (Carroll, 1993) and ability to influence the matter under consideration (Freeman 1984). Elements of the environment cannot themselves give expression to their feelings about aspects of environment concern, and rely on pressure groups to do this on their behalf for better or for worse. It may thus be better to envisage the natural environment as an “area of interest” than an “interest group” because of this unique feature. Nevertheless a stakeholder model would not be complete without recognition of concern for the natural environment and Smith (1993) has identified the emergence of a “new era” of environmentalism which has begun to develop its own momentum.

The potential for stakeholder analysis and reporting to accommodate an account of sustainable development has yet to be fully realized.

### The Sustainable Development Account

There is need to provide a common content framework and methodology for the preparation and reporting of such an account which the management, investors, political authorities, environmental watchdogs and local communities would all like to compare and contrast to ascertain the sustainable development performance of corporations in a convenient and standardized way. Table two below shows a benchmark for sustainable development (SD) corporate account.

Table 2: Benchmarks for a Sustainable Development Corporate Account

		Life cycle assessment	Eco balance accounts	Stakeholder analysis	Carrying capacity assessment	
Sustainable development	+	Verification by competent body	No waste	90% stakeholder support	100% renewable resources	
	a +		Third party verification	Demand management	Diverse biotic environment	
		b +	Product redesign	Process redesign	Stakeholder dialogue	Industrial ecology
					Analysis of stakeholder needs	Habitat restoration High use of renewable
		c +	Material sourcing and disposal	Material efficiency Environmental performance indicators	Regular stakeholder reports	Tolerance of competitor species
					EMAS credentials	Dematerialized growth
	d+	Customer use analysis	Reuse Recycle Reduce	Environmental reports Press releases	CO <sub>2</sub> / O <sub>2</sub> stabilized No ozone damaged Harvest rates monitored	
	e-	Linear processes	No waste records	Minimum stakeholder communications	No recognition of ecosystem limits Habitats fragmented	
	-					

Sources: Researchers analysis 2013, adapted from Birkin & Woodward 1997

## **Profitability Ranking**

In the concept of sustainability framework, the profit aspect needs to be seen as the real economic benefit enjoyed by the host society. It is the real economic impact the organization has on its economic environment. This profit is often confused to be limited to the internal profit made by the company or organization (this nevertheless remains the essential starting point for computation). From table 2 above, increase attention and regard to the people and environment indicates high profitable performance by the company which invariably will lead to sustainable development and the reverse shows low performance and poor sustainable development. These are represented by the positive and negative alphabets (a +, b +, c +, d + and e -).

There is need to agree on the broad framework and methodology for the account. This agreement should be narrow enough to enable meaningful communication about the accounts to be prepared between the operators and users of diverse nationality but broad enough to permit the evolving local and regional variations of different sites to be considered. A benchmark approach seems most suitable for this purpose. Table 2 above gives an example of a benchmark account for corporate sustainable development. The environmental management system standards such as ISO 14001 could help to provide detailed procedures and categorization to be incorporated with the account. The approach is to implement them gradually in a step-by-step manner, progressively developing the environmentally accounting framework.

## **CONCLUSION AND RECOMMENDATION FOR FURTHER STUDIES**

Accountability clearly relates to the provisions of information to stakeholders, verifiable information to build trust in its value, as the foundation of social, environmental and economic performance.

However, the traditional financial accounting reporting provides rational actors (typically shareholders) and other financial market participants with the wherewithal to pursue their economic and self interest. It ignores the increasing levels of defensive expenditures that the economically successful feel forced to undertake which is detrimental to sustainable growth.

A problem therefore exists on how to measure such diffuse and diverse fields as contained in the accountability sustainability analysis. The solution is to expand the traditional accounting framework to take into account ecological and social performance in addition to financial performance.

This is achieved by the introduction of sustainable development accounting framework and methodology for the preparation and reporting of such an account which the management, investors, political authorities, environmental watchdogs and local communities would all like to compare and contrast to ascertain the sustainable development performance of a corporation.

Based on the analysis on sustainable development account on this work, the profit aspect of a corporation is seen as the real economic benefit enjoyed by the host community and the real economic impact the organization has on its economic environment.

Environmental watchdogs therefore, should ensure that corporations adopt this framework of accountability for increased sustainability and development. This study made effort to provide a benchmark approach for accounting for sustainable development. Further research could establish a standardized framework for stakeholder reporting.

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