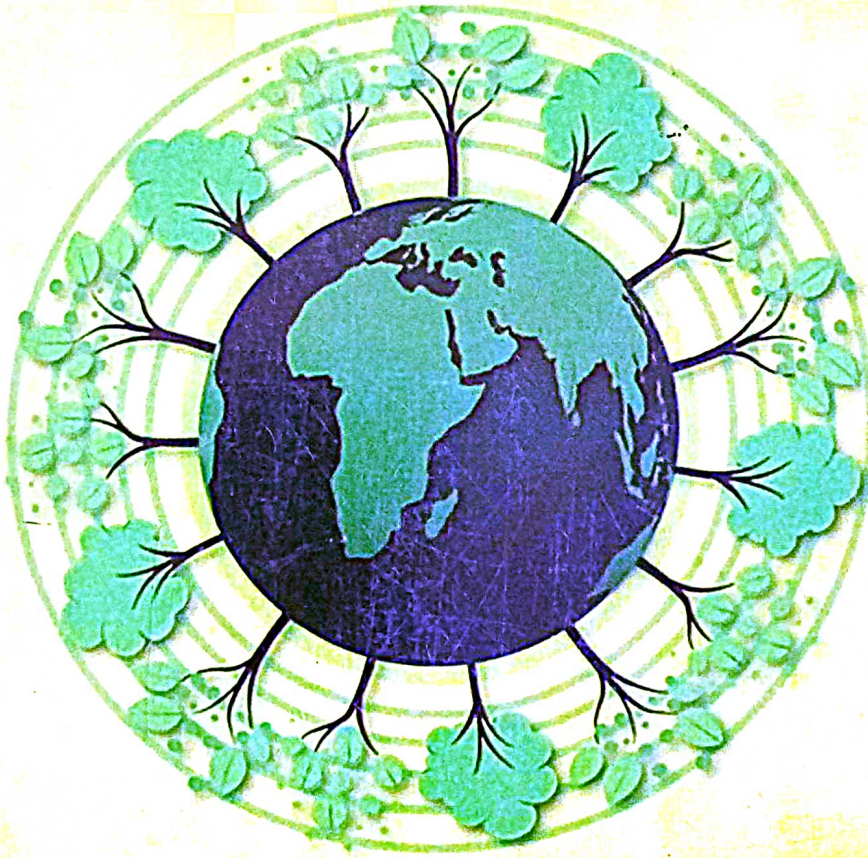




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CHALLENGES AND STRATEGIES FOR GLOBAL SUSTAINABLE AND GREEN ECONOMIC DEVELOPMENT (CSGSGED)-2017



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A CONCEPTUAL STUDY ON GREEN ACCOUNTING AND ITS IMPORTANCE

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ABSTRACT

Green Accounting is a developing concept and is considered to be the important accounting element in every economic condition. Better macroeconomic and societal indicators are needed to reflect the contribution of biodiversity and ecosystem services to human well-being. One approach that is gaining momentum across the globe in general and in India in particular is "green accounting" whereby national accounts are adjusted to include the value of nature's goods and services. The Green Accounting term was first introduced into common usage by economist and Professor Peter Wood in the 1980s. Green accounting is also referred to as environmental accounting which incorporates environmental assets and their source and sinks function into national and corporate accounts. It is a popular term for environmental and natural resource accounting. The main purpose of this paper is to study and analyze the available literature based on the green accounting and to understand how it has been studied and evaluated by different authors who are working in this area.

Keywords: Green Accounting

INTRODUCTION

An account is a statement or measure that provides an assurance about the financial information. Accounting is discipline of measuring, communicating and interpreting the financial activity. Green accounting, which is popularly termed for environmental and natural resource accounting, considered as a subset or superset of accounting proper. Green accounting is a management tool used for a variety of purposes, such as improving environmental performance, controlling costs, investing in "cleaner" technologies, developing "greener" processes and products, and informing decisions related to product mix, product retention, and product pricing. Green accounting is a growing field that identifies resource

use, measures and communicates costs of a company or the national economy actual or potential impact on the environment. Green accounting is also referred to as environmental accounting which incorporates environmental assets and their source and sinks function into national and corporate accounts.

The objective of the present study is to review the importance of Green Accounting in India and also to analyze the Concept, Need, Advantages and limitations of Green Accounting for developing India. This paper has been done mainly on the basis of secondary data and information available from books and published works and reports.

History and Meaning of Green Accounting:

The term Green Accounting has been announced since the 1980s and known as a management tools. The conventional SNA was first started in the USA in 1942. The present situation of green accounting is most evolved from, sustainable accounting, has been receiving continues attention in the academic accounting literature in the early 1990s. The concept started almost three decades ago in the early 1970s with important contributions. *"It permits the computation of income for a nation by taking into account the economic damage and depletion in the natural resource base of an economy."*

Green Accounting System

A Green Accounting system is composed of environmentally differentiated conventional accounting and ecological accounting. Environmentally differentiated accounting measures impact of the natural environment on a company in nominal or monetary terms. It measures the impact a company has on the environment, but in physical unit (e.g. Kilogram of waste produced) rather than monetary unit. It is closely related to sustainability. Objectives of Green Accounting Green accounting is used to increase the amount of relevant for those who need it or can use it. Relevant data depends on the scale and scope of coverage. It is to increase the sustainable development.

Scope of Green Accounting

The scope of Green Accounting (hereinafter called as Environment Accounting - EA) is very wide. It includes corporate level, national & international level. The following aspects are

included in Green Accounting: Internal and External Aspects. From Internal point of view investment made by the corporate sector for minimization of losses to environment. It includes investment made into the environment saving equipment devices. This type of accounting is easy as money measurement is possible. From external point of view all types of loss are indirectly due to business operation/activities. It mainly includes, Degradation and destruction like soil erosion, loss of bio diversity, air pollution, water pollution, noise pollution, problem of solid waste, coastal & marine pollution. Depletion of nonrenewable natural resources i.e. loss emerged due to over exploitation of nonrenewable natural resources like minerals, water, gas, etc. Deforestation and Land uses. This type of accounting is not easy, as losses to environment cannot be measured exactly in monetary value. Further, it is very hard to decide that how much loss was occurred to the environment due to a particular industry.

Objectives of Green Accounting:

The objectives of green accounting are:

1. Segregation and Elaboration of all Environment related Flows and Stocks of Traditional Accounts:

The segregation of all flows and stocks of assets related to environment permits the estimation of the total expenditure for the protection of the environment. A further objective of this segregation is to identify that part of the gross domestic product that reflects the costs necessary to compensate for the negative impacts of economic growth, that is, the defensive expenditures.

2. Linkage of Physical Resource Accounts with Monetary Environmental Accounts:

Physical resource accounts cover the total stock or reserves of natural resources and changes therein, even if those resources are not affected by the economic system. Thus natural resource accounts provide the physical counterpart of the monetary stock and flow accounts of SEEA.

3. Assessment of Environmental Costs and Benefits:

The SEEA expands and complements the SNA with regard to costing:

- (a) The use (depletion) of natural resources in production and final demand;

(b) The changes in environmental quality, resulting from pollution and other impacts of production, consumption and natural events, on the one hand, and environmental protection, on the other.

4. Accounting for the Maintenance of Tangible Wealth:

The SEEA extends the concept of capital to cover not only human-made but also natural capital. Capital formation is correspondingly changed into a broader concept of capital accumulation allowing for the use or consumption and discovery of environmental assets.

5. Elaboration and Measurement of Indicators of Environmentally Adjusted Product and Income:

The consideration of the costs of depletion of natural resources and changes in environmental quality permits the calculation of modified macro-economic aggregates, notably an environmentally adjusted net domestic product (EDP).

Environmental management accounting: It is the identification, collection, estimation, analysis, internal reporting and use of materials and energy flow information. This type of accounting can be further classified in the following subsystems: **Segment Environmental Accounting:** This is an internal environmental accounting tool to select an investment activity, or a project, related to environmental conservation from among all processes of operations, and to evaluate environmental effects for a certain period. **Eco Balance Environmental Accounting:** This is an internal environmental accounting tool to support PDCA for sustainable environmental management activities. **Corporate Environmental Accounting:** This is a tool to inform the public of relevant information compiled in accordance with the Environmental Accounting. It should be called as Corporate Environmental Reporting. For this purpose the cost and effect (in quantity and monetary value) of its environmental conservation activities are used.

Environmental Financial Accounting: It focuses on reporting environmental liability costs and other significant environmental costs.

Environmental National Accounting: It focuses on national resources stock and externality costs etc.

System of National Account (SNA): SNA is the set of account which government compiles routinely to track the activity of their economic. SNA data are used to calculate major economic indicators GDP, GNP, saving rate and trade balance figure. The system of NA views the relationship between the environmental and the economy free economic perspective only. Standard National Accounts (SNA) Framework Net Domestic Product $NDP = C + I - D + X - M$

Where: NDP = Net Domestic Product; C = final Consumption; I = Investment (fixed capital); D = Depreciation; X = Exports; M = Imports.

Misleadingly used as measure of welfare, welfare not proportionate to consumption of produced goods.

Gross Domestic Product and its importance

The gross domestic product (GDP) is one of the primary indicators used to gauge the health of a country's economy. It represents the total dollar value of all goods and services produced over a specific time period; you can think of it as the size of the economy. The sum of all officially recognized final goods and services produced within a country in a given period of time GDP can be measured using the income approach, the output approach and expenditure approach. The formula for GDP is which measures the output of a nation by summing: $GDP = C + I + G + X_n$ Where C – The total spending by households on goods and services; I – The investments firms make in new capital or those households make in real estate and homes; G – The spending government does on public goods; X_n – The spending of foreigners on goods produced by our country (Exports) minus the spending our consumers do on goods produced abroad (Imports). The GDP of a particular nation in a particular year therefore equals the sum of C , I , G and X_n . GDP is considered by economists to be the most important measure of economic activity in nations for several reasons: It tells us something about the relative size of different countries' economies. It is a monetary measure, so it tells us how much income a country earns in a year (assuming everything that is produced is sold). When we divide GDP by the population, we get GDP per capita, which tells us how many goods and services the average person consumes in a country. When real GDP grows more than the population, that tells us that people on average, have more stuff than they did before.

To Account For What GDP Does Not, Economists Have Created Green GDP. The green gross domestic product (green GDP) is an index of economic growth with the environmental consequences of that growth factored into a country's conventional GDP. $\text{Green GDP} = \text{GDP} - \text{the value of environmental degradation} - P$ (P = all expenditures resulting from cleaning up pollution, avoiding further environmental damage, and health care costs of pollution-induced illnesses). Green GDP is an under-used measure of economic activity which subtracts from real GDP the losses to the environment and biodiversity resulting from economic growth. It places a monetary value on environmental degradation and subtracts this from the nation's GDP. Is a measure preferred by environmentalists who believe that economic growth overstates increases in peoples' well-being due to the fact that it ignores the externalities that accompany growth? The Implications of Green GDP is to lower growth rates and High growth rates, would necessitate expenditure to protect and even enhance the environment. According to conventional methods of measurement, China's real GDP has been growing at over 10% per year (for several years), whereas the Green GDP method showed it to be close to zero in some Chinese provinces. Importance of Green Accounting GDP growth has become virtually every nation's default measure of progress. For India, its slowing GDP continues to make headlines and is the subject of much debate. Amid concerns from the Government, the business community and citizens on what impact external events such as the evolving European sovereign debt crisis may have on India's growth and jobs, it might also be the perfect time to take a moment and reflect on India's economic journey over the last decade, and ask whether the remarkable GDP growth has been a true measure of the nation's wealth and more significantly, its economic sustainability. Over-reliance on GDP as a measure of economic health can be misleading. As noted long ago by GDP measures the value of output produced within a country over a certain time period. However, any depreciation measurements used, will account only for manmade capital and not the negative impact of growth on valuable natural capital, such as water, land, forests, biodiversity and the resulting negative effects on human health and welfare. For India, there is much to lose if action is not taken to preserve its natural environment. Its wide range of climate, geography and culture make it unique amongst biodiversity rich nations. Biodiversity is an incredibly valuable asset. It is the underlying foundation of the earth's ecosystems, the variety and abundance of species that inhabit them and the variability and diversity of genetic material found within them. It provides numerous benefits, from food and fuel, to services such as freshwater, soil fertility, flood control, pollination of crops and carbon sequestration by forests that are crucial to both environmental and human well-being. To this end, biodiversity

loss does not only mean the loss of species, but also the loss of ecosystem functioning. Although India's economic growth has been encouraged, the double-digit GDP fixation is threatening India's biodiversity and ironically, its long-term growth and security. Livelihoods have been lost, poverty increased, food security threatened and health risks raised. Today, annual economic costs of air pollution, contaminated water, soil degradation, and deforestation are estimated to be close to 10 per cent of India's GDP. Better macroeconomic and societal indicators are needed to reflect the contribution of biodiversity and ecosystem services to human well-being. One approach that is gaining momentum across the globe is "green accounting" whereby national accounts are adjusted to include the value of nature's goods and services.

Green Life Cycle The life cycle of a product, process, system or facility begins with (up-front) acquisition to make it green to the (back-end) decommissioning which can include toxic removal and remediation. Life cycle is a more systematic and complete assessment of a firm's long term costs.

Need of Green Accounting Practically for developing countries like India it is a twin problem about saving environment and economic development. As the country economic condition is not very strong, hence it should be improved first.

Advantages of Green Accounting

1. Pollution control Sustainable development Projection, cost, estimating life cycle in the environment.
2. Product circulation, administration from environmental prospective. Environmental-centered management system.
3. Assessing, testing and reporting performance of environmental activities.

Limitations of Green Accounting

1. Lack of standard accounting method Social values for environmental goods and services are uncertain and change very rapidly.
2. Valuation techniques for environmental goods and services are imperfect and shadow prices are only partial valuations. This applies to both deductive and interrogative techniques.
3. Comparison between two countries or firms is not possible if method of accounting is different and which is quite obvious.

4. It mainly considers internal cost of the company and ignores cost to society. Since costs and benefits relevant to the environment are not easily measurable. Hence Input for Green Accounting is not easily available. Initial cost for its tools and application is high as it is a long-term process. Therefore, to draw a conclusion with help of it is not easy.
5. Large and well managed Business and the Government organizations don't adequately track the use of energy and material or the cost of inefficient materials use, waste management and related issue. Many organizations, therefore, significantly underestimate the cost of poor environment performance to their organization. It cannot work independently. It should be integrated with the financial accounting, which is not easy. There is no reliable industry data.

It's Superiority over Conventional Accounting System:

Conventional national income accounting does not fully take into account pollution preventive expenditure. Green accounting considers pollution preventive expenditure and also environment impact studies.

Conventional national income accounting does not measure the depletion of natural resources and the degradation of the environment. Green accounting considers the costs of depletion of natural resources and changes in environmental quality.

Conventional national income accounting does not fully report different types of resource expenditure:

- (i) Consumption of environmental goods such as exhaustible resources; and
- (ii) Conflicting uses of environmental services such as the atmosphere used by producers as an input into production and by household as a consumption good.

On the other hand, green accounting expands and complements the conventional system of national accounts with regard to costing:

- (a) The use (depletion) of natural resources in production and final demand; and
- (b) The changes in environmental quality, resulting from pollution and other impacts of production, consumption and natural events.

India is beginning to recognize that protecting biodiversity and ecosystems is a critical national priority. As a sign of its commitment, India will host the most important meeting relating to the United Nations Convention on Biological Diversity (CBD) — the 11th Conference of Parties (COP-11) — in Hyderabad, during October 8-19, 2012. The CBD framework emerged from the Rio Earth Summit of 1992 as the most comprehensive international agreement that aims to help protect and sustain biodiversity and ecosystems worldwide of which India is a signatory. As proud hosts to this important event, India has the opportunity to show the world that it can take the lead and deliver on its commitments to preserving and protecting biodiversity and the ecosystem services it supports. At least this is one step in the right direction.

CONCLUSION

India is a big country which is heavily burdened with overpopulation, natural calamities, backlashes of global warming, climate change, pollution, exhaustion of natural resources, ozone depletion, desertification, species decimation, marine pollution and many more environmental hazards. To save and salvage the country, it is highly essential to enact laws and provisions and implement the same without further loss of time. Green accounting for green economy is an important concept that needs to be implemented in India.

This study has made an attempt to analyze the Importance, Concept, Need and limitations of Green Accounting. However, no attempt has been made to make a comparative study of factors among the Green Accounting in corporate level, national & international level. Hence, there is lot scope for the concept.