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Accounting for Environmental Resources in Tanzania: A Theoretical Review

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Environmental economics analyses the interrelationship between economic agents and environment. The economic activities of humanity have a profound impact on the natural environment in the form of rapid depletion of natural resource stock as well as through pollution. Such use and abuse of resources have raised many moral and practical questions concerning the present and future generations. Environmental economics analyses the allocation problem posed by the use of environmental resources (Kolstad 2000).

A country's economic book keeping consists of income and capital accounts. While income accounts produce the Gross National Product (GNP) figure, capital accounts track changes in wealth. As timber factories, textile mills, office buildings and other artifacts become old and fall into disrepair, subtraction is made from the capital accounts to reflect their depreciation in value (Ekins 2000). However, no similar subtraction is made for the deterioration of forests, soils, air quality and other natural endowments (Grossman and Krueger, (1995). When trees are cut and sold as timbers, the revenue from such sales is counted as income and reflected in the GNP. Surprisingly, no deduction is made for the deterioration of the forest destruction of a natural resource (asset). By not making deductions on the costs imposed on the destruction of the natural resource (forest);this inflates the national income and wealth. The country with such inflated levels of GNP will be considered better off than it really is and will automatically be ranked higher on economic performance scale (Bilame 2020, Davidson, 2000 and Karpagam, 2001).

To this end, a failure to account properly for the natural resource destruction that occurs in the process of national income generation makes the GNP unrealistic, under such a scenario where omissions of the environmental destruction in calculation of the national income make the country an ecological bankrupt, even if its GNP may be rising.

Tanzanian has been praised for the growing GDP for quite a period of time since 2004 to date; GDP has been showing an upward trend with some minor fluctuations, particularly those that were caused by the world financial crisis in 2008 that had far reaching negative impacts to the performance of the economy in 2009 and 2010. Nevertheless, deductions from the GDP negative impact caused by unsustainable exploitation of resources, that degrade the environment, have not been done.

To this ends, this proposed paper seeks address adjustments for the depletion of natural resources that require stock of natural resources such as oil and gas reserves, stock of fish, forests etc. to be treated in the same way as stock of manmade capital. Thus, a reduction should be made for the depletion of natural capital. Under the conventional system, NNP would be defined as:

Where " " is depreciation of manmade capital. If accounting is attempted for depletion for natural capital,

Where " " is depletion of natural capital. There are two ways of calculating :

- Depreciation method
- User cost method

With total land area of 94.5 million hectares Tanzania has ove 34 million hectares (36%) covered by natural forests and woodlands. About 16 million hectares of forests (47%) are sun protected. The rate of deforestation per annum ranges from 130,000 hectares to 500,000 hectares, threatening the large part of unprotected forests (IUCN 2003). According to IUCN data (2003), Tanzania had 10,008 known species of higher plants including endemic and non endemic. The country has multi-species fisheries of over 500 different species in fresh waters as well as large stock of commercial marine species. Government statistics indicate an alarming decline in fish stocks over a period of time due to over-fishing use of poison, dynamite and small fishnets. This assertation is also supported by Bilame (2012, 2020).

The decline in natural resources mentioned above have indeed negative impact on GDP of Tanzania and for that case the negative impact caused by unsustainable exploitation of natural resources should be deducted from GDP to reflect the real growth of Tanzania's economy.