

2022

## IARIW-TNBS Conference on “Measuring Income, Wealth and Well-being in Africa”

Paper Prepared for the IARIW-TNBS Conference, Arusha, Tanzania, April 14-15, 2022

Evaluating alternative scenarios for land use in African countries: A national wealth approach oriented towards sustainable development  
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Measurement represents the basis for effective political and managerial decision-making. Traditionally, many natural resources used by the society, and the long-term effect of their use, were often neglected or partially-considered in the national accounts systems; however, the increased importance of environmental protection and climate change is nowadays imposing a proper evaluation of natural capital. This paper outlines the main challenges related with measuring natural capital and the externalities of its use, and then proposes a specific method that includes scenario development, the evaluation of various types of capital (natural, human and economic), and the comparison of various alternatives. This method is particularly useful when political decision-makers need to decide the situation of a specific land area: using the proposed method, we present the example of such an evaluation and comparison, considering three scenarios, the first in which the land area is designated and used as (1) a wildlife national park associated with tourism activities, (2) agricultural land, or (3) a mineral resources mining area. To avoid the evaluation shortcomings related with the GDP and short-term economic development indicators, this study adopts a measurement method based on the national wealth concept, which is in line with a long-term, sustainable development perspective. The problem of sustainability can thus be expressed as a question of whether a country manages its resource base – expressed as national wealth – in a way that secures its maintenance over time.

The development of this method is based on an extensive literature review, and 3 interviews with accounting experts. Another important issue included in this paper is the identification of several challenges related with the measurement procedure (e.g., qualitative versus quantitative evaluation; balancing short- and long-term perspectives; the degree of unicity/substitutivity of various resources, etc.) and the development of specific solutions to answer these problems.

This study is highly relevant for the present situation of many African countries, that are forced to decide the future use of land areas by choosing among three main alternative scenarios:

first, the unicity of their ecosystems requires the protection and preservation of endemic species of plants and animals, which is often coupled with the development of the national tourism sector; second, the rapidly growing population creates a significant pressure on wildlife's natural habitat, to progressively transform it into agricultural or animal farming land; third, the global and national demand for natural resources has accelerated the prospecting and exploitation of mineral deposits that can be exported or locally-processed. Considering these alternatives, we aim to provide a rich basis for discussion during the 2021 Special IARIW-TNBS Conference, as well as a methodological framework for a better evaluation and management of natural resources oriented towards achieving sustainable development, that can be applied by researchers, consultants or policy makers confronted with complex decisions.