CONCEPTUALIZING THE ROLE OF BIODIVERSITY IN A GREEN ECONOMY

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Biological diversity plays a key role for ecosystem functioning and the provision of ecosystem goods and services that are important to human wellbeing [1]. The realization that biodiversity and human wellbeing are inextricably linked was a major driver behind the adoption of the Convention for Biological Diversity (CBD).

Lately the concept of a "Green Economy" has gathered momentum and it is now a major theme of the 2012 United Nations Conference on Sustainable Development (Rio+20). The United Nations Environment Programme (UNEP) has produced an extensive report as a background document for the Rio+20 process. In this report, preserving ecosystem services and halting biodiversity loss are identified as key pillars of a green economy [2].

However there are several unresolved questions at the interface of green economy and biodiversity that have not been examined to date:

First of all there is no clear understanding of how biodiversity features in the concept of green economy. Within the current debate, biodiversity features more as a buzzword than as a concrete component of the green economy. If biodiversity is indeed a key component of the green economy, then should biodiversity be conceptualized as a mere provider of services (in the sense done in the CBD process) or should biodiversity's role elevated? If a new conceptualization of biodiversity is really needed, what should this conceptualization be?

Secondly, for sectors such as agriculture, forestry and tourism, the importance of biodiversity for human wellbeing is clearly understood [1]. For other sectors that have green-economic potential such as transport, manufacturing and renewable energy there is no clear statement on, or in some cases understanding of, how biodiversity can have a green-economic effect. Moreover we lack understanding of how activities that elevate the green-economic potential of certain sectors can affect negatively biodiversity and thus the green-economic potential of other sectors. For example while biofuels can elevate the green-economic potential of the transport sector, certain biofuel practices have been shown to be destructive for biodiversity [3-4]. In this sense they can reduce the green economic potential of other sectors such as agriculture, forestry and tourism. Are such "green-economic trade-offs" acceptable and how should they be considered in green-economy policies?

Thirdly, assuming that biodiversity is an important component of the green economy then there is a more pressing need to conserve biodiversity, particularly beyond protected areas. This is because the vast majority of people that will benefit from green growth live beyond protected areas. Furthermore non-protected (or semi-protected) areas host significant biodiversity considering that only a small fraction of terrestrial ecosystems (and an even smaller fraction of marine ecosystems) lie within protected areas [5]. However there are significant additional challenges associated with a 'beyond protected areas' framework. These include:

a) How to measure biodiversity beyond protected areas? What are the priority non-protected areas that should be targeted? Based on what factors (i.e. actual income

generation, potential income generation, some other variable) should these areas be targeted?

b) What are the mechanisms (e.g. policies, technologies) through which biodiversity can be conserved beyond protected areas?

Regarding the last point the range of such mechanisms needs to be identified and mapped for each sector with green-economic potential. Furthermore, their effectiveness and the potential of scaling up the successful approaches should be assessed.

Considering the above, the aim of this paper is to highlight the key unresolved questions about the role of biodiversity in the concept of green-economy. Proposals will be provided on how biodiversity should be conceptualized in order to become an integral and meaningful component of the green-economy. Finally a range of key research questions at the interface of biodiversity and the green-economy will be identified.

References

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