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Investing in biodiversity and ecosystems

The Asia-Pacific region is biologically diverse and hosts a great number of unique ecosystems, with 17 of the 36 global biodiversity hotspots and 7 of the world's 17 megadiverse countries found in the region. It is home to the highest marine biodiversity in the world, with the longest and most diverse coral reef systems, more than half of the world's remaining mangrove areas and the greatest seagrass diversity. However, the region's rapid economic growth, increasing population and associated increases in consumption and pollution, high rates of urbanization, agricultural expansion and introduction of invasive alien species are resulting in extensive biodiversity loss and ecosystem degradation (IPBES, 2018; ESCAP, 2018). The ocean health index in more than a third of countries in the region worsened between 2013 and 2017, while 135,333 square km of natural forest area (three times the size of Denmark) was lost in the region between 2000 and 2015.

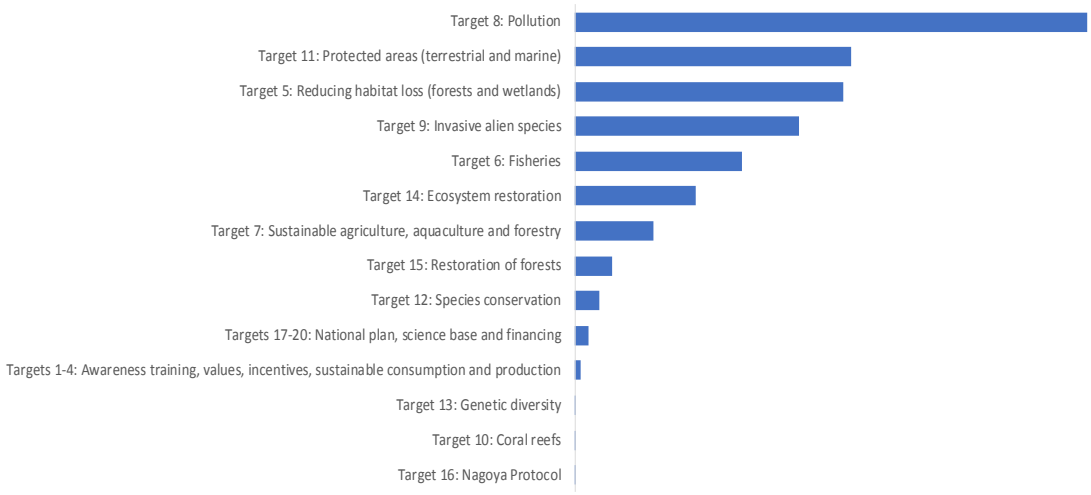
Investing in conservation and restoration of ecosystems and biodiversity is an impactful strategy to protect both people and the planet. On forests, it was estimated in UNFCCC (2007) that globally $43.3 billion per year would be needed to achieve three targets by 2030: $12.2 billion to reduce deforestation/forest degradation to zero; $8.2 billion for sustainable forest management; and $23 billion to expand agroforesty.[1] On oceans, it was estimated in UNDP and GEF (2012) that globally an initial public investment of $5 billion over the next 10-20 years to address hypoxia, ocean acidification, overfishing and marine invasive species could catalyse about $35 billion per year, mostly from private sources. Most of these and other interventions are comprehensively addressed under the Strategic Plan for Biodiversity 2011-2020 and associated Aichi targets.[2] A high-level panel study estimated that meeting the 20 Aichi targets would require incremental investment needs globally ranging from $153 billion to $436 billion per year (CBD, 2012).

Costing methodology and results

Goals 14 and 15 are largely based on the Aichi commitments, the target year of which is currently set at 2020, without scenarios or investment needs assessments through 2030. Thus, the CBD (2012) analysis is done globally for the period 2013-2020. Figure 1 shows the average of lower and upper bound estimates, rebased to 2016 prices. Given the lack of geographical disaggregation, it is assumed that the Asia-Pacific region accounts for half of the global estimate, which would be $156 billion per year. There are clear differences in the relative scale of resources required to deliver various targets, with the most significant

Figure 1. Investment gap for meeting global biodiversity goals, by Aichi targets

(Annual average investment gap, 2013-2020, Billions of United States dollars in 2016 constant prices)



Source: ESCAP calculations based on CBD (2012).

investment required to address the drivers of biodiversity loss, such as reducing pollution ($46 billion), which was partly addressed previously. Targets associated with conservation work, such as establishing and maintaining protected areas, are lower, at $25 billion. For these needs assessments, there is an underlying assumption of the business-as- usual approach in other segments of society. If progress is made on other Goals in tandem with the biodiversity targets, the financial needs can be reduced substantially. In particular, if climate action makes significant progress, the cost of achieving the biodiversity and ecosystem-related Goals would be lower. However, aside from accounting for obvious overlaps, it is difficult to precisely quantify such potential synergies.

Policy and financing options

In most cases, the rationale for investing in biodiversity and ecosystems has been derived from the enormous benefits which they deliver rather than on financing gap considerations. Thus, there are many more valuation exercises and studies on natural wealth accounting. For 47 countries in the Asia-Pacific region, Kubiszewski and others (2016) estimated the benefits provided by terrestrial ecosystem services to be worth approximately $14 trillion per year, and that a scenario wherein the Goals are met would lead to an increase in the value of ecosystem services worth $3.3 trillion by 2050, compared with a loss in value of $4.7 trillion if historical trends continue.

However, ecosystems and biodiversity values are not internalized by markets, nor are the costs of biodiversity and ecosystem loss reflected in prices. Similarly, public budgets often overlook the economic potential and negative risks associated with underfunding biodiversity and conservation. Average biodiversity expenditures as a share of total government expenditures range from as low as 0.16 per cent to 1.8 per cent (UNDP, 2018).[3]

In going forward, while scaling up public finance for biodiversity, including through such worldwide initiatives as the Global Environment Facility, another priority will be to engage the private sector. Based on a survey of private investors, “conservation investment” – intentional investments in companies, funds and organizations with the goal of generating both a financial return and a measurable environmental result – is growing rapidly (Hamrick, 2016).

Endnotes

[1] Under the reference scenario, it is assumed that GHG emissions from the forestry sector in 2030 will be the same as in 2004. The needs are based on estimated opportunity costs and forest management costs.

[2] Adopted in 2010 in Nagoya, Aichi Prefecture, Japan, the Strategic Plan for Biodiversity 2011-2020, including Aichi Biodiversity Targets, provides an overarching framework on biodiversity, not only for the biodiversity-related conventions but for the entire United Nations system and all other partners engaged in biodiversity management and policy development (www.cbd.int/sp/).

[3] For more details, see the UNDP Biodiversity Finance Initiative (http://biodiversityfinance.net/) website on financing solutions for sustainable development (www. sdfinance.undp.org/content/sdfinance/en/home/sdg/ goal-15--life-on-land.html).

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The MPFD Policy Briefs aim at generating a forward-looking discussion among policymakers, researchers and other stakeholders to help forge political will and build a regional consensus on needed policy actions and pressing reforms. Policy Briefs are issued without formal editing. This issue was prepared by Daniel Jeongdae Lee (Macroeconomic Policy and Financing for Development Division). It benefitted from comments by Sweta Saxena (Macroeconomic Policy and Financing for Development Division) and Solene De Doze (Environment Development Division). For further information on this issue, please contact Hamza Ali Malik, Director, Macroeconomic Policy and Financing for Development Division, ESCAP (escap-mpdd@un.org).

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