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T7 Task Force Climate and Environment

POLICY BRIEF

BIODIVERSITY PROTECTION THROUGH REWARD MECHANISMS AND GOVERNANCE

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Abstract

Biodiversity supports water bodies, food systems, and medicinal plants, thereby sustaining the livelihood of billions of people. In addition, biodiversity and the ecosystem provide non-tangible benefits, which are necessary for the sustenance of the planet (Dasgupta 2021). According to the World Economic Forum's 2020 Global Risks Report, around 1 million species are threatened with extinction in the next ten years. Approximately \$44 trillion of economic value generation (over 50% of global GDP) is moderately or highly dependent on nature and its services (WEF 2020). The same report further indicates that switching to a nature-based economy could generate 400 million jobs and a business of \$10 trillion per year by 2030.

Biodiversity loss means the extinction of plant and water species from land and water, which can greatly impair the livelihoods of millions and the global economy. Unsustainable human interaction with the ecosystem and a lack of recognition of the importance of biodiversity for a sustainable future has resulted in biodiversity loss in both land and water. The Living Planet Index shows that biodiversity declined by more than 70% between 1970 and 2020. According to the IUCN red list of threatened species, 40,000 species from the total assessed species of 142,577 are threatened with extinction. It is estimated that around 25% of the marine species that live in a coral reef, which covers only 250,000 square kilometers of ocean and provides livelihoods to millions, are under threat (Burke et al. 2012). Between 1990 and 2020, 420 million hectares of forest were lost through human activities (FAO and UNEP 2020). Though deforestation has declined to 10 million hectares per year between 2015 and 2020 compared to 16 million hectares per year in the 1990s, it is still a significant threat to species in forests and on planet earth (FAO and UNEP 2020).

In the Convention on International Trade in Endangered Species (CITES), 36,000 species of plant and animal have been included with different levels of protection (CITES 2020). However, the number of endangered species traded rose from 61,241 to 1,299,284 in 2015 and marginally declined to 1,163,245 in 2018.

Land and sea use change, climate change, invasive species pollution, and over-exploitation are direct causes of biodiversity loss, which arises due to people's ignorance about the value and importance of ecology and biodiversity (IPBES 2019). Thus, biodiversity policy should reduce the unsustainable exploitation of biodiversity by educating the general public about the importance of biodiversity conservation and strengthening existing institutions. Some approaches include regulation, reducing climate change and invasive species, and habitat restoration.

Therefore, the G7 has to up the game on conserving biodiversity and ecology to save the planet. With this end in view, it is recommended that the G7 announce that "biodiversity conservation will be included as one of the central pillars of international trade and development through reward mechanism" at its Elmau Summit. As G7 has the resources, technology, and market power to reward countries, communities, and individuals that protect and conserve biodiversity and natural capital in the global North and South, G7 is the right platform to take leadership and initiative toward this agenda. Those communities and individuals who protect, conserve, and sustain biodiversity and natural capital should receive preferential treatment in trade, investment, and grants/aid, while the countries, communities, and individuals responsible for the unsustainable use of biodiversity and ecology should be treated contrarily. Finally, capacity and governance should be developed in the global South for biodiversity and nature conservation through training and empowering the local communities.

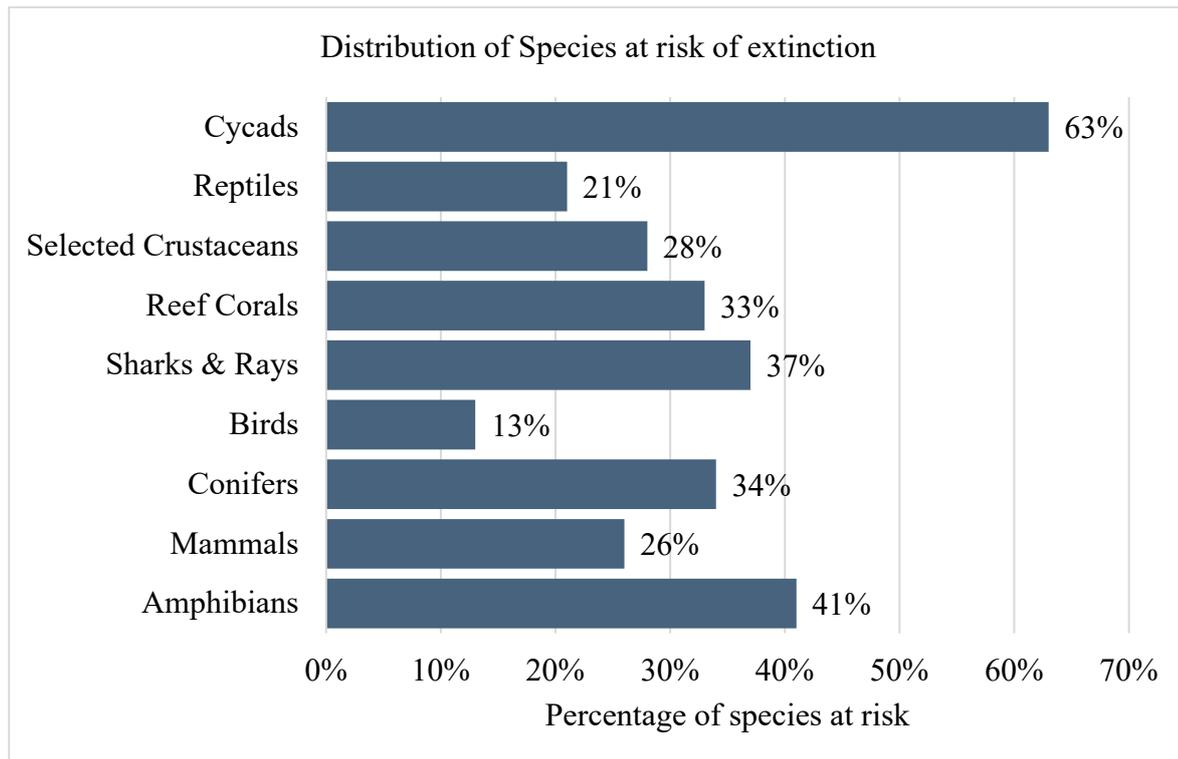
Challenges

Biodiversity supports water bodies, food systems, and medicinal plants, sustaining the livelihoods of billions of people. Biodiversity and ecosystems' non-tangible benefits, such as resilience, adaptation, and recreation, are the foundation of the sustenance of the planet (Dasgupta 2021). According to the World Economic Forum's 2020 Global Risks Report, around 1 million species are threatened with extinction in the next 10 years. Approximately \$44 trillion of economic value generation (over 50% of global GDP) is moderately or highly dependent on nature and its services (WEF 2020). The same report further indicates that switching to a nature-based economy could generate 400 million jobs and businesses, amounting to \$10 trillion per year by 2030.

Biodiversity loss means the extinction of plant and water species from land and water. The unsustainable exploitation of biodiversity (Dasgupta 2021) and lack of recognition of the importance of biodiversity for a sustainable future have resulted in biodiversity loss in both land and water. Soil erosion, loss of traditional crop genetics, deforestation, and pollution (both water and air) lead to a rapid rate of biodiversity loss, which threatens the very existence of humanity in the long run. Biodiversity is the central pillar of "*natural capital*" and is crucial for the sustainable future of humanity and the survival of the planet (Bank 2021). Due to interdependence, every species is equally important for protecting the ecosystem and biodiversity. The ecosystem provides benefits for the sustenance of all forms of life, such as water, food, medicines, the prevention of soil loss, mitigation of climate change, and aesthetic beauty.

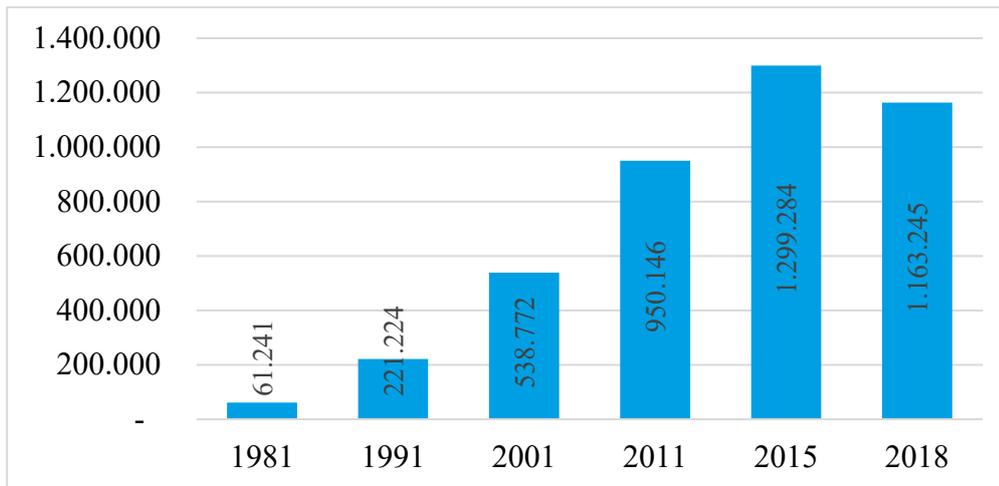
Of 240 countries, the UK ranks 12th with a Biodiversity Intactness Index (BII) of 50%, the United States 77th (63%), Japan 85th (64%), France 101st (65%), and Germany 122nd (67%), while Canada ranks 232nd with a BII of 89% (RSPB 2021). The Living Planet Index shows that biodiversity declined by more than 70% between 1970 and 2020. According to the IUCN red list of threatened species, 40,000 species from the total assessed species of 142,577 are threatened with extinction. It is estimated that around 25% of the marine species that live in coral reefs, which cover only 250,000 square kilometers of ocean and provide livelihoods to millions, are under threat (Burke et al. 2012). Between 1990 and 2020, 420 million hectares of forest were lost through human activities (FAO and UNEP 2020). Though deforestation declined to 10 million hectares per year between 2015 and 2020 compared to 16 million hectares per year in the 1990s, it is still a significant threat to the species in forests and on planet earth (FAO and UNEP 2020).

Figure 1 below shows the distribution of the species threatened with extinction by category. This clearly indicates the laxity in the policy, regulation, and investment from all stakeholders in preventing the loss of biodiversity and thereby the achievement of SDGs 14 and 15 (life below water and life on land). Furthermore, the World Economic Forum's 2020 Global Risks Report ranks biodiversity loss and ecosystem collapse as one of the top five threats humanity will face in the next 10 years.

Figure 1: Distribution of Species at Risk of Extinction

Source: International Union for Conservation of Nature (IUCN), <https://www.iucnredlist.org/>

In the Convention on International Trade in Endangered Species (CITES), 36,000 plant and animal species have been included with different levels of protection: 3% threatened with extinction, 97% not endangered to extinction but may become so if not controlled, and 1% needed control (CITES 2020). However, the trade of endangered species is continuously increasing, as highlighted in Figure 2 below. The number of endangered species traded rose from 61,241 to 1,299,284 in 2015, and partially declined to 1,163,245 in 2018.

Figure 2: Number of Endangered Species Traded

Source: Convention on International Trade in Endangered Species of Wild Fauna and Flora, <https://cites.org/eng/disc/what.php>

Land and sea use change, climate change, invasive species pollution, and over-exploitation are direct causes of biodiversity loss, which arises due to people’s ignorance about the value and importance of ecology and biodiversity (IPBES 2019). Current biodiversity policies aim to reduce the unsustainable extraction of biodiversity by educating the general public about the importance of biodiversity conservation and strengthening existing institutions and regulations.

Proposals

While biodiversity is crucial for a sustainable future, biodiversity loss due to overexploitation is a cause of concern. Rapid urbanization, agricultural land expansion, water pollution, deforestation, and trade in endangered species are driving biodiversity loss. It is anticipated that ecological diminution will be among the severe threats to the sustainable future and well-being of the global population (WEF 2020).

Realizing the importance of biodiversity for current and future generations, the international community, and national governments have executed plans and policies to protect biodiversity. Studies have suggested that biodiversity conservation requires addressing the underlying cause of its depletion, such as sustainable agriculture, adaptation to climate change, correction of market failure, improvement in governance, integration of biodiversity conservation with development planning, increased coordination, capacity building, and reduction of unsustainable consumption (GreenFacts 2006; Millennium Ecosystem Assessment 2005).

However, the continuous and rapid decline of biodiversity assets across the globe highlights that current policy and strategies have not been able to contribute to the sustainable use of biodiversity. The current situation is a cause of concern for global communities. Therefore, the G7 has to up the game to conserve biodiversity and ecology for sustainable intergenerational development and save the planet. As biodiversity is a public good and has a high return to those who can exploit it, the reward and punishment mechanism has the potential to bring about a considerable change in behaviour at the individual, community, and national levels toward biodiversity conservation. Firstly, the G7 and other leading donors should increase their investment to protect biodiversity and ecology through capacity building, improving governance, and monitoring the status of the biodiversity intactness index. Secondly, the G7 and other developed countries should protect biodiversity and ecology by linking the grants/aid, trade, and investment in developing countries. Thirdly, reward and punishment measures for countries and communities for biodiversity conservation should be implemented.

Implementation

As G7 has the resources, technology, and market power to reward countries, communities, and individuals that protect and conserve biodiversity and natural capital in the global North and South, G7 is the right platform to take leadership and initiative toward this agenda. Those communities and individuals who protect and conserve biodiversity and natural capital should receive preferential treatment in trade, investment, and grants/aid, while the countries, communities, and individuals responsible for the destruction of biodiversity and ecology should be treated contrarily. Finally, capacity and governance should be developed in the global South on biodiversity and nature conservation through training and empowering local communities.

The first step toward this mechanism is to strengthen governance and transfer the knowledge and technologies to those communities and countries to train and empower communities and individuals to manage their biodiversity resources sustainably. The second step is to strengthen the measurement of the Biodiversity Intactness Index for communities and at the national level. The third step is to link the Biodiversity Intactness Index with international loans, grants, aids, and preferential trade.

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