

06th September 2023

Sub: GFI's submission towards the Intergovernmental Consultations on Nature-based Solutions

Respected Co-Chairs,

I am pleased to present the following submission on behalf of the **Good Food Institute (GFI) towards the 'Intergovernmental Consultations on Nature-based Solutions'** organised by the United Nations Environment Programme. Representatives of GFI India, GFI Brazil, and GFI U.S. participated in the regional consultations held this year in July. We would like to submit that alternative proteins should be considered a Nature-based solution for sustainable development.

"Alternative proteins" is a term of art that describes foods produced to provide the sensory experience and nutrition of animal meat, dairy, and eggs - but using plants, fermentation, or cellular agriculture ([Center for Strategic & International Studies](#), 2023).

We submit that alternative protein fits under the definition of nature-based solutions adopted by the United Nations Environment Assembly on 2 March 2022: *"nature-based solutions are actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems which address social, economic and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services, resilience and biodiversity benefits.."*

As [77% of global agricultural land](#) is used to grow and feed livestock while only providing **17% of global calories and 33% of the global protein supply, there is an urgent need to shift away from how we currently produce food. [Industrialised livestock](#) production drives high GHG emissions, soil degradation, air pollution, water contamination, and biodiversity loss. The Food and Agricultural Organisation (FAO) has [found](#) that raising and killing animals for food is *"one of the top two or three most significant contributors to the most serious environmental problems, at every scale from local to global. The findings of this report suggest that meat production should be a major policy focus when dealing with problems of land degradation, climate change and air pollution, water shortage and water pollution and loss of biodiversity."***

[Research shows](#) that diversifying our protein supply could **free up 640 million hectares of land** – an area larger than the Amazon rainforest. The freed-up land could be used for habitat restoration, rebuilding biodiversity, and creating space for more sustainable farming practices. Moreover, alternative proteins eliminate ruminant methane, which represents as much methane as oil and gas production combined



As nature-based solutions aim to protect, conserve, restore, and sustainably manage ecosystems, alternative proteins, especially **plant-based proteins produced using protein-rich indigenous crops, constitute a nature-based solution that confers economic and food security benefits.**

Identifying alternative protein production as a nature-based solution could encourage integration into national and regional sustainable agriculture development policies.

Case Study: India

India is currently the fifth most vulnerable country to climate change. The country is also experiencing immense pressure on its natural resources — including the worst water crisis in its history, with 600 million Indians living under extreme water stress.

Through GFI India's Indigenous Agriculture Initiative, we are working to establish pathways to advance the production of indigenous-local-grown agricultural produce. Crops such as pulses, legumes, millets, hemp, etc., are viable raw materials for alternative protein foods, and, at the same time, provide several environmental benefits such as nitrogen-fixation and promotion of water retention, thereby increasing the sustainability of the food production. Moreover, **the increase in the production of such environmentally friendly crops can help diversify the growing patterns of crops and the global inputs of nutritionally dense foods.**

Through this Initiative, GFI India is collaborating with a regional state government in western India to establish a sustainable plant-based protein supply chain to develop and grow India's alternative protein industry over the next decade. The localisation of the plant-based protein supply chain through this initiative will contribute significantly to the agricultural objectives of the region while promising sustainable development and building food security.

GFI's work with crop-research partners and agricultural scientists will yield additional opportunities to leverage indigenous crops that will protect our natural resources. **In the long-run, innovative solutions such as alternative proteins will directly and indirectly aid biodiversity protection, public health, and overall improvement in environmental degradation.**

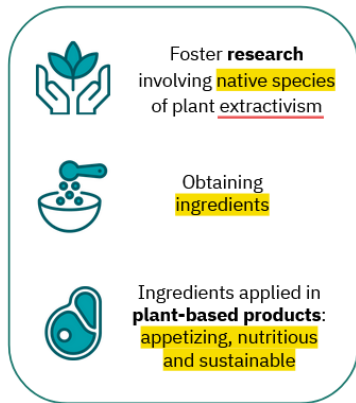
Case Study: Brazil

GFI Brazil's ongoing Biomes Project aims to develop the alternative protein market in Brazil by utilizing and adding value to products native to the Amazon and Cerrado biomes, generating income opportunities for local communities, and promoting the preservation of biodiversity and the sustainable use of natural resources.

To achieve this goal, GFI Brazil is running a research incentive program for universities and research institutions, focusing on native products from the Amazon and Cerrado with the highest economic and technical potential to meet the needs of the Brazilian plant based protein market for national ingredients

that improve the sensory, functional and nutritional characteristics of plant-based meat products. Research around new ingredients also has the potential to increase product quality. This program fosters the **circular economy of the standing forest, working on the upcycling of waste and by-products from already established chains of extraction of other products, such as oils, etc.** By-products that would have gone into animal feed can now become high-value-added ingredients for plant-based products. By creating a financial incentive to preserve the forest, this program will directly impact the preservation of these biomes. In its third cycle, the program has funded 20 research projects with almost 1 MM USD.

Biomes Program



| Edition | No. of projects | Amount financed (BRL) | Phase |
|--------------|-----------------|-----------------------|-------------------------------------|
| 1° | 6 | 793,000.00 | Final - connection workshop |
| 2° | 7 | 939,000.00 | Intermediate - 6 months of research |
| 3° | 7 | 2,674,000.00 | Hiring phase |
| Total | 20 | 4,406,000.00 | - |

Conclusion

We submit that alternative protein production **should be considered a nature-based solution due to its direct and indirect contribution to promoting the well-being of our planetary ecosystem.**

Thank you for the opportunity to present our input to this Forum. **We are committed to working alongside the United Nations Environment Assembly to drive awareness around alternative proteins** and how their development globally can positively contribute to sustainable development goals.

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