



Committee: Environmental Committee

Issue: Development of Sustainable Food Systems (SFS): protecting biodiversity

Student Officer: Canberk Batman

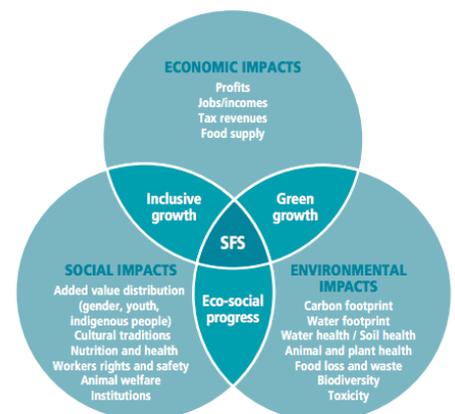
Introduction to the Issue

The term biodiversity refers to the variety of life on Earth at all its levels including not only species we consider endangered but also every living thing. Over the last century, humans have come to dominate the planet, causing rapid ecosystem change and massive loss of biodiversity across the planet. While the Earth has always experienced changes and extinctions, today they are occurring at an unprecedented rate. Major direct threats to biodiversity include habitat loss and fragmentation, pollution, and global climate change. The underlying causes of biodiversity loss, such as a growing human population and overconsumption are often complex and stem from many interrelated factors.



A sustainable food system (SFS) is a food system that delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised. This means that: – It is profitable throughout (economic sustainability); – It has broad-based benefits for society (social sustainability); and – It has a positive or neutral impact on the natural environment (environmental sustainability). A sustainable food system lies at the heart of the United Nations’ Sustainable Development Goals (SDGs). Adopted in 2015, the SDGs call for major transformations in agriculture and food systems in order to end hunger, achieve food security and improve nutrition by 2030.

FIGURE 2 SUSTAINABILITY IN FOOD SYSTEMS



Source: Adapted from FAO, 2014.



Involved Countries & Organizations

Food and Agriculture Organization (FAO)

The Food and Agriculture Organization (FAO) is a United Nations Specialist Agency that is leading international efforts to combat hunger. Their mission is to achieve food security for all and ensure that people have access to adequate high-quality food on a regular basis to lead productive safe lives. With over 194 member states, FAO operates in over 130 countries worldwide.

UN Environment Programme (UNEP)

As the leading global environmental authority, the UN Environment Programme (UNEP) is the Custodian for 25 SDG indicators – across SDG Goal 6, 8, 12, 14, 15 and 17. These indicators cover topics related to resource management and protection of water, marine and terrestrial ecosystems, circular economy, including the sustainable management and efficient use of natural resources; and environmentally sound management of chemicals and waste. For these, UNEP has the duty to work with UN member states to develop SDG methodologies; work with national statistical authorities to collect and review SDG data; and promote the use of data for analysis, including in the Global SDG progress report.

International Fund for Agricultural Development (IFAD)

Through its programme of loans and grants, IFAD has been working with governments and the private sector to reduce food losses experienced by smallholder farmers in developing countries. These interventions have brought benefits in terms of increased food security, improved nutrition, better food safety and income opportunities to farming households, while contributing to the global advancement towards the achievement of the 2030 Sustainable Development Agenda.

Consultative Group on International Agricultural Research (CGIAR)



The Alliance is supported by the CGIAR system and is actively engaged in One CGIAR, a concerted effort to create a more efficient and effective consolidated CGIAR that delivers outcomes in a more coordinated fashion.

The Alliance (Center of International Tropical Agriculture)

The Alliance of Biodiversity International and CIAT delivers research-based solutions that harness agricultural biodiversity and sustainably transform food systems to improve people’s lives in a climate crisis.

Convention on Biological Diversity (CBD)

CBD is a convention specifically working on biodiversity and this convention is a part of the United Nations Environment Programme (UNEP). They are responsible for the actions taken by the UNEP on the issue. The Convention of Biological Diversity is also responsible for the reports of the ongoing actions, collecting countries’ individual action plans on such issues, and organizing events.

UN Development Programme (UNDP)

As the lead UN development agency, UNDP is well-placed to help implement the Goals through our work in some 170 countries and territories. Today’s complex challenges—from stemming the spread of disease to preventing conflict—cannot be tackled neatly in isolation. For UNDP, this means focusing on systems, root causes and connections between challenges—not just thematic sectors—to build solutions that respond to people’s daily realities.

China

China is one of the largest manufacturers, importers, and buyers of food products in the world. The rich soils of the eastern and southern regions are extremely fertile, although much of China's land is too mountainous or too arid for agriculture. China is open for new agreements to be made for the protection of biodiversity if their economy isn’t affected in a major way.



India

While India is one of the world's largest food producers, its farm productivity is much lower than that of China, the U.S., or Brazil. Furthermore, many of the people of India are too poor to buy the food it produces. As the Indian economy is evolving, there have been big advances in this century, but many analysts worry that the Indian population is rising faster than the economy. India is supplying vital nutrients to the whole world so India is one of the biggest actors in creating a sustainable food system.

Detailed Analysis of the Issue

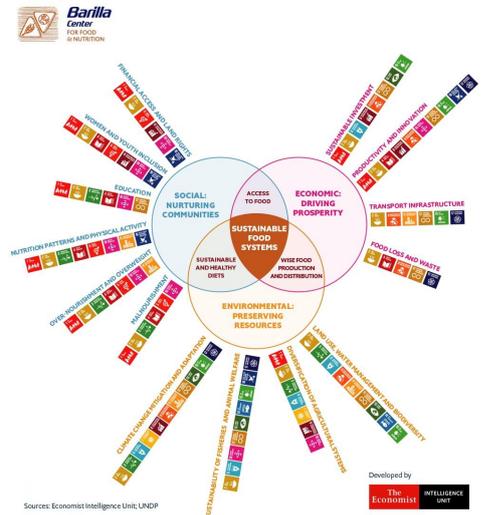
Biodiversity

Around the world, the depletion of biodiversity is accelerating. Today, the global extinction rate for animals is orders of magnitude greater than the average rate over the last 10 million years. The primary driver of this development is the global food system. Over the past 50 years, the key cause of habitat loss has been the conversion of natural habitats for crop production or pasture, which in turn has reduced biodiversity.

Over the past decades, the 'cheaper food' model has dominated our food system. The goal of policies and economic systems is to produce more and more food at ever lower costs. Intensified agricultural production degrades soils and habitats, reducing the land's productive potential and requiring far more intensive food production to keep pace with demand. These stresses are compounded by the increasing global consumption of cheaper calories and resource-intensive foods. The current production of food is heavily dependent on the use of inputs such as fertilizers, pesticides, electricity, land and water, as well as wasteful practices such as monocropping and heavy tilling. This has the diversity of landscapes and habitats, threatening or killing birds, mammals, insects, and microbial organisms' breeding, eating and/or nesting, and crowding out many native plant species.

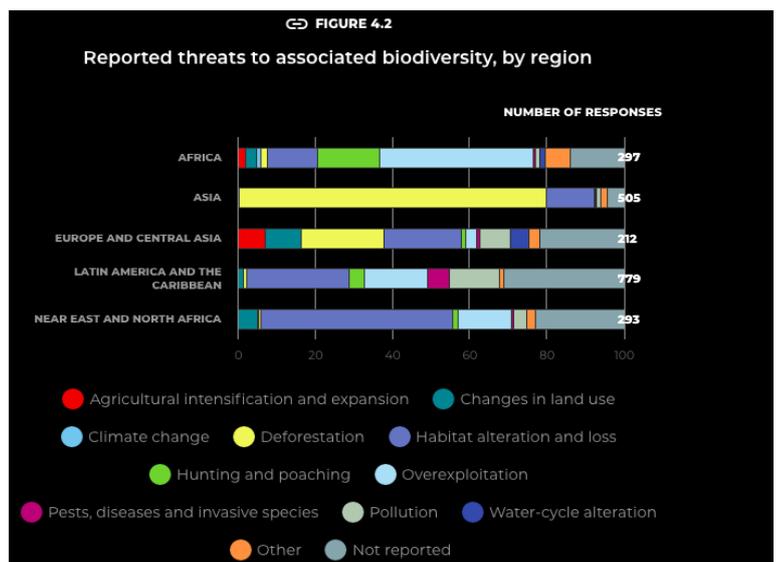
Reported threats to associated biodiversity, by region

chart provided by the Food and Agriculture Organization of the United Nations (FAO) in 2019. The multiple reasons why biodiversity in specific areas are in danger and need protection are clearly shown at the chart. As can be seen above, all of the five areas have different ratios of different threats; however, factors such as “habitat alteration and loss”, “deforestation”, and “overexploitation” is common and play a great role in threatening biodiversity worldwide. “Hunting and poaching” also seems to be important in many areas. Although all of these factors cannot be ruled out with the successful production and application of sustainable food systems (SFS), their influence on threatening biodiversity can be reduced to a minimum.



Food Sustainability Index

According to the Barilla Center for Food & Nutrition Food Sustainability Index rankings, France managed to be the most successful country to meet the needs of SDGs in the means of Sustainability of Food. Netherlands and Canada were the countries with the highest ranks of Food Sustainability Index respectively. Being located at the bottom of the ranking list for the Food Sustainability Index, the United Arab Emirates (UAE) has the least sustainable food system among other countries. Bulgaria’s situation is partially better than UAE, and Russia’s situation is partially better than Bulgaria. These countries are ranked the least successful countries on sustainability of food.





International Treaty on Plant Genetic Resources for Food and Agriculture to the Plant Treaty (ITPGRFA)

The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), adopted in 2001, is a global response to promote the conservation of plant genetic resources and to protect farmer’s rights to access and have fair and equitable sharing of benefits arising out of their use. Sustainable use of plant genetic resources is fundamental for achieving food and nutrition security and for a progressive realization of the right to food.

List of Important Events

Date (Day/Month/Year)	Event
22 May 1992	The Convention on Biological Diversity (CBD) was formed and started to work on the issue of protecting biodiversity.
Kyoto Protocol (11.12.1997)	The Kyoto Protocol was signed in Japan and the Kyoto Protocol operationalizes the United Nations Framework Convention on Climate Change by committing industrialized countries and economies in transition to limit and reduce greenhouse gases (GHG) emissions in accordance with agreed individual targets. 197 countries signed and ratified this agreement.
3 November 2001	Adoption of International Treaty on Plant Genetic Resources for Food and Agriculture to the Plant Treaty (ITPGRFA)
25 September 2015	The 17 Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development were adopted by 54 countries in the United Nations (UN)



Paris Agreement (12.12.2015)	The Paris agreement was signed in Paris to put a global framework to avoid dangerous climate change by limiting global warming to well below 2°C and pursuing efforts to limit it to 1.5°C. 195 countries have signed the Paris Agreement. Turkey and three large oil-exporting nations are among seven countries that have not yet ratified the 2015 Paris climate agreement.
FAO Report on The State of the World's Biodiversity for Food and Agriculture (2019)	This report was published in Rome and it's the first global assessment of biodiversity for food and agriculture worldwide.
25 September 2030	The Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development will come to an end, the progress worldwide will be reported and necessary actions will be taken.

Past Attempts to Solve the Issue

The Kyoto Protocol is an international treaty extending the 1992 United Nations Framework Convention on Climate Change (UNFCCC) to commit States to reduce greenhouse gas emissions, based on the scientific consensus that global warming is occurring and that it is highly likely to have been caused primarily by human-made CO₂ emissions. There are 192 parties to the Protocol at present. The Protocol's first commitment cycle started in 2008 and ended in 2012. The 36 countries that participated entirely in the first commitment process complied with the Protocol. However, nine countries took advantage of the flexibility mechanisms by funding reductions in other countries' emissions.

The Paris Agreement is an international climate change deal that is legally binding. It was adopted by 196 parties at COP 21 in Paris on 12 December 2015 and came into force on 4 November 2016. The aim is to decrease global warming to well below 2, preferably to 1.5 degrees Celsius, relative to pre-industrial



levels. The protocols and agreements weren't sustainable because they were dependent on certain countries that didn't comply with these rules

The 2012-2020 UNDP Global Framework on Biodiversity and Ecosystems aims to leverage the positive opportunities presented by biodiversity and natural ecosystems as a catalyst for sustainable development. In terms of sustainable livelihoods, food, water and health, improved resilience, protection of endangered species and their habitats, and increased carbon storage and sequestration, it acknowledges the real importance of biodiversity and ecosystems to society and calls for creativity to achieve multiple development dividends, building on the ability of nature.

Related Documents

[Paris Agreement](#)

[Kyoto Protocol](#)

[FAO The State of the World's Biodiversity for Food and Agriculture Report](#)

[Biodiversity and Ecosystems Global Framework 2012 to 2020](#)

[Detailed Information From UN Regarding the SDGs.](#)

[Fixing Food: 2018 Report by Barilla CFN](#)

[UN Summit on Biodiversity](#)



Possible Solutions

The delegates are expected to come up with effective and sufficient solution ideas. Firstly, they can start this with setting goals for shorter periods of time because the longer the period of time gets, the less important this issue gets for every Member State. If there are strict and frequent inspections, reports and even maybe penalties applied if not reached to the goal previously decided on, then many of the Member States might acknowledge the importance of the issue.

Secondly, with the help of many organizations working on this matter, the actions taken by countries can be separately inspected and suggestions can be made on greater contribution on solving the issue. The same can be done for legislation as a third example. The delegates can suggest the countries with the least biodiversity and sustainability of food rates to take legal actions with the help of regarding organizations.



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