Task Force 3:
LiFE, Resilience, and Values for Wellbeing

PROMOTING DIVERSITY IN AGRICULTURAL PRODUCTION TOWARDS HEALTHY AND SUSTAINABLE CONSUMPTION

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Abstract

The challenges facing contemporary production and consumption patterns are reflected most clearly in the agri-food system, which accounts for one-third of global greenhouse gas emissions. Technological advances have led to homogenous agricultural landscapes and the standardisation of animal breeds, which places the expansion of farming at risk. This homogeneity is the basis for the supply of ultra-processed foods, which rely on a few agricultural products that are transformed by chemical ingredients, making them attractive to the consumer. Contemporary scientific literature also corroborates the link between ultra-processed foods and the global obesity pandemic. Multilateral cooperation boosted by G20 initiatives can help reduce the adverse outcomes of the current agri-food system and improve local, healthy, and diversified production. This requires both a drastic reorientation in subsidies for agriculture and livestock farming globally, as well as policies that encourage the diversification of production and diets to promote human health.

The Challenge

1

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) recognises contemporary agricultural growth[1] as the primary global driver of biodiversity destruction. According to the Food and Agriculture Organization (FAO), emissions from the global agri-food system released 16.5 billion tonnes of greenhouse gases in 2019—a 9 percent increase since the beginning of the millennium.[2]

The central feature of these production patterns, enshrined in the technologies of the Green Revolution, is the monotony of agricultural landscapes and their consequent reliance on chemicals. Together, these features lead to soil depletion and, often, the contamination of rivers and ecosystems, which has ramifications on human health and contributes to progressive loss of habitats and biodiversity.[3] The standardisation of contemporary animal husbandry and the routine use of antibiotics also contribute to the global advancement of antibacterial resistance[4] and the loss of production and consumption potential in agrobiodiversity.

This production standardisation is the basis of food consumption, whose increasing monotony is one of the most critical threats to health.[5] The dependence of human food on the global trade of a few products distributed by a few companies represents a threat that multilateral cooperation must confront.[6] Such confrontation involves the strengthening of productive capacities, the promotion of diversity, and local food and culinary cultures within the framework of a nature-based knowledge economy.[7,8] Modern farming aims to provide food diversity and to regenerate ecosystem services that have been systematically destroyed by the expansion of crops and animal husbandry. This regeneration also involves a drastic reduction in food loss and waste, estimated at almost one-third of all food produced globally.[9]

Overall, some 7,039 species of plants have been catalogued as edible, of which 417 are cultivable. There are increasing discoveries of new plants and fungi in different parts of the world. At the same time, biodiverse geographies such as Brazil have been suffering from degradation of biodiversity.[10]

The contrast between these potentials and current agri-food patterns is stark: 90 percent of what human beings eat come from no more than 15 crops, with 66 percent concentrated in just nine products; wheat, corn, and soy account for 50 percent of the supply.[11] The loss of genetic diversity is also a characteristic of products originating from animal husbandry and has disastrous consequences on biodiversity.

The geopolitical consequences of the current agri-food system are also a matter of concern. More than 60 percent of the global agricultural supply is concentrated in five countries,[12] representing a systemic risk that was made further evident by the war in Ukraine. Droughts like the ones that hit India, France, and the Colorado River in the United States in 2022 and caused immense agricultural losses in the Cerrado and southern Brazil are becoming more frequent and intense. In 2021, the costs of environmental externalities of the current global agri-food system reached US$7 trillion.[13]

The monotony in production and diets reinforces the urgency of prioritising the transformation of food production methods to include non-degrading practices that allow agriculture and cattle-raising to remain within planetary boundaries. It is fundamental and possible to address the problem from the perspective of food consumption and demand. According to the Intergovernmental Panel on Climate Change (IPCC), among the response options to mitigate, adapt to, and combat desertification and strengthen food security, food demand/consumption-based responses—especially those related to dietary change—have the greatest probability of impact, lowest cost, and highest confidence of delivering the expected results. It is estimated that by 2050, 80 percent of food consumption will occur in cities,[14] where the need to diversify diets becomes most urgent.

Local circuits, compared to long supply chains, tend to preserve agrobiodiversity[15] while reducing food losses and waste and maintaining a pedagogical character that educates consumers about the necessary change in eating habits. Ensuring access to healthy and sustainable food involves rethinking food environments, how cities are supplied, and incentives for transitioning to a system that values initiatives and proximity circuits[16] from a circular economy approach.

Fundamental to this is the reorientation of the agricultural sector as well as the industries that are responsible for an increasing part of the food supply. A 2022 study shows that 71 percent of the food products displayed on North American supermarket shelves are ultra-processed.[17] This is a global pattern, and the monotony in agricultural supply and its disastrous consequences on biodiversity cannot be separated from the monotony in industrialised food supply and its destructive consequences on human health.

It is not a question of opposing industrial processing but of advocating for the transition from an industry that transforms agricultural monotony into food monotony[18] through the introduction of chemical components that are today largely responsible for the diseases that kill most in the contemporary world.

The G20 is responsible for stimulating an integrated approach to agricultural and food policies that responds to the global orientation contained in 'One Health'. Here, healthy diets, regeneration of ecosystem services, and animal welfare are seen in an organically articulated way and not as distinct compartments separated by guidelines and administrative bodies that have little connection with each other.[19]

UN Secretary-General Antonio Guterres in its Statement of Action on the UN Food Systems Summit[20] emphasised the urgency of a systems approach to food aligned with the 2030 Agenda. Such a perspective embraces the complexity of our world to deliver the transitions we need.

Growing awareness about the threats posed by this monotony is expressed through two fundamental components, which are the focus of this brief: the need to face the growing ubiquity of ultra-processed products in today's food patterns and the urgency of strengthening protected areas and promoting forms of agriculture that regenerate biodiversity and reduce greenhouse gas emissions and the erosion of biodiversity.

The G20's Role

2

Reversing the ubiquity of ultra-processed foods.

After the Second World War, the global priority was to increase food production, the shelf life of food products, and their safety. These requirements, however, could not prevent food from being a vector of a wide range of non-communicable diseases in the 21st century.[21]

Obesity tripled globally between 1975 and 2016, and the demographic aged 5–19 years affected by obesity multiplied fourfold in the same period. Most of the world's population is concentrated in countries where obesity is a more frequent cause of death than hunger.[22]

This weight gain is at the root of the most disabling and deadly chronic non-communicable diseases. There are 17 million premature deaths per year—one every two seconds.[23] According to WHO, 86 percent of these deaths occur in low- or middle-income countries.[24] These diseases account for most health system expenditures. Costs arising from health problems linked to the agri-food system are estimated at US$11 trillion.[25]

One of the hypotheses explaining the explosion of obesity goes far beyond what the nutrition sciences of the twentieth century taught: it is not enough to say that obesity results from consuming more calories than are expended through daily activities. The 'obesogen hypothesis' proposes that chemicals "influence individual susceptibility to obesity by interfering with metabolic systems that regulate appetite, weight gain and fat development and distribution, and thereby have contributed to the rise in obesity."[26]

In the last two decades, a new paradigm has been developing in nutrition science. More important than examining the caloric, macro, and micronutrient food content is knowing the composition and amount of industrial substances, originally absent from nature and everyday cooking, which are increasingly becoming a part of people's diets. The NOVA classification is being increasingly used in current scientific research. NOVA classifies all foods into four groups according to the extent and purpose of their industrial processing: unprocessed or minimally processed

foods, processed culinary ingredients, processed foods, and ultra-processed food products. This last group includes formulations of food substances often modified by chemical processes and then assembled into hyper-palatable foods and beverages with industrial-only substances and cosmetic food additives. Ultra-processing makes them highly profitable, intensely attractive, and intrinsically unhealthy.[27]

The NOVA classification is an indispensable reference in scientific literature on the challenges of contemporary eating as well as for the food guides adopted by a growing number of countries, which stands at more than 100 today. Consequently, the damage of ultra-processed foods to health, society, the environment, and public finances is already entering the radar of the world's most important business organisations, such as the World Economic Forum.[28]

Because of the importance of G20-originating companies in the agri-food system (particularly in the food industry), their contribution to combating the advancement of ultra-processed foods and the global obesity pandemic is crucial. This contribution should have at least four components, which are proposed at the end of this Policy Brief.

Strengthening biodiversity in protected areas and in agriculture and cattle ranching.

The fight against the global growth in the supply of ultra-processed foods will succeed only if this industrial transformation correlates with the emergence of regenerative agricultural practices. These practices presuppose the protection of forests, particularly of tropical forests.[29]

The Forest Protection Pact signed by Brazil, Indonesia, and the Congo is critical in this regard. The contribution of the G20 in financial support and in the dialogue on the governance of such an agreement is fundamental to stop the advancement of destruction and promote the regeneration of the socio-biodiversity of tropical forests. The sustainable use of forest socio-biodiversity must be subject to the requirements of the Nagoya Protocol regarding the rights of peoples and communities whose indigenous knowledge makes a decisive contribution to contemporary research.

It is evident that forests and other protected areas (including rivers and seas) will always have a much greater biodiversity than areas with massive conventional agri-food production. However, it is fundamental that these areas are managed in such a way as to drastically reduce their dependence on nitrogen fertilisers and, above all, on agrochemicals. Similarly, animal husbandry should be managed using methods and techniques that eliminate the 'preventive' application of antibiotics.[30]

Soil depletion, crop losses, and increasing temperatures in main production areas are factors leading contemporary research to seek alternatives to conventional methods of increasing agricultural supply. The recovery of soil biodiversity is one of the most essential premises to avoid the collapse of agricultural supply. Research around agroforestry systems indicates that these are a solution to biodiversity loss and can capture more carbon than ordinary reforestation.[31]

Food supply based on an economy of proximity has one of its most promising avenues in urban spaces. Urban agriculture can meet the needs and increase the diet diversity of vegetables. Nevertheless, beyond the food supply function, food production in and near cities stimulates changes in consumption patterns, has environmental and food pedagogical effects, generates income and local development, and has ecosystemic effects such as the reclamation of degraded areas, enhancement of insect and pollinator biodiversity in the urban environment, reduction of food loss, and carbon sequestration within cities.[32]

In short, the G20 can play an important role in the emergence of an agri-food system that is entirely decoupled from forest destruction, is less dependent on chemical inputs that are harmful to the ecosystem services on which we all depend, and that strengthens global security by enhancing proximity economies in agriculture, animal husbandry, and diets.

Recommendations to the G20

3

Acknowledging that the current monotony of agriculture and the influence of ultra-processed products have jeopardised food patterns by reducing the diversity of food available, the G20 should commit to finance and provide adequate incentives to biodiversity-friendly practices and approaches, like those recognised by FAO:[33] organic agriculture, sustainable soil management, agroecology, sustainable forest management, agroforestry, and diversification practices in aquaculture and fisheries.

Given that the large agri-food industry (comprising Archi-Daniels Food, Bunge, Cargill and Dreyfus—known as 'ABCD'—Danone, General Mills, Kellogg, Kraft, Mondelēz, Mars, Nestlé, Pepsico, and Unilever, among others) originates in G20 countries,[34,35] a commitment needs to be made by the G20 and these industries towards a significant reduction in the supply of ultra-processed foods, thus contributing to human health. This would be enabled through the establishment of a global multi-stakeholder task force especially focused on that purpose.

The G20 should strengthen the guidance currently prevailing in dietary guidelines (led by the Brazilian example and strengthened by FAO recommendations) to favour the consumption of fresh or minimally processed products, preferably those of local origin and to reduce the rising trend of ultra-processed products. In addition, the adoption of the Pan American Health Organization's nutrient profile model for front-of-package nutrition labelling regulations and the marketing restrictions for ultra-processed foods are the most effective evidence-based solutions to discourage the consumption of these harmful products.[36]

The G20 must commit to the taxation of ultra-processed products (whose low prices often hide substantial social and environmental costs) as recommended by the World Bank to leverage health finance tools to mitigate NCD burdens. This can occur through higher taxation (for example, WHO's recommendation to increase the prices of ultra-processed beverages by 20 percent) or reduced use of subsidies in relation to fresh or minimally processed food categories.

The G20 should strengthen the European decision to ban the marketing of agricultural products from recently deforested areas. This positive sign encourages total dissociation between food supply and forest destruction.

The G20 must promote active, multilateral, and multi-stakeholder coordination for a global reduction in chemical inputs that compromise soil life, human health, animal welfare, and water quality. It is not a matter of suddenly eliminating the use of these inputs, but rather, of recognising that their reduction is a global challenge that requires international technical cooperation.

It is crucial that the G20 supports and establishes mechanisms to achieve the most important objectives of the Convention on Biological Diversity (COP15) on the protection of 30 percent of land areas, oceans, coastal areas, and rivers and the restoration of at least 30 percent of what has already degraded.

Governments worldwide are sponsoring the destruction of ecosystem services through agricultural subsidies. The G20 should support the reduction of these subsidies, following the lead of the COP15 documents (which propose decreasing subsidies by US$500 billion annually).[37] Subsidies should be directed to meet social and environmental targets that allow for the regeneration of the losses that agricultural growth and the monotony of crops have imposed on current societies.

The G20 countries must commit to developing urban food system policy strategies based on the circular economy concept to address local food (diversity) production as well as fight food loss and waste and secure healthy urban food environments, as guided by the Ellen MacArthur Foundation and the Urban Food Systems Coalition[38] that emerged from the 2021 UN Food Systems Summit.

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