

The Great Balancing Act: can food sustainability be achieved at the G20 in an era of climate change?

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Executive summary

As the population is expected to reach 9.7 billion people, and as our diets transition to a greater intake of meats, protein and dairy, agricultural output will have to increase by 70 per cent in less than 25 years. This challenge is further compounded by high levels of climate change which is ravaging the land, soil and water that agriculture heavily depends on. Since the countries of the G20 [account for about 60% of agricultural land and almost 80% of global trade](#) in food and agriculture, reaching consensus on achieving food sustainability is not only crucial but an inescapable responsibility. Consequently, the G20 should focus on mobilising adequate investment in climate smart agricultural technology and innovation, encouraging a global transition to healthier, more sustainable diets, and working on reducing food loss and waste across food supply chains.

Food sustainability: what's on the menu?

Food (in)security has been creeping up on us for decades. As the population is expected to reach 9.7 billion people by

2050 and as our diets transition to a greater intake of meats, protein and dairy, agricultural output will have to increase by as much as 70 per cent in less than 25 years. This presents us with a distinct *human* challenge.

Yet, almost [1 in 9 people in the world already go hungry](#), and about [12.9 per cent](#) of the population in developing countries are thought to be undernourished. Many of the 2 billion people employed in agriculture are [living in poverty](#). As the global middle-class expands, the demand for more resource-intensive foods that release toxic greenhouse gas (GHG) emissions into the atmosphere also rises. Meanwhile, obesity is rapidly [rising in middle-income countries](#). Raj Patel [has described](#) the broader paradox as people the world over being simultaneously 'stuffed *and* starved'.

So, the question then becomes: how will the world feed 9.7 billion people if it already cannot provide sufficient food for the current population?

Linked to this is an obvious *environmental* challenge. Unsustainable agricultural practices continue to ravage the natural environment, particularly in developing countries where a dire lack of investment and inadequate infrastructure continues to inhibit the prospect of achieving sustainable agricultural practices. Two key issues here are land use and biodiversity, and climate change.

In the case of the former, agricultural practices presently generate up to 30 per cent of GHG emissions in the atmosphere. This is driven by both a changing middle-class diet which requires increasing land use, often [precipitating deforestation](#), but also as a result of GHG emissions emitted by fertilizers, pesticides, and livestock used as part of agriculture. Subsequently, the amount of arable land available to us is declining sharply, with 12 million hectares of agricultural land, which could otherwise produce 20 million tonnes of grain, being [lost instead to land degradation](#) every year.

The latter (again, somewhat paradoxically) is [‘is both part of the problem and part of the solution to climate change’](#). On the one hand, a volatile climate restricts the already scarce resources available to us by exacerbating soil degradation, restricting the availability of freshwater, and precipitating extreme weather events. These conditions largely restrict

agricultural productivity and result in heavy [post-harvest losses](#). Extremely hot weather, compounded with the little water that is left today for irrigation, spreads pests and diseases. Floods and dispersed rainfall patterns, meanwhile, can destroy crops and pollute waterways. Yet on the other hand, (unsustainable) agricultural practices themselves generate up to 30 per cent of GHG emissions.

This brings us to the *G20 Challenge*, which is something of a *great balancing act*. Since the countries of the G20 [account for about 60 per cent of agricultural land and almost 80% of global trade](#) in food and agriculture, reaching consensus on food sustainability is not only crucial but ultimately an unwavering responsibility. The G20 under the Argentinian Presidency in 2018 have recognised the importance of food sustainability, and have pledged to focus largely on soil degradation and concomitantly [sustainable soil management processes](#).

While this is vital, countries must address other aspects of the bio-economy. These include: water scarcity and the diversification of agriculture, including the development of and investment in, agricultural technologies and modernization; changes to everyday routines such as reducing food waste throughout the supply chain and

transitioning to healthier diets should also be explored.

On the market side of things, adequate financial investment must also be mobilized to enable agricultural innovations and climate smart technology to be materialized. Local people and institutions should be at the centre of agricultural pioneering practices and investment.

Ultimately, the challenge becomes one of navigating the balance between two potential trade-offs: how do we achieve agricultural sustainability while keeping in line with pledges to reduce carbon emissions and, more broadly, not put pressure on the earth's scarce and depleting resources? Further from this, and following on from deliberation between countries in Buenos Aires, the G20 should consider the following recommendations.

Piecemeal Pledges: the G20 Commitments

The G20 have widely acknowledged that food sustainability not only threatens [growth and progress](#), but undermines livelihoods, human security and development, and environmental sustainability. In light of the widely acknowledged impacts of global warming

and subsequent climate change, the Commission on Sustainable Agriculture and Climate Change (CSWAG) created under the Argentinian Presidency [has pledged to address](#) both mitigation and adaptation techniques based on 'resilient infrastructure and job creation', 'long-term strategies to reduce GHG emissions, with a focus on the design of criteria and methodologies' and the alignment of 'international climate financing flows for an effective implementation of nationally determined contributions (NDCs) and long-term strategies to reduce GHG emissions'.

Following on from this, the G20 countries released [a joint declaration](#) outlining further commitments they have made to help reach the goal of a sustainable food future: promoting local solutions and [dynamism](#) in sustainable agriculture; recognising the importance of [sustainable soil, water and riverbanks management](#); tailoring assistance and solutions – taking into account [specific needs of family and small-holder farmers](#); promoting [collaboration among public and private stakeholders](#) to facilitate adaptation to a sustainable environment; and [upgrading in Agro-Food Global Value Chains](#) and encourage initiatives to reduce food loss and waste.

Policy Recommendations

Nevertheless, whilst such commitments are welcomed, it becomes apparent that the same, piecemeal pledges without much substance are churned out of the G20 almost every year. Though consensus on climate change was reported to have been reached at the summit, it seems food sustainability in itself was briefly discussed, yet, the two are largely interrelated and are equally important. The solutions offered thus far are too broad, and ultimately the G20's focus must be narrowed, to seek out and address the most unsustainable agricultural practices first.

The following policy solutions *should* thus be considered by the G20.

1. Reducing food waste

Countries of the G20 must make solid commitments to reducing food waste in supply chains. Not only do countries waste hundreds of billions of pounds on food waste, but it leaves a heavy carbon footprint. While food loss primarily occurs in the production-end of agriculture in developing countries, in most of the Global North, including the majority of the G20 countries, waste occurs at the consumer end of the food chain.

Each country of the G20 must focus primarily on reducing their waste right

through from production, supply and retail at home, setting best practice for the rest of the G20 (and hopefully the world) to follow. Laws and institutions should be also be created to strengthen demand management processes – [e.g. reduction of loss and waste in supply chains and changing food preferences.](#)

Best Practice: *France's War on Waste.* France is considered world-leading in agricultural and food sustainability. After global hunger levels rose in 2016, it adopted legislation which, amongst other things, bans supermarkets from throwing away unsold food, ultimately aiming to cut food waste in half by 2025. It is now ranked definitively as the country which [throws away less food than any other country in the world.](#) France is subsequently the G20's *valedictorian* when it comes to resounding best practice in reducing food waste.

2. Mobilising investment to innovate in modern agricultural practice

As the G20 is primarily a world economic forum, they are more than equipped to mobilise investment in agriculture. Currently, commercial bank lending to agriculture is [as low as 10% in Sub-Saharan Africa, for example.](#) Since farmers must find new ways to cope with the effects of climatic shocks and soil degradation, [production costs will most](#)

[likely increase](#). Hence, agricultural farmers, particularly smallholders, must not only be incentivized to invest in climate-friendly technology which will increase productivity, but must be assisted in the means to do so. Donors, development practitioners, governments and the private sector must be encouraged to lead the way in investing in agricultural markets and technology. This type of investment should be localised and tailored to the specific needs of small-holder farmers.

3. Changing diets and agricultural diversification

Scientists have predicted a huge increase in meat consumption per capita in the coming years. While the governance mechanisms of the G20 promote collective decision-making and responsibility on the global stage, the prospect of changing the human diet has largely been kept off the G20 agenda, traditionally being considered a private domain issue. Yet, this is highly problematic, for the scope of the problem is quite remarkable, as the following statistics attest.

Despite meat and dairy providing just [18 per cent of calories and 37 per cent of protein, it uses the vast majority – 83 per cent – of farmland and produces 60 per cent of agriculture’s greenhouse gas](#)

[emissions](#). In fact, eating less meat and dairy is [the single biggest way for individuals to reduce their environmental impact on the planet](#). We must eat [75 per cent less red meat, 90 per cent less pork, and half as many eggs](#) on average to prevent agricultural-driven climate change. From 2006 to 2050, milk and meat production from pasture would need [to increase 40 per cent more than it did from 1962 to 2006](#). Diversifying our agricultural production – including switching to less resource-intensive food intake – would reduce carbon emissions in the atmosphere.

The G20 may have to take more drastic steps to enable such a transition to take place. Localised, tailored solutions rather than one-size-fits-all blanket policies should be adopted in this sense. A tax on red meat should be considered to help [‘reverse the rapid growth in meat eating’](#). Attempts should be made to diversify agriculture globally, including switching to less resource-intensive foods, including plant-based diets and cereals. This could also be achieved in line with investing in crops that are climate-smart, such as drought-resistance. Investment should be encouraged on the understanding that such crops, which lower carbon emissions, have high long-term returns.

Food sustainability: staying off the menu at G20 2018?

In short, the task for countries of the G20 is to reach consensus on how to increase agricultural output and productivity in a genuinely *sustainable* way, which will include making far more efficient use of land, labour and resources, reducing food waste, transitioning to healthier, more sustainable diets and mobilising adequate, tailored investment in agricultural practices, to name but a few. Issues such as the financialization of agriculture, the low private and commercial investment in sustainable best practice, and the difficulty in measuring agricultural productivity in a comprehensive way have hindered the ability of countries to achieve best practice in food sustainability thus far, resulting in piecemeal pledges with no visible results.

Nevertheless, to move forward, the G20 countries must invest in climate smart agricultural systems that [exhibit climate resilience, environmental sustainability and protect biodiversity](#), while continuing to provide millions with job and support growth. Some countries, particularly in the Global North, will be faced with some difficult trade-offs where both an overhaul in consumption patterns and a dramatic reduction in food waste has become a growing political imperative. For now though, the [beef-heavy banquet served to world leaders](#) in Buenos Aires suggests that food sustainability is not quite the 'special of the day' on the G20 policy-menu for this year.

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