



The Brazilian agri-food system

Six recommendations to transform a major global challenge into opportunities for the country



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Dear Candidates,

Two years into a pandemic which shows little sign of abating, the world is going through a perfect storm of rising food and energy prices, supply chain disruptions, inflation, growing poverty and inequality, increasing public debt and the associated fiscal crisis, as well as the human consequences of the war in Ukraine. Additionally, this perverse scenario is associated to a growing climate crisis risk (droughts, floods, etc.), biodiversity loss, and the prospect of a global recession.

Countries are increasingly identifying food and energy as national security issues which cannot be left to a small number of producers and traders who respond to market signals. The war in Ukraine clearly demonstrated this all throughout Europe and, more notably so, with its impact in the world. In fact, the war exposed deep cracks and ruptures in global food markets and, critically, in multilateral commitments for the reduction of fossil fuel consumption and for driving an equitable global political agenda regarding the climate and nature crisis. This crisis is being felt all around the globe, but it will have a deeper impact, through hunger and poverty, in developing countries, given the exponential increase of energy, food and agricultural input prices.

International cooperation has become increasingly restricted in the last years of the global crisis. In addition to these geopolitical changes in global markets, international dialogue is growingly fractured. The multifaceted crises of today are arguably not a temporary or episodic but chronic condition, supported by historic inequalities and distortions of the global market, further fuelled by a perfect storm of geopolitical changes, economic transformations, and the effects of extreme climate events and environmental destruction. In our case, the scourge of deforestation, human rights violations and environmental crimes. The challenge is to make nature explicitly valued, instead of implicitly ignored.

How should Brazil plan its future? How to transform our economy in alignment with climate and nature challenges? How to create jobs, income and social inclusion while valuing our environmental assets? There are opportunities while facing the presented challenges. We offer six proposals to candidates for the 2022 elections for presidency, state government and parliament who appreciate standing forests, bioeconomy, sustainable agri-food systems, and the consumers. Among them, the transformation of our economic model based on agricultural commodity exports into a new one which favours the production of alternative protein with added value, technology, sustainability, health and equality.

The six proposals aim at contributing to the construction of a fairer, sustainable and cooperative Brazil free of hunger and poverty.

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Facing a challenging scenario, with the war in Ukraine, the exacerbation of hunger¹ and climate change, food security was elevated to the top of the global political agenda. The social and economic conjuncture, together with the already known demands for healthier food production that brings positive impacts for the climate and nature, urges transformations in agri-food production systems, of which Brazil is a protagonist.

The good news is that many of the multiple risks faced by the Brazilian agri-food systems can be mitigated, although it requires strong political leadership and financial sector engagement as investors in this value chain. Furthermore, Brazil has a history of successfully addressing environmental challenges, such as the reduction in deforestation from 2005 to 2012. By leveraging past successes and its remaining vast natural capital endowment, the country can reverse existing and growing perceptions that it is moving in the wrong direction and align itself with emerging policy and technological advances to become a truly inclusive agro-ecological powerhouse.

The report “Finance, Nature and Food Transitions: Opportunities for the Brazilian agri-food system”, commissioned by NatureFinance (previously the Finance for Biodiversity Initiative – F4B) and elaborated independently by researchers from Imperial College London (through Imperial College London Consultants), Getulio Vargas Foundation and civil society organisations linked to conservation and sustainable resource use, such as Imaflora - Instituto de Manejo e Certificação Florestal e Agrícola [Institute for Agricultural and Forest Management and Certification], presents six recommendations about agri-food systems for the next administration.

The study is part of the series “Finance, Nature and Food Transitions”, which comprises other two studies: “Finance, Nature and Food Transitions – The impact of potential financial climate-nature risk repricing on normative outcomes for food systems” and “Finance, Nature and Food Transitions – Consumers choosing sustainable food systems in Brazil”.

This version will be presented to candidates for presidency, state governance and parliament as they can promote an enabling environment to deliver climate resilience, nature positive and equitable outcomes. The proposals may also foster the engagement of the finance community as well as civil society, academia and the private sector.

The study urges candidates to clearly signal compliance with the legislation through communication and the practice of law enforcement, indicating the non-tolerance of illegality in land and natural resource use practices, and recommends the prompt reintegration of the environmental inspection bodies capacities and activities, including the monitoring and punishment of illegal deforestation.

The following six proposals have the power to turn one of the major challenges of our times into opportunities for the country's economic growth and for strengthening national food security, with attention to environmental and social issues and to the conservation of natural resources.

1

Intensification and better efficiency in agriculture and livestock activities

The report recommends the intensification and improvement of the efficiency in agriculture and livestock activities, while enforcing the policies to protect natural vegetation, nature reserves and traditional communities' land. To this end, it is crucial to improve and expand existing policies, such as the ABC+ Plan (or Sectoral Plan of Mitigation and Adaptation to Climate Change for the Consolidation of a Low Carbon Emission Economy in Agriculture) and the PNATER (National Policy for Technical Assistance and Rural Extension), as well as expanding and improving the quality and coverage of technical assistance, research, development and demonstration at agri-food research institutions. Policies to combat deforestation, such as PPCDAM and PPCerrado (respectively, Action Plan for Prevention and Control of Deforestation in the Legal Amazon and Action Plan for Prevention and Control of Deforestation and Fires in the Cerrado), more efficiency, effectiveness and speed in the environmental sanctioning process (inspection), and accelerating the enforcement and implementation of the Forest Code are also crucial elements for this proposal.

2

Development of the value chain of alternative protein

Plant-based proteins, mycoproteins (of fungal origin) and cultivated meats are advancing due to the consumers' growing interest in food sources perceived as healthier and with potential to reduce undesirable impacts on natural resources. It is necessary to encourage and promote the development of the alternative knowledge-based protein production chain, through the promotion of diverse agricultural systems and raw materials, aiming (primarily) at the processing, industrialization and production of the final goods. It is also necessary to ensure sustainable credentials throughout the production chain by incorporating geographic and/or environmental attributes for traceability. To this end, it is recommended the creation of new funding programmes and the strengthening of existing ones at BNDES, FINEP, EMBRAPA, Embrapa and CNPq, targeting farmers, cooperatives of family farmers, companies, start-ups and research institutions in all stages of the production chain.

3

Policy-driven transition

Investments on agri-food activities come from the financial sector, which must be encouraged to participate and contribute to a “policy-facilitated” transition towards sustainability. On the other hand, a “financial risk-driven” transition leads to adverse impacts on food security, such as higher capital cost and higher food prices, while also implying lower yields, lower economic growth for the country and higher environmental damage. Policymakers should work together with the financial sector in the implementation of policies toward higher efficiency of the agri-food sector and protection of natural ecosystems, and in establishing monitoring systems and aggregating environmental attributes to the agri-food sector in order to align the incorporation of sustainability indicators in its metrics, reports, portfolios and range of services generated by agricultural activities.

4

Agriculture, integrated with climate and nature

“Climate smart agriculture”, “sustainable intensification” and “nature-based solutions” are approaches which must be encouraged. Adding and incorporating their concepts, practices and techniques, such as low carbon agriculture, into ongoing policies and initiatives is recommended, as well as promoting the advantages of these practices in increasing resilience and combating climate change. To achieve this, it is necessary to revise the Operative Plan of the ABC+ in order to adopt and explicitly mention the internationally-recognised standards on the topic. It is fundamental to assure that the ABC+ policy and practices are disseminated, promoted and recognized as being adherent and aligned to the “climate smart agriculture”, “sustainable intensification” and “nature-based solutions” concepts. Practices and concepts must be then promoted by the improvement and increase in actions and activities related to dissemination and training of farmers and other professionals, as well as the engagement with management committees at state and municipality levels. It is also recommended the introduction of these concepts in the curriculum of agricultural sciences colleges and schools and in the training of professionals providing technical assistance and rural extension and financial agents involved in the disbursement of rural credit to farmers. Rural credit must also be expanded for those adopting the practices and technologies of the ABC+ and, for this to happen, allocated budgets must also grow.

5

Care for family farmers and those in vulnerable situations

The report recommends the improvement of food security in the country, considering the broad diversity of farmers, production systems, institutions, and supply-chain structures in the agri-food systems in Brazil. To strengthen family farmers and improve human, social, physical and financial capitals for a plethora of distinct producers, it is necessary to develop policies and actions such as improving and expanding the rural education system targeting farmers, and traditional peoples and communities, as well as professionals responsible for developing rural extension and technical assistance. To encourage the generation and assessment of quantitative and qualitative information about the most vulnerable farmers, recognising that it is necessary to ensure producers will not be left lagging behind in opportunities and access to markets and technologies. Furthermore, there is the need to create new and revise/improve existing policies targeting this public on aspects such as technical assistance, financing, technological transfer and production marketing systems, which must be aligned with the “climate smart agriculture”, “sustainable intensification” and “nature-based solutions” approaches. In that sense, the PRONAF (Programme for Financing Small Holder Agriculture) should be fully aligned with and given access to equitable funding for sustainable agriculture and implementation of ABC+ Plan targeting small holders. Re-equipping and urgently funding programs such as the PAA (Program of Food Acquisition, in Portuguese) is a strategy in the short term for increasing food security and improving environmental outcomes.

6

Encouraging sustainable consumption

Studies have pointed to the role of demand-side changes (i.e. consumers’ choices) in helping achieve sustainability targets in agri-food and energy systems. The Level 3 Report of this series, “Finance, Nature and Food Transitions – Consumers promoting sustainable food systems in Brazil”, shows that informing consumers’ choices encourages them to buy food that is more sustainably produced. The study was developed by researchers of Unicamp, Every Action Counts (EAC) and Environmental Action (EA), commissioned by NatureFinance.

Here, the proposal is to advance food policies by designing socio-environmental labels that can quickly characterise a food product as less harmful to a specific socio-environmental impact in terms of intensity (low, medium and high). The target is to facilitate understanding of socio-environmental impact information by developing a label on the front panel of packaged foods using simple icons to emphasise them through different aspects.

To guarantee the effectiveness of this strategy’s implementation, it is important to develop an educational action to invite consumers to adopt the system and take informed decisions. The programme should be developed in collaboration with all stakeholders to guarantee their support when putting it into practice.

Profile of the agri-food sector in Brazil

Brazil is the largest net agri-food exporter in the globe, achieving a trade balance of US\$ 75.3 billion in 2020, according to the Food and Agriculture Organization of the United Nations (FAO). Brazil's farm production value in 2020 achieved US\$ 135.8 billion, behind only China, India, and the United States, also according to FAO.

We are the leading producer and trader in a variety of products, such as sugar, coffee and orange juice, and one of the four largest producers and exporters of soy, beef, poultry, cellulose, maize, cotton, soy oil and meal, and pork.

In 2021, the Brazilian agri-industrial system accounted for 43% share of exports and its balance equalling 172% of the national balance. The Brazilian agri-food sector accounts for 27.4% of the country's GDP, of which 29% are provided by the primary agricultural sector, according to an assessment by researchers from USP. More than 15 million farmers and agricultural producers are engaged in the sector, of which 13.6 million are family farmers, according to the 2017 agricultural census Censo Agro by the Brazilian Institute of Geography and Statistics – IBGE.

The contribution of smallholders

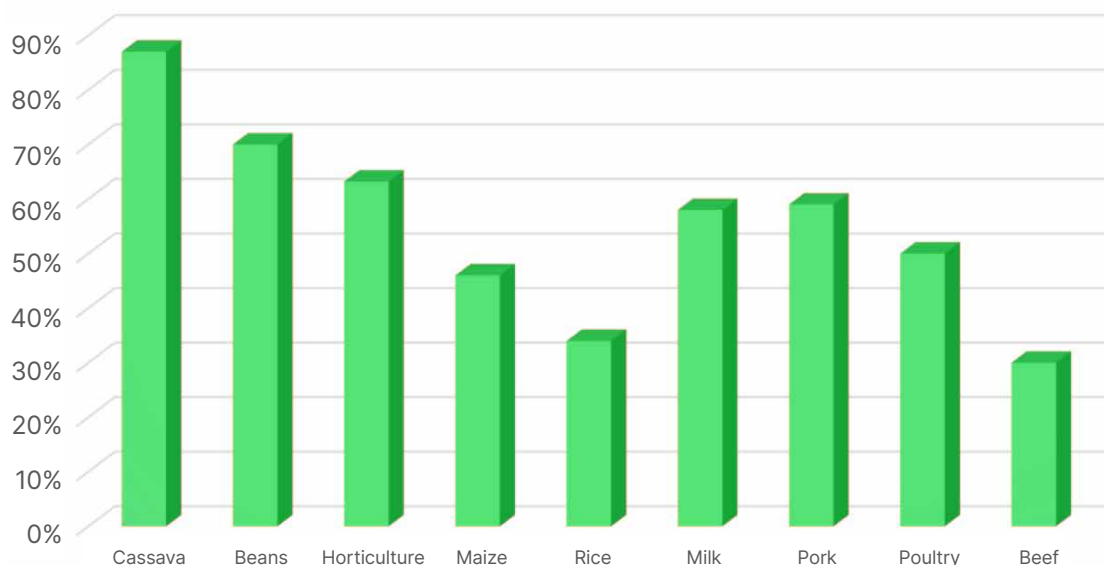
There is a broad diversity regarding farm sizes and types, companies and firms selling to and buying from farmers, institutions, associations and supply-chain structures. These differences add complexities in dealing with economic, social and environmental aspects and, consequently, in public policy design. An orderly transition with low risk of food insecurity targeting both large producers trading in export markets and smallholders responsible for a large share of the domestic food supply.

According to the 2017 Censo Agro, approximately 4.4 million establishments are considered from "family farming", which represents 84% of Brazilian rural establishments. They contribute to 38% of the gross value of agricultural production and to seven out of ten jobs in the rural area.

Family farming is responsible for more than 50% of food items in the Brazilian basic food basket and a large share in production volume for several food items, reaching 87% of the production of cassava, 70% of beans, almost 65% of all horticultural produce, around half of the production of maize, milk, pork and poultry, and around a third of the total production of rice and beef (see graph below).

A relevant share of these producers lack access to human and physical capital, financing, technologies, and opportunities, and as such, are more vulnerable and less resilient to economic and environmental shocks. However, they are key to assure food security in the country.

% of products from family farming in Brazil (Censo Agro - 2017)



Source: IBGE - Censo Agro, 2017²

Deforestation and agricultural commodities

There is already a consensus that deforestation contributes to climate change, threatens biodiversity and reduces the provision of ecosystem services³. Deforestation can also harm future agricultural production in Brazil by potentially reducing yields and the optimal cultivation area, as well as changing precipitation patterns not only in the deforested regions, but also in the centre-south part of the country⁴.

A recent survey by MapBiomas shows that Brazil still has 563.6 million hectares of natural vegetation, but deforestation and conversion of natural areas to other uses have historically been and continue to be major environmental concerns. Deforestation rates in the Legal Amazon region has been increasing since 2012 and reached 13,000 km² in 2021, according to the annual report of the National Institute for Space Research (INPE).

Deforestation data from MapBiomas show a 20% increase in deforestation in 2021, when compared to the previous year: 59% of all deforestation in Brazil occurred in the Amazon and 30% in the Cerrado. The deforested area with signals of illegality were above 98%. However, until May 2022, only 5.2% of the deforested area was subject to an embargo or assessment by IBAMA (Brazilian Environmental Institute).

Such deforestation rates create reputational risks to firms involved in the financing and trading of agricultural commodities. This reality has already caused some disruption, such as the hold on the ratification process of the EU Mercosur Trade Agreement, with implications for finance flows and investments in the country. A resolution from the European Parliament emphasised “that the EU-Mercosur agreement cannot be ratified as it stands” referring to the increase in deforestation⁵ and human rights violation in the Brazilian Amazon, related to, among other factors, the expansion of the agri-food sector.

High deforestation rates in Brazil have caused negative reactions from several actors both domestically and abroad⁶ and a considerable part of the international market has concerns regarding the cause-and-effect relation between commodities and deforestation. The failure to address and halt deforestation by national actions is fuelling distrust in commercial partners in Europe and USA. Counting on China to maintain the high demand for Brazilian beef exports is risky, as China can leverage price drops of the commodity caused by demand shifts to gain bargaining power. In addition, there is a clear ambition of China to become less dependent on imports of animal protein, demonstrated by the introduction of the development of lab meat in the country's new 5-year plan.

In a world interconnected by trade, where trade rules are not as rigid as may be perceived, going against global trends creates the risk of financial backlash, which cannot be neglected.

Therefore, following a business-as-usual approach or ignoring the reality carries major material and financial risk. According to a study by the Food Systems Economics Commission (FSEC), there are potential risks faced by Brazil if it follows a strategy which neglects negative impacts on natural resources while the world transitions to a sustainable development pathway. Results of that study suggest Brazilian agricultural exports would be impacted by a decrease in the animal protein share in global food demand, even if both Brazil's and China's populations continue on their current trends of meat consumption.

On the other hand, alternative protein sources (plant-based, mycoproteins or cultured meats) all require crop-derived inputs so global demand for crops goes up, creating new opportunities to produce raw materials and to develop an alternative protein industry, coming from the alignment of public policies and private initiative efforts.

Challenges and opportunities

Despite the indispensable contribution of the agri-food system to the supply of nutrients to the world population, it is a fact that food production contributes to environmental degradation. Agriculture is the main driver of historical habitat loss and all the consequent impacts on biodiversity and other ecosystem services. The agri-food sector, together with land use change, is responsible for over a third of global greenhouse gas emissions⁷.

In 2020, agriculture and livestock were responsible for 27% of Brazil's gross emissions of greenhouse gases – methane from enteric fermentation, created during the animals' digestive processes, contributed with 65% of these emissions, according to the Greenhouse Gas Emission and Removal Estimating System (SEEG). Estimates of emissions coming from land use were 998 MtCO₂eq, which represents 46% of all the country's gross emissions coming from deforestation in that year.

Brazil has the largest cattle herd in the World, which is 2.3 times larger than the US herd, but produces 5% to 10% less meat, leading to higher methane emissions per animal and beef output. Brazilian beef productivity is at least 20% less than that of the main competitors⁸. At the same time, cattle are also a source of diversification and resilience for small and family farmers, so it is important to include these groups in the design of public policies that aim to address the chronic inefficiency of the sector.

Extreme climate events, visible effects of climate change, are not only aggravated by the agri-food sector's emissions, but threaten agriculture itself, according to the Intergovernmental Panel on Climate Change (IPCC). Brazilian crop production is mainly rain-fed, making the sector highly vulnerable to more variable precipitation patterns. Since the 1960s, changes in climate patterns have been associated with lower-than-expected productivity improvements in agriculture in the order of 15% to 20%⁹. Estimated net impacts from 1980 and 2008 suggests negative impacts of 7.5% in maize and 4% in soybean¹⁰.

In the most strategic crop production region, such as the state of Mato Grosso and the Cerrado biome), the optimum area for rain-fed crop production has been reduced by 28% since 1980 due to regional warming and drying¹¹.

For the financial sector, these challenges create the need to develop and implement structures to price resulting risks. In the absence of clear policy to address these issues, the financial sector will unilaterally price these risks in an uncoordinated manner, as pointed out at the report "Finance, Nature and Food Transitions – Opportunities for the Brazilian agri-food system", also part of the study series coming from the initiative of NatureFinance. Such a finance-led transition can be disastrous for the Brazilian agri-food systems, giving rise to the possibility of disruptive consequences such as higher capital cost, lack of finance and even loss of access to key markets.

According to the study, the uncoordinated pricing of climate and nature risks by the financial sector can adversely impact food prices and agricultural employment in agri-food systems. Most funding sources do not focus on improving environmental performance of agricultural practices. Concerns for an inclusive production which ensures that less-prepared producers are not left behind are likewise not emphasised.

In contrast, a well-designed policy-driven transition can reduce or eliminate many of these adverse effects, and in some cases even turn them into opportunities.

Transitions require an element of disruption as a process which replaces old entrenched means of production with new, more efficient or more desirable ones. A food system transition based on well-designed, coordinated and implemented policies can soften the ride by providing a clear path forward and by helping economic agents navigate the transition. Thus, depending on how it is implemented, a global transition to sustainable food systems can have very different outcomes on relevant socioeconomic and environmental indicators, the report affirms.

The report "Finance, Nature and Food Transitions – Opportunities for the Brazilian agri-food system" analysed nature-related risks applied to Brazil, comparing a finance-driven to a policy-driven transition. Using the same approach of the global study, researchers used indicators and variables specific to Brazil. While both transitions can reduce emissions and reverse nature degradation, the policy-driven approach leads to more desirable outcomes, such as the presence of carbon sinks creates opportunities for generation of carbon credits, in accordance to the Article 6 of the Paris Agreement.

Because agriculture still emits greenhouse gases (especially methane and nitrous oxide), if the pricing of these residual emissions are passed on to consumers then the cost of food rises. A disorderly transition with higher carbon prices means food prices rise faster than in an orderly transition, causing food expenditure to be higher in a finance-driven scenario than in the policy-driven one. These results align with the FSEC Brazil country study, which arrived at similar conclusions but coming from a normative scenario of a deep transformation of global food systems in a transition to a sustainable development pathway¹².

Emergence of new markets

Nature credit markets are gaining traction in the finance world and other ecosystem services will also become revenue streams as they mature. Policy approaches that align with the global rise of these markets can provide viable options to improve the agri-food sector and turn it into an engine for growth.

As new markets develop, Brazil's natural capital will look increasingly attractive to investors, both national and international. However, several enabling conditions must be in place for these markets to function, including enforceable land rights and contracts, equity and inclusion, clear verification and monitoring rules, all of which contribute to the credibility of the environmental outcomes promised in return for investments. Also, clear and ambitious goals and targets are needed.

Directed financing that empowers producers through innovative financial instruments and markets can drive change that reduces the economic inefficiencies, minimizes costs and maximizes the added benefits of the transition.

The intensification of agricultural practices, for example, can lead to land-sparing opening opportunities for regeneration of natural vegetation and creating opportunities for generation of carbon and nature credits. Investments into Research, Development & Demonstration (RD&D) of innovative technologies and processes can boost productivity through more resource efficiency, novel cultivars and better production techniques, among other innovations. In the livestock sector, this represents important opportunities. The intensification of pasture-based systems could reduce greenhouse gas emissions by more than 50% at the farm level¹³.

Higher pasture productivity means more can be produced on less land, freeing up large areas for other purposes including crop or bioenergy production, forestry and carbon farming, or for regeneration of natural habitats. It is even possible for a reversal of biodiversity loss and an eventual gain in biodiversity indicators such as the Biodiversity Intactness Index (BII). For this to happen, it is necessary to ensure the use of native species and avoid single-crop farming aiming only at maximising carbon capture in plant biomass.

Improving grazing management and feed digestibility, using feed additives, better animal management and genetics, rehabilitation of rangeland areas, manure management, and legume sowing in pastures are several mitigation options technically available today for reducing emissions in agriculture, but they currently face low adoption and limited potential due to costs and constraints of economic, social and institutional nature¹⁴.

Implementing the structural changes on a system as large as the Brazilian agri-food system requires investments up front to reap the benefits over several years, and also requires coordinated public and private finance streams. Public funds can help de-risk private investments and lead to a "crowding in" effect by attracting capital market funds. Furthermore, it is necessary to create capacity-building measures and policies such as agricultural extension services to provide training in novel techniques to low-skilled farmers and widespread pilot projects to demonstrate proposed interventions work for the benefit of the farmers.

The Brazilian agri-food system has been reluctant and slow to debate diet shifts away from animal protein consumption towards more plant-based diets, specifically concerning the potential expansion of plant-based, microbial and cultivated proteins and the potential reduction in animal protein consumption. This stance, however, makes the sector less prepared for disruptions while preventing it from seizing opportunities presented by new markets. Even before the invasion of Ukraine but more so since, food supply chains are shifting to more domestic production and to reliance on friendly sources. This is causing a trend of rising prices in the international food market with impacts on competition for land. This can make alternative protein sources more competitive since their land footprint is lower than conventional animal-based proteins¹⁵.

Research and development have allowed technology advancements toward new protein sources, which have seen fast decreasing cost and innovative solutions applied to consumer perception and sensorial characteristics to mimic traditional animal-based protein products¹⁶. There is potential for fast increases in the demand for alternative protein sources, which can generate opportunities to a new industry and novel markets, as well as to the inclusion of the diversity of existing products and ingredients from family and traditional farmers in the country into diets and new agri-food value-chains. Brazil could take the opportunity not only to shift its current agri-food production systems toward more sustainable practices, but also, to incentivise investments in the development of new supply chains based on alternative protein sources.

Consumers opting to continue to consume animal protein are still likely to demand more transparency on the environmental impact of the food they consume, making sustainable production and its credibility an attractive risk hedging strategy. A full global shift to plant-based diets is unlikely in the coming decades. But it is quite possible that any remaining demand for animal protein will come with conditions on credible sustainability credentials. Few countries have the conditions found in Brazil enabling production of environmentally friendlier animal protein.

Past and current policies

There is much that can be reinstated or strengthened, leveraging lessons learned to improve their performances.

- Improve and reactivate policies to combat deforestation that have shown favourable results in the past: PPCDAM, PPCerrado and the Amazon Fund;
- Accelerate and guarantee the implementation of the Forest Code. It is recommended to ban further changes to the final implementation of the Rural Environmental Registry (Cadastro Ambiental Rural - CAR) date and to set minimum thresholds for the share of verified and validated CAR in each state by the final CAR implementation date; providing assistance to the states lagging behind in these processes; setting firm goals and due dates for farmers adoption of the Environmental Regularization Program (Programa de Regularização Ambiental - PRA);
- Expand rural credit resources associated with the adoption of sustainable practices in agriculture (such as the ABC+ Plan) and impose conditions to the other existing rural credit programs to require environmental good practices, such as the net decrease of greenhouse gas emissions in the financed activities. For this, monitoring or carbon accounting systems need to be in place for verification purposes;
- Improve governance and institutional coordination of the various policies in progress in order to take advantage of the existing synergies between them and avoid overlaps and potential contradictions and conflicts. The National Policy on Climate Change sets the governance of this transversal and multisector development priority, as linked to an Inter-Ministerial Committee of Climate Change, chaired by Casa Civil (Presidential Office). The actual legal framework is clear in setting the coordination of implementation of the transversal and multisector climate policies to the high levels of the executive power; it is preferable that those policies are aligned with decisions from legislative and judiciary power.

Introduce policies and regulation to improve the operational environment of private investors to de-risk investments in environmentally friendly agriculture:

- Engage with the financial sector to encourage an increase in the participation of the private sector in the financing of agriculture, as well as expand and encourage the creation and adoption of financial instruments associated with the adoption of sustainable practices (such as green bonds and climate bonds) in agriculture;
- Implement macroeconomic policies and structural reforms that improve the stability of the macroeconomic environment and reduce the uncertainties and risks of the financial sector associated with the business environment, regulatory environment and validity of contracts, reviewing and restructuring norms, rules, laws and the functioning of judicial services.

What can be useful going forward?

Policies to control deforestation and incentivize sustainable intensification in livestock and agriculture should be part of the same strategic development and governance framework towards a smooth transition of the agri-food system in Brazil.

Well-designed and coordinated policy packages and governance systems can deliver more benefits than individual policies, especially if they explore synergies across and avoid conflicting objectives. For example, the National Plan for the Recovery of Native Vegetation (Planaveg) was created in 2017 to expand and strengthen public policies, financial incentives, markets, good agricultural practices, and other measures necessary for the recovery of Brazilian native vegetation. Planaveg is connected to the national commitments made in the Paris Agreement, such as restoring, reforesting and promoting the natural recovery of 12 million hectares of forest by 2030. In combination with the ABC Plan, Planaveg has created adequate and resilient conditions for agriculture and livestock, providing positive impacts on regional environmental conditions, production systems, as well as socioeconomic and cultural outcomes for farmers¹⁷.

Several policies, instruments and efforts could be combined as complements to achieve similar goals and a broader objective of preparing the country to turn the existing environmental challenges into opportunities. Efforts to control deforestation, for example, may not benefit only from command-and-control policies, but also from economic incentives to intensify livestock and agriculture production, payments for environmental services and cattle traceability systems.

Monitoring and traceability can be better achieved by improving and combining existing instruments and tools, such as the Brazilian System of Individual Identification of Cattle and Buffalo (SISBOV), the Environmental Registry (CAR) in the Forest Code, and the mandatory Animal Transit Guide (GTA) recording cattle transportation. As such, the knowledge accumulated with current and past policies should be used to promote their integration and coordinated implementation.

Brazil has the upper hand

Possessing a favourable climate and fertile soils, the country can turn the risks pointed by the report into competitive advantages in a global food systems transition, provided well-designed and coordinated policy packages are deployed – several policy recommendations are for the first few months of the next incoming administration in Brazil. Implementing these policies will not be without its detractors, but the idea is for all stakeholders in the Brazilian agri-food systems to examine the evidence and reconsider their positions in light of the changes that are undoubtedly coming.

Brazil is one of the few countries in the world who can clearly benefit from a global transition to sustainable food production systems. These benefits, however, are far from guaranteed. A clear vision of how to position the country for success, along with political and business leadership unified around this vision, will be needed to improve governance and strengthen institutions for a resilient, inclusive and sustainable agri-food sector that truly delivers on its potential for much needed economic development.

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