Finance, Nature and Food Transitions

Consumers choosing sustainable food systems in Brazil

June 2023

EVERY ACTION COUNTS

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Green Digital Finance Alliance

NATURE FINANCE

About NATURE FINANCE

NatureFinance is committed to aligning global finance with nature positive, equitable outcomes.

Our work is shaping the many dimensions, actors and change pathways at the nature-finance nexus to thrive and contribute to development.

How we make change:

Nature Markets: shaping principles-based nature markets by increasing awareness, innovations and better governance of nature-linked markets including nature credits and soft commodity markets.

Nature Liability: extending the liabilities of financial institutions for nature outcomes, including the application of anti-money laundering rules to break the links between investment and nature crimes.

Nature Data & Disclosure: Increasing the quality and quantity of nature data, risk assessment and transparency across financial markets to enable integrated assessments of nature-climate risks and impacts.

Sovereign Debt: Engaging market actors, and governing institutions in efforts to place nature in the world's sovereign debt markets, including scaling the issuance of sustainability performance-linked sovereign bonds.

Nature Investment: Creating new nature focused investment opportunities that address climate, food security, equity and broader sustainable development goals.

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NatureFinance is the next phase of impact of the Finance for Biodiversity Initiative (F4B), established with support from the MAVA Foundation. The work also benefits from partnerships with, and support from, the Children's Investment Fund Foundation (CIFF) and the Finance Hub of the Gordon and Betty Moore Foundation.

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Our use of Fibonacci sequence imagery is inspired by the association of this unique ratio with the maintenance of balance, and its appearance everywhere in nature- from the arrangement of leaves on a stem to atoms, uncurling ferns, hurricanes and celestial bodies.

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EVERY ACTION COUNTS

The **'Every Action Counts'** (EAC) coalition, launched in June 2021 by the Green Digital Finance Alliance, initiated this project. Its 14 members with a combined customer base of 2.7bn convene around a shared mission to empower 1 billion people by 2025 with green awareness and green action opportunities. EAC members are leading global financial institutions and retail platforms that create novel digital solutions with the goal to empower individuals to decouple consumption and investment choices from environmental degradation, to adopt green actions, to reduce their own emissions more actively, and generally reduce the negative impact of their daily lives on nature.

EAC teamed up with leading organizations in their field: Latin America institution, The University of Campinas (Unicamp), for scientific investigation of Brazilian citizens' behaviours around food consumption, and environmental research organization EA – Environmental Action for modelling environmental impact reduction potential.

Key Messages

92% supported the increase in the share and diversity of organic food, and 86% agreed on the importance of promoting products with high animal welfare standards by supermarkets.

But even more strongly, 93% supported implementing awareness campaigns about the environmental impacts of food products. Respondents also clearly stated that they expect the government to step up and help them on their journey, with 79% of respondents replying that the government should do more to mitigate food production emissions and 65% stating that monetary incentives are necessary to help the population to change their behaviour to protect the environment.

Results also support the demand for policies to go beyond the traditional approach of encouraging better food choices based on providing only nutritional information.

Executive Summary

Animal agriculture has a significant and growing impact on environmental resources, such as biodiversity loss and driving climate change (Willett et al., 2019; Alexandratos, 2012). This trend is expected to continue, due not only to population growth but also because rising affluence leads to higher calorie per capita consumption, as well as greater consumption of animal products (Tilman & Clark, 2014).

With food demand likely to double over the next four decades, Brazil stands out for its projected growth in production above the rest of the world, at the same time as it has great biodiversity and high rates of deforestation – 62.8 million hectares from 2011-2021 (following Russia on first place with 76 million hectares; World Resources Institute Research, 2021).

In addition, to fulfill its commitment to the Paris Agreement, Brazil needs to reduce its total net Greenhouse gas emissions by 37% in 2025, 43% in 2030, and zero net emissions in 2060. Therefore, the country needs to provide a healthy diet to its population through a sustainable food system.

This report focuses on the role of consumers in fostering necessary food system transitions. When empowered by transparency and education, they can be instrumental in reducing harmful environmental impacts and can become key influencers by making changes in their own lives and as drivers levers for broader change.

The results of this project also contribute with proven strategies to e-commerce providers on how to effectively support their customers in the transition towards healthier and more sustainable food, while at the same time showing policymakers that a transition towards more sustainable food systems can be facilitated.

Brazilian food consumer profile

Brazil is among the ten highest-grossing economies for food-related revenue, almost USD 250 billion in 2020, which represents 11% of the country's GDP (Statista, 2022b). In 2021, meat product most consumed in Brazil was poultry, with more than 40.76 kilograms consumed per capita per year. Beef and veal are also widely enjoyed by Brazilians, with an estimate per capita consumption of 25 kilograms annually (Statista, 2022e). This volume, however, represents a marked decrease since 2019 when 34 kilograms per capita were consumed, the decrease is attributed to rising beef prices.

On the other hand, in 2021 rice consumption increased to 35.2 kilograms per inhabitant while bean consumption remained stable at 15.2 kilograms per person (EMBRAPA, 2021). Finally, consumption of fresh dairy products increased by approximately 3% between 2018 and 2021, reaching nearly 75 kilograms per person per year (Statista, 2022d).

In 2019, the Brazilian Institute of Geography and Statistics conducted a national survey showing that individuals with higher income and higher education consume more fruits and vegetables, less traditional Brazilian foods (e.g., beans), and more ultra-processed food (e.g., soft drinks). Brazilians with lower incomes consume more rice and beans and less industrialised food. A recent study also shows that fruit and vegetable consumption was more prevalent among more educated individuals, making groups that have less education more vulnerable to malnutrition and health problems (Crepaldi et al., 2021).

In 2020, the cost of a healthy diet was USD 3.08 per person per day (The World Bank, 2020), while 62.7% of the Brazilian population earned less than USD 640 per month (USD 21 per day).

Understanding food-related behaviours is essential for closing the gap between environmental mitigation policies in place or planned to be introduced and the average consumer's diet in Brazil.

Regarding their food shopping frequency, 11% of the survey respondents shop every day and 43% shop once a week. While 37% of the respondents do not shop for food through online outlets at all, 6% and 19% shop every day and once a week though online markets, respectively. Only 25.2% think that buying food over the Internet is easy.

In this study's research, the most highly discarded food products (more than 25% of wastage) were reportedly fruits and vegetables (28%), bread (24.3%), rice and beans (24%), poultry (20.3%), and beef/veal (20.1%) – 79.9% admitted feeling responsible for reducing their food waste. On average, 12% waste more than 25% of their food, less than other Latin American countries. According to FAO (2014), households in Latin America usually waste 28% of their food regularly.

Since 2018, Brazil has been one of Latin America's leading markets for organic products with a share of 0.5% in total agricultural area (FAO, 2021). Since 2018, Brazil has been one of Latin America's leading markets for organic products with a share of 0.5% in total agricultural area (FAO, 2021).

In 2018, nearly 1.2 million hectares of organic farmland were under production, with 2019 revenues reaching USD 1 billion (Statista, 2022). Plant-based protein production has increased by 70% since 2015, with 2020 revenues of USD 82.2 million. According to a recent national survey, 46% of Brazilians have decided not to eat beef at least once a week, and 14% have declared themselves vegetarians (IPEC, 2021).

53.1% of the respondents believe it is less important that food be organically produced, while 71.7% think it is important to buy less processed or industrialised food. Labelling is also an important factor for 76.2% of respondents (i.e., food should have labels guaranteeing its production), and 32.6% think having the food origin marked on the packaging is essential. Concerning food prices, 73.5% of respondents agree that price should correspond with food quality.

Regarding food preparation, cooking at home (78.8%) is popular among respondents in a similar range as reheating food leftovers (75%).

Behaviour predictors are variables that indicate patterns or trends in food consumption. In this study, price, personal norms, perceived behaviour control, specific knowledge and environmental awareness were inferred predictors for specific food behaviour. Specific knowledge in food consumption refers to nutritional values, recommendations, and labelling regarding food production, origin, and socio-environ-mental impacts. 22% of respondents said that nutritional information is hard to find, and 56% admitted having difficulties understanding this type of information.

The most recognisable food labels are those for organic products (65%), Agriculture Minister seal of approval (80%) and gluten-free (55%). The Brazilian Federal Government is responsible for administration of the first two labels, which were implemented more than 30 years ago. Only 44% reported familiarity with the vegan label.

Regarding the new nutritional label that was approved by ANVISA in 2020 and put in force in October 2022, 85.6% declared it easy to understand and agreed that it will help make healthier food choices (86%). Only 6% claimed to be highly knowledgeable about nutrition and consumption, while 69% declared to have little knowledge in these topics.

Price remains a significant predictor for individuals consumption of organic, healthy food products or products with a lower impact on the natural environment – 72.1% of the respondents agreed that they would purchase more organic food if they could afford it. 83.5% declared that they pay attention to good deals on food products; however, only 26.1% stated it is more important to keep meat prices as low as possible rather than ensure animal welfare is protected during production. 58.1% agreed that helping the natural environment is a good reason to pay more for products.

In the case of personal norms, 57.1% are willing to change their diet to protect the environment. For this study, a seven-level scale was developed to infer how concerned respondents are about the impacts of their actions on the natural environment. 75.4% agreed that super-markets should be environmentally responsible for the food they sell, and 66.3% indicated that environmental conservation should be more important than the food price.

The level of environmental concern was inferred by a scale of 0 to 7 (highest level of concern), 54.9% have a score of 1, while only 3.2% show a score over 5 for environmental concerns. 60% of those who shop online for food daily (5.93%) scored over 5 for environmental concerns.

This result represents the challenge of engaging Brazilians in future environmental policies without a focused plan on educating individuals to be more aware of environmental impacts of their food-related behaviours.

Since food choices are very personal, encouraging people to make more sustainable food choice requires well-designed and motivating policies and methods.

Impact, incentive, and green transition

In assessing the environmental impact of a typical Brazilian's diet, the contribution of each food to degradation in the following key areas was determined: climate change, land use and deforestation, and freshwater. Understanding the most significant contributors to environmental harm was essential to establish the levers and actions that would put Brazil on a path to more sustainable consumption.

Beef contributes the most to CO2 emissions and greatly exceeds the negative environmental impact of all other food sources. While rice contributes the most to freshwater withdrawal and degradation.

Changing the current practice for rice production in Brazil provides another opportunity to greatly reduce the country's food-related emissions. If rice production hypothetically transitioned to methods that are 100% sustainable, a 55% reduction of rice-related CO2 emissions could be seen. This is interesting from a consumer empowerment perspective, because choosing items that are more sustainably produced is already recognized by consumers as a way that they can positively influence their impact on nature.

Although, in general, people do see a strong connection between the environment and food, they are more likely to be concerned about plastic packaging, transport, and quantities, rather than the effect that different types of food have on the environment. Generally, people indicate that their food preferences are influenced by factors with different degrees of importance, including taste, health, cost, mood, culture, and quality, while the environment is not usually considered (Macdiarmid et al., 2016).

Decision-making is often biased by where an individual looks for information, how s/he conducts their searches (i.e., for a product), and other factors like time exposure. These contextual factors build the choice architecture through which individuals make decisions. In the case of consumption, the predominant choice architecture encourages or discourages certain food choices.

Therefore, there is an appeal to change the choice architecture and nudge individuals in a particular direction (i.e., to specific choices). Nudging means influencing individuals' behaviour through corresponding cues to minimise the cognitive effort required for (or resistance to) selecting the promoted option (Thaler and Sunstein, 2021).

Nudge theory enables positive change for individuals and aligns with wider societal interests without the imposition of legislation. This is relevant for food policies that aim to improve public health and environmental conservation.

These strategies relate to changing accessibility, availability, and presentation of food options, and to the use of prompts, and did already successfully influenced more sustainable food choices.

In contrast, no food options are eliminated, and economic incentives are not included. Some nudge strategies include contrast, availability, placement, defaults, descriptive norms, prompts, semiotics, and presentation. Nudge strategy success has already been shown to motivate food decisions towards more sustainable food consumption, such as plant-based or meat substitutes (Bacon & Krpan, 2018; Ensaff et al., 2015, Vennard et al., 2019; Visschers & Siegrist, 2015).

The most common policy approach used to influence food choices is provision of nutrition information. This typically includes general guidance on the broad parameters of what constitutes a healthy diet and, in some cases, nutritional information on food products or at the point of food purchase.

Although seemingly straight-forward, providing nutritional information has proven to be complex and occasionally controversial. Given the numerous food choices most people make daily, it is not surprising that many consumers find acquiring, recalling, and applying nutrition information to food choices a demanding task and perceive it as excessively difficult and burdensome.

Many consumers consider taste and price more important than or at least as important as nutrition or health in grocery purchasing decisions (De Cosmi et al., 2017; Negri et al., 2012).

For food choices, examples of “rules of thumb” (i.e., an approximate method for doing something based on practical experience rather than scientific facts) that might be applied could be “vegetables are healthy,” “organic food is environmentally friendly,” or “the diet version of a product will also be lower fat”. Although they are helpful, these rules of thumb may not be effective; for example, a product labelled “diet” could contain a large amount of total fat or sugar.

This is shown by the consumer perception that eating organic is a way to improve both their health and that of the planet. Applying nudges on regenera-tively grown food, like labelling or education thus proves one powerful way to use consumer power to influence the demand for more sustainably produced food.

Public policies and recommendations for implementation

The survey also asked participants about their support for public policies and retail initiatives that could support their decisions toward more sustainable food choices. 92% supported the increase in the share and diversity of organic food, and 86% agreed on the importance of promoting products with high animal welfare standards by supermarkets.

In the case of public policies, 82% agreed to establish food waste taxes for food production and distribution, and 65% on taxing sugary drinks to subsidize healthy food products.

Respondents also supported subsidies for farmers with higher animal welfare standards (84%), for farms involved in organic production (83%) and for fostering organic food and local farmers' markets (89%).

But even more strongly, 93% supported implementing awareness campaigns about the environmental impacts of food products. Respondents also clearly stated that they expect the government to step up and help them on their journey, with 79% of respondents replying that the government should do more to mitigate food production emissions and 65% stating that monetary incentives are necessary to help the population to change their behaviour to protect the environment.

Results also support the demand for policies to go beyond the traditional approach of encouraging better food choices based on providing only nutritional information.

Firstly, individuals learn better in the place where they make their decisions. Educational programs on food consumption must take place where consumers shop for food, this approach can avoid the counter-productive "rule of thumb" effects or vicious nudging strategies (e.g., take one for the price of two). A study by Bem Lignani et al. (2010) analysed changes in self-reported food intake among Brazilian families that benefitted from conditional cash transfer implemented in the Program Bolsa Família by the Brazilian Federal Government. Families increased consumption of all food groups analysed; however, processed foods and high-density, energy-rich foods demonstrated the most significant increase.

Secondly, better decisions do not necessarily depend on complex rational processes. Heuristics are shortcuts individuals use when making decisions between alternatives, so they can quickly make decisions without knowing all the information about each food alternative. Results show that labelling is a powerful tool that can easily communicate to consumers the one cue or characteristic that differentiates the food options. However, it is necessary to ensure that consumers use a valid label (i.e., valid cue) as the reason behind their decision.

The survey has shown a strong recognition by respondents of governmental labels (72.5% on average), and 56% also declared they trust the information written on food certification labels. Thus, developing a comprehensive policy involving all societal actors is suggested to facilitate food consumption choices that can effectively contribute to mitigating environmental impacts (e.g., climate change, biodiversity loss).

It primarily involves designing a label that can easily convey this message and does not repeat information already delivered by current and well-established labels (e.g., organic product label). Legislation and regulation must also be implemented to avoid any message bias after employing the label. And most important, it must be combined with an educational program to ensure the understanding by consumers of its underlying benefits to the environment and their health

The new Brazilian regulation on nutrition labelling of package food products, put in force in 2022, facilitated the understanding of nutritional information by imposing the label to be placed on the front panel of packaged foods using simple and straightforward icons to emphasise high contents of saturated fat, added sugar and sodium. These three nutrients were chosen because they represent the most critical ones to consumers' health, and there is robust scientific evidence pointing in this direction.

The table of nutritional information has also gone through significant changes. From now on, it will be mandatory to use a black font and white background. It will also be mandatory to place the nutritional information table close to the ingredients list.

The same approach can be applied to certain features that can characterise a food product as less harmful to a certain environmental impact, such as climate change or biodiversity loss. These features can be designed based on life-cycle sustainability assessment (LCSA), which refers to evaluating environmental, social, and economic in decision-making processes towards more sustainable products throughout their life cycle (Zamagni, 2012).

In this direction, all food system societal actors (i.e., production, processing, distribution, retail, and consumption) must be involved in designing, implementing, and operating this policy.

This food labelling educational policy should aim to promote a sustainable food that aims at achieving food and nutrition security and healthy diets while limiting negative environmental impacts and improving socio-economic welfare.

Finally, incorporating climate and nature risks facilitated by public policy is more resource-efficient and equitable than a transition driven by financial risk. The role of consumers is crucial in this process, and the food choices of Brazilians will impact the country's ability to become carbon neutral and halt its biodiversity loss.

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