



**BIODIVERSITY
FOR FOOD AND
NUTRITION**



Biodiversity for Food and Nutrition Initiative



BRAZIL

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Representing around 18% of global plant diversity, Brazil's 6 different vegetation biomes are home to between 44,000 and 50,000 species of vascular plants.

Although native edible plants are recognized as regionally and locally important, much of the agricultural boom of the past 3 decades has involved the cultivation and trade of introduced exotic plant species such as coffee, soy, maize, sugar cane, oranges and tobacco, and resulted in the mass clearance of the precious and highly diverse rainforest system.

Fortunately, public policies such as the Program to Strengthen Family Farming (PRONAF) in the area of credit, and the National

School Feeding Program (PNAE), and Food Acquisition Program (PAA) in the area of public procurement have resulted

in a resurgence in interest and demand for traditional foods such as cupuaçu, passion fruit and jaboticaba. In addition, the highly nutritious açai berry is now consumed nation-wide, and internationally exported.

Thanks to investments in social policies that promote access to land, credit and that strengthen family farming, in 2014 Brazil managed to exit the [World Hunger Map](#). The likelihood of further progress is high, with the release of the new national Brazilian Dietary Guidelines in 2014, which were commissioned by the federal Ministry of Health.

These guidelines take a food-based rather than nutrient-based approach to eating well in order to reduce obesity and chronic disease risk. Better yet, the guidelines encourage consumers to "buy food at places that offer varieties of fresh foods".

With the publishing of Ordinance N^o 163 in the Union Official Journal of Brazil, which has been signed by the ministers of Environmental and Social Development, the term "sociobiodiversity" has now been clearly defined and articulated, while the inclusion of descriptions of 64 native species draws attention to their heightened nutritional value.

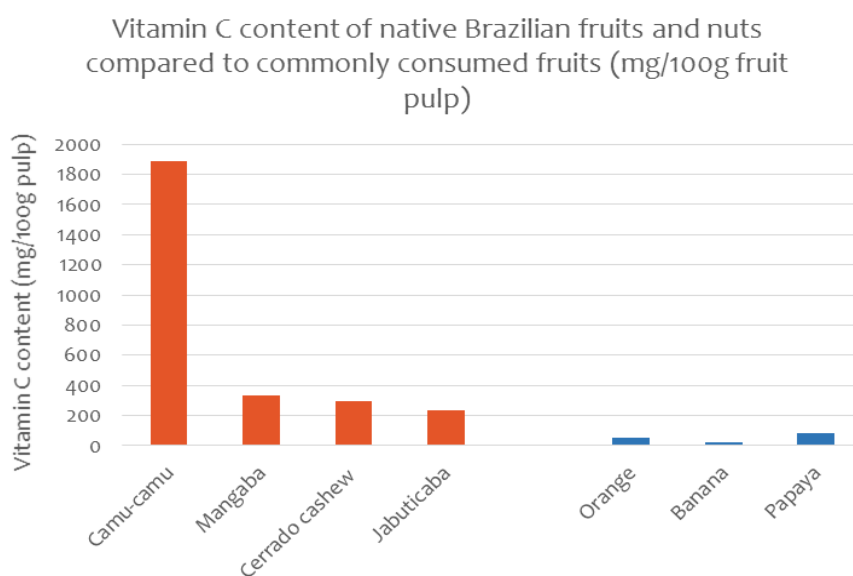
Teamed with the intended changes to the National Biodiversity Strategy and Action Plan (NBSAP) that aim to increase the number of native biodiverse species included in national food and nutrition security policies, the political environment is evolving to better support the mainstreaming of biodiversity for enhancing food and nutrition security in Brazil.



PROJECT HIGHLIGHTS

Providing Evidence

The vitamin C content in 100g of the pulp of three native fruits and one native nut – camu-camu (1888mg), mangaba (332 mg), jabuticaba (238mg) and cerrado cashew (294mg) – have been found to provide at least 3 times the amount contained in 100 g of common varieties of orange (53mg), banana (22mg) and papaya (83mg). Laboratory analyses are being carried out by partner Universities and INPA (National Institute for Amazonian Research) to fill the nutrient gaps. Additional nutrient data will be generated by undertaking food composition analysis for those species for which information is missing or incomplete.



To assess the nutritional quality of native fruits, Master of Science students and researchers from the Federal Universities of Ceará, Goiás, São Paulo, Pará and Rio Grande do Sul compiled existing national food composition data using the [FAO-INFOODS](#) standards and guidelines. As of June 2015, nutrient data was collected for 48 prioritized species and for 21 additional species.

Food composition data and culinary recipes generated by the BFN Project in Brazil will be hosted in the [Biodiversity Nutritional Composition Database](#) as part of the *Information System on Brazilian Biodiversity* (SiBBr) created by the Ministry of Science, Technology and Innovation, to gather information on Brazilian biodiversity and ecosystems currently scattered across various databases in government agencies and other institutions. The technological platform for the database is being developed in collaboration with the United Nations Environment Programme's World Conservation Monitoring Centre (UNEP-WCMC).

Data is also being collected on the production, consumption, use and traditional knowledge of prioritized plant species from traditional communities (*quilombolas*) in the Centre-west region of Brazil:

A survey carried out among the *quilombolas* revealed that **one community produced as many as 17 fruit species** prioritized by the project but mostly for home consumption. Fruits of pequi, mangaba and barú are produced and consumed regularly by all the quilombola communities interviewed. Most community members declared consuming the fruits since childhood and all reported a decline in fruit consumption within their communities, especially among the younger generations.

Data generated by the project will be hosted in the [Biodiversity Nutritional Composition Database](#) as a part of the *Information System on Brazilian Biodiversity* (SiBBr) created by the Ministry of Science, Technology and Innovation to gather information on Brazilian biodiversity and ecosystems currently scattered across databases in various government agencies and sources. The technological platform for the database is being developed in collaboration with the UNEP-WCMC. As part of its impact assessment, the project is also monitoring trends in the purchase and distribution of regional foods and native species across

two national food procurement programmes: the Food Acquisition Programme (PAA) and the Guaranteed Minimum Price Policy (PGPM). A list of species was provided to the initiatives:

Budget monitoring between 2013 and 2014 revealed a **three-fold increase** in expenditures for biodiversity products for the Food Acquisition Programme (from 2.1% to 6.9%) and the Guaranteed Minimum Price Policy (from 0.1% to 0.3%).



Although investments for the purchase of native biodiversity remain small compared to overall food purchases, it is encouraging to see the initiatives being able to diversify the diets of their beneficiaries using local foods. The reported trends offer a glimpse of the market potential for expanding the number and amount of native food species and products in all three policies and beyond in other institutional markets.

Influencing Policies & Partnerships

As the national executing agency for BFN in Brazil, the Ministry of the Environment (MMA) has forged partnerships and relationships with many of the agencies and ministries involved in the [Zero Hunger strategy](#) launched in 2003 to eradicate hunger and poverty in the country. Representatives from strategic policy programmes such as the PAA, the National School Feeding Programme (PNAE) and the National Food and Nutrition Policy (PNAN) are part of the Project's national steering and executing committees, which helps create an enabling policy environment for the promotion of biodiversity for food and nutrition in Brazil.

BFN Brazil has led the revision of the National Biodiversity Strategy and Action Plan (NBSAP), engaging 400 participants from institutions across the business, environment, academia, federal and state government sectors as well as indigenous peoples and traditional communities to define twenty *National Biodiversity Targets* for the period 2011-2020 closely linked to the [Aichi Targets](#) of the Convention on Biological Diversity (CBD). Some of the activities within the NBSAP now include the utilization of native plant species with actual or potential economic value as a successful measure of biodiversity conservation.



Objective 1078:
Reduce the threat of extinction of species of Brazilian biodiversity, recover their populations and promote the knowledge and the sustainable use.

Target 0487:
Increase from 12 to 25 the number of species from native flora used as foods to be used commercially, in a sustainable way.

Initiative 0544:
Identifying and characterizing the nutritional value and promoting the integration of native biodiversity species, with current or potential economic value, in the domestic and international market

In 2015 an [outcome story](#) summarizing BFN Brazil’s policy experiences to date was published by the Agriculture for Nutrition and Health (A4NH) Program of the Consultative Group on International Agriculture Research (CGIAR).

After much advocacy and lobbying by the BFN project and *Plants for the Future*, Ordinance N° 163 on Sociobiodiversity was published in May 2016 in the Union Official Journal of Brazil. Signed by the two respective ministers of Environment and Social Development, this Ordinance is a very important step in mainstreaming biodiversity for enhanced food and nutrition security as it clearly articulates what defines sociobiodiversity. "*Brazilian Sociobiodiversity: Native Food Species of Nutritional Value*" have now been officially defined and recognized. Sixty four of the BFN Project’s prioritized species appear on the list. These are the species which BFN Brazil is focusing on to improve the evidence base for their nutritional value with a view to integrating them into relevant national policies and programmes. Ordinance N° 163 will contribute greatly to the better understanding and dissemination of knowledge about these species, which will ultimately enhance their promotion and sustained use.



SUPERINTENDÊNCIA DA ZONA FRANCA DE MANAUS

PORTARIA Nº 271, DE 13 DE MAIO DE 2016

A SUPERINTENDENTE DA SUPERINTENDÊNCIA DA ZONA FRANCA DE MANAUS, no uso de suas atribuições legais, considerando o disposto no Parágrafo Único do Art. 32 da Resolução nº 203, de 10 de dezembro de 2012, e os termos do Parecer Técnico nº 35/2016 - COPIN/CGAP/SPR, resolve:

Art. 1º AUTORIZAR o remanejamento de cotas de importação de insumos no valor de US\$ 300.000,00 (trezentos mil dólares norte-americanos) do produto ARTIGO DE MATERIA PLÁSTICA (EXCETO DE POLIESTIRENO EXPANSIVEL) PARA TRANSPORTE OU EMBALAGEM - Cód. Suframa 0395, aprovado mediante Resolução nº 121, de 29/04/2008, para o produto FITA PARA IMPRESSÃO DE POLIESTER - Cód. Suframa 1257, aprovado por meio da Resolução nº 061, de 09/05/2012, em nome da empresa LABELPRESS INDÚSTRIA E COMÉRCIO DA AMAZÔNIA LTDA., com inscrição SUFRAMA nº 20.0960.01-6 e CNPJ nº 03.497.916/0001-97.

Art. 2º ESTABELEÇER que a LABELPRESS INDÚSTRIA E COMÉRCIO DA AMAZÔNIA LTDA. apresente, no prazo de 60 (sessenta) dias, contados da concessão do remanejamento, projeto técnico-econômico de ampliação e/ou atualização, em cumprimento ao que preceitua o Parágrafo Único do Art. 32, da Resolução nº 203/2012 para o produto FITA PARA IMPRESSÃO DE POLIESTER - Cód. Suframa 1257.

Art. 3º Esta Portaria entra em vigor na data de sua publicação.

REBECCA MARTINS GARCIA

PORTARIA Nº 278, DE 16 DE MAIO DE 2016

A SUPERINTENDENTE DA SUPERINTENDÊNCIA DA ZONA FRANCA DE MANAUS, no uso de suas atribuições legais, considerando o disposto no Art.32, Parágrafo Único da Resolução nº 203, de 10 de dezembro de 2012, e os termos do Parecer Técnico nº 036/2016 - COPIN/CGAP/SPR, resolve:

Art. 1º AUTORIZAR o remanejamento de cotas de importação de insumos no valor de US\$ 4.500.000,00 (quatro milhões e quinhentos mil dólares norte-americanos) do produto RECEPTOR DE

SINAL DE TELEVISÃO VIA SATELITE - Cód. Suframa-0108, aprovado mediante Resolução nº 129 de 19/08/2013, para o produto RECEPTOR DE SINAL DE TELEVISÃO VIA SATELITE COM GRAVADOR-REPRODUTOR VIDEOFÔNICO DIGITAL INCORPORADO - Cód. Suframa-1864, aprovado pela Resolução nº 129, de 19/08/2016, em nome da empresa SAGEMCOM BRASIL COMUNICAÇÕES LTDA., com inscrição SUFRAMA nº 20147301-1 e CNPJ nº 09.039.988/0001-77.

Art. 2º ESTABELEÇER que a SAGEMCOM BRASIL COMUNICAÇÕES LTDA. apresente, no prazo de 60 (sessenta) dias, contados da concessão do remanejamento, projeto técnico-econômico de ampliação e/ou atualização, em cumprimento ao que preceitua o parágrafo único do Art. 32, da Resolução nº 203/2012 para o produto RECEPTOR DE SINAL DE TELEVISÃO VIA SATELITE COM GRAVADOR-REPRODUTOR VIDEOFÔNICO DIGITAL INCORPORADO - Cód. Suframa - 1864.

Art. 3º Esta Portaria entra em vigor na data de sua publicação.

REBECCA MARTINS GARCIA

Raising Awareness

BFN Brazil has demonstrated great success in collaborating with schools to raise awareness about biodiversity for food and nutrition, with the aim of achieving greater utilization of Brazilian native flora in school feeding programmes and on-site gardens.



For example, thanks to collaboration with the National Fund for Educational Development and the Centre for Excellence in Tourism of the University of Brasília, the *Educating through School Gardens and Gastronomy* project now includes selected BFN species in school meal recipes to encourage healthy eating habits, dietary diversification and greater appreciation of Brazilian biodiversity. Some schools are also being guided in the setting up of tree nurseries for native species and growing of non-conventional leafy vegetables in school gardens in collaboration with EMBRAPA Hortaliças.

Internationally, work carried out by BFN Brazil was showcased at EXPO Milano 2015 while at a more local scale, a vegetable garden growing native, underutilized leafy vegetables species was set up in front of the Ministry of the Environment in Brasília with the help of Ministry staff.



A chapter on Biodiversity for Food and Nutrition authored by BFN Brazil was included in the 2nd edition of the book *Alimentos Regionais Brasileiros* (Brazilian Regional Foods), published by the Ministry of Health (PNAN) in March 2015, which puts the accent on food-based approaches to tackle malnutrition.



Flyers and recipes for 15 native fruit species have been produced with information collected by the project on the fruits' nutritional, agronomic and organoleptic properties. The travelling exhibition *Biodiversidade pela Boca* (Biodiversity through the mouth) has also been developed and side events organised during the 2014 and 2015 editions of *Organic Food Week*.

Through an integrated effort by the *Plants for the Future* initiative and the BFN Project in Brazil, a great effort is being made to construct and publish books about prioritized species for the Midwest, North, Northeast and Southeast. Over 100 underutilized native species of nutritional value are being prioritized. The dissemination of this information will have a strong impact on fostering the greater appreciation and use of native Brazilian biodiversity. Considering all biodiversity applications being implemented under BFN Brazil (such as for food, fibre and medicine), over 800 species have been prioritized. These books will be launched during 2016/2017 and will contribute to increase capillarity of awareness and understanding among different levels of government and other sectors of society.

FUTURE ACTIONS

In 2016, food compositional analysis will be carried out for the species targeted by the project for which nutritional data is missing or incomplete in collaboration with national research institutes and federal universities.

The indicators for the *National Biodiversity Targets* developed by BFN Brazil and partners will be submitted to the National Biodiversity Commission (CONABIO). If accepted, they will be used at all government levels (municipal, state and federal) and in civil society initiatives to measure progress towards the implementation of the *National Biodiversity Targets* and will represent key tools for decision-making and action-setting for effective biodiversity conservation.

The inclusion of biodiversity for food and nutrition in training materials targeting teachers and health care professionals belonging to the *Health in School Program* is being discussed with the Ministry of Health.



To promote the development of value chains for prioritized species, BFN Brazil compiled a list of sociobiodiversity food products to be included in an inter-ministerial ordinance guiding public policies (such as PAA and PNAE) in the institutional purchase of foods. The list, which includes 64 species of native Brazilian flora (mostly fruits), also provides information on the form in which these products are currently available on the market and the area of production. The drafting of the ordinance is being discussed with the Ministry of Social Development and

the Secretary of Extractivism and Sustainable Rural Development.

Discussions are also being held with the Ministry of Social Development to define BFN's role and involvement in the national campaign "Healthy and Sustainable Brazil" to be launched in 2016 and which will run up to the end of the Olympic Games in Rio de Janeiro in 2016.



Gastronomic events with eco-chefs, food fairs and the distribution of "healthy food kits" in public schools are some of the initiatives being discussed. Possible engagements with the Slow Food Movement are also being considered.

Through continued collaboration with the *Plants for the Future* Initiative, four books documenting the properties and benefits of traditional plants from the Centre-west, North, Northeast and Southeast regions of Brazil will be published in 2016.

Work is underway to develop an interactive e-learning course on mainstreaming biodiversity conservation into nutrition practices targeting nutrition practitioners, policy makers and implementers of food security and biodiversity conservation policies.

The GEF 'Mainstreaming biodiversity for nutrition and health' initiative is led by Brazil, Kenya, Sri Lanka and Turkey and coordinated by Bioversity International, with implementation support from the United Nations Environment Programme (UNEP) and the Food and Agriculture Organization of the United Nations (FAO) and additional support from the CGIAR Research Program on Agriculture for Nutrition and Health.



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For more information

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Convention on
Biological Diversity

**The BFN Project contributes to the implementation of the
Convention on Biological Diversity's (CBD) Cross-Cutting Initiative
on Biodiversity for Food and Nutrition**