

case 07

Coexisting with semiarid conditions: Combining agroecological practices to face climate change and desertification in Brazil's drylands

WOUTER VAN OOSTERHOUT,
CAATINGA - BRAZIL

www.caatinga.org.br

Sustainable Development Goals:



ZERO HUNGER



GOOD HEALTH
AND WELL-BEING



GENDER EQUALITY



CLEAN WATER AND
SANITATION



CLIMATE ACTION



LIFE ON LAND

FOUNDED IN 1988, CAATINGA WORKS WITH PEASANT FAMILIES LIVING IN THE CHALLENGING SEMIARID CONDITIONS OF NORTH-EASTERN BRAZIL. THE ORGANISATION OFFERS ADVICE, TRAINING AND POPULAR EDUCATION ON AGROECOLOGICAL TECHNOLOGIES AND PRACTICES THAT ARE APPROPRIATE FOR AND SUSTAINABLE IN SUCH CONDITIONS. AMONG OTHER THINGS, CAATINGA FACILITATES EXPERIMENTATION AND EXCHANGE OF GOOD PRACTICES OF WATER STORAGE AND MANAGEMENT FOR BOTH DOMESTIC USE AND AGRICULTURAL PRODUCTION. CAATINGA VALUES AND MAKES VISIBLE THE WORK AND INTERESTS OF WOMEN AND YOUNG PEOPLE, STIMULATING THEIR POLITICAL IMPACT AND CONSOLIDATION OF THEIR RIGHTS, ESPECIALLY FOOD AND NUTRITION SECURITY AND SOVEREIGNTY, AND ACCESS TO WATER. TOGETHER WITH OTHER CIVIL SOCIETY ORGANISATIONS, THE ORGANISATION BUILDS SOLIDARITY BETWEEN COMMUNITIES AND

HELPS TO STRENGTHEN THEIR CAPACITY FOR ADVOCACY AND POLITICAL IMPACT TOWARD A DIGNIFIED AND SUSTAINABLE COEXISTENCE WITH THE SEMIARID ENVIRONMENT.



Local food market selling agroecologically produced fruits and vegetables.
(Photo credit CAATINGA)

DESERTIFICATION IN THE CAATINGA

Brazil's semiarid region, known as the Caatinga (the inspiration behind the organisation name), covers an area of 850,000 km² – approximately eleven per cent of the country. Home to 27 million people, it is the region of Brazil most affected by climate change. The decrease in rainfall has caused longer periods of intense drought, while the increase in temperature is above the global average. Prolonged droughts and higher temperatures are causes and consequences of desertification which, in turn, have generated more poverty in rural areas and consequential migration to cities.¹

The Caatinga is one of the most degraded and least protected biomes in Brazil. According to the Ministry of Environment, almost 46 per cent of its original plant cover has been removed.² Many areas are in an advanced state of desertification. The intensive use of firewood for mining and other industrial and domestic uses has caused serious deforestation. Forests rich in biodiversity have been replaced by large areas of pastures and monocultures of maize, cassava, cotton and other crops. This has led to degraded and compacted soils which hinder water infiltration. The larger surface runoff increases erosion, drains the water sources (rivers, streams, reservoirs, dams) and reduces the recharge of groundwater. The water available for the domestic and agricultural needs of peasant families has increasingly diminished. As a consequence, rates of vulnerability and poverty in rural areas has increased considerably, as has migration to cities.

TACKLING THE SUSTAINABLE DEVELOPMENT GOALS (SDG) BY STRENGTHENING FAMILY FARMING

Since its founding, Centro de Assessoria e Apoio aos Trabalhadores e Instituições Não Governamentais Alternativas (CAATINGA) has worked with approximately 10,000 farmers and their families providing advice and mobilising support for a wide variety of agroecological practices, including:

- capture and management of rainwater for domestic use and production, reuse of 'grey' water and sustainable use of groundwater;
- soil recovery and conservation (level curves, vegetation cover and dead covering, diversification and crop rotation);
- agroforestry systems, including productive backyards and plots with vegetables, tubers, medicinal plants, etc. along orchards;

- livestock (goats, sheep, pigs, poultry), beekeeping and meliponiculture;
- beneficiation and storage (food, forage, seeds), access to fair and solidary markets and commercial mechanisms (agroecological fairs, sales in communities, institutional markets), and seedling nurseries (species of the Caatinga and agricultural cultivars), and craft production; and
- education in rural schools.

CAATINGA's technical advice ensures that agroecological food production takes advantage of local potential for water and food stocks.³ CAATINGA's efforts have helped increase families' food and nutrition security (SDG Target 2.1) and their access to clean water (SDG 6). Its focus on families with children has helped to significantly reduce hunger and infant mortality in the area (SDG 2 Target 2.2 and SDG 3 Target 3.9). For example, the establishment of so called *cisterna de placas* (round water tanks that are partially below ground) has helped democratise access to water, enabling families to collect and manage their own water instead of negotiating access to water from surrounding large private properties. Stable access to (more) water is critical for families to be able to produce their own food. During the most recent multi-year drought, CAATINGA reports that 90 per cent of the 10,000 families with whom it works were able to maintain at least three different sources of agricultural produce. In 2017, CAATINGA advised 1,800 families who, in sum, sold over 500,000 Brazilian reais in agricultural produce per year on local agroecological markets, selling points in towns, direct sales in communities and sales to the National Program for School Nutrition. On average, these families earned about 10,000 Brazilian real per year alongside of non-monetary income (e.g. family consumption of agricultural produce) of the same value.

CAATINGA is also challenging the exploitation of the Caatinga's natural resources, which is causing desertification, polluting soils and water, and contributing to climate change.⁴ The organisation strengthens family farming that values local resources and biodiversity, combining food production with the restoration and preservation of the Caatinga biome (SDG 15 Target 15.3 and 15.5). This is done especially by the promotion of agroforestry, the recovery of springs and riverside forests and ecosystems. Several actions are devoted to the recovery of degraded areas using reforestation and rainwater soil retention techniques. With the recovery of soil fertility and intensification of the use of some cultivable areas, it

is possible to reduce the opening of new areas in the Caatinga.⁵ CAATINGA's strategy of coexistence with the semiarid region contributes to the mitigation of the effects of climate change (SDG 13).⁶

CAATINGA is also advancing the health and well-being (SDG 3) of farmer families, which includes not only the absence of diseases, but involves physical, mental and social well-being. The organisation encourages the production of healthy foods that guarantee food security and sovereignty for farmers' families. These foods are also provided to public schools and ensure that children have the necessary nutrients to prevent against malnutrition, obesity and diseases.⁷ The organisation promotion of equality and respect also contributes to well-being, as it shows people that they can live in harmony with nature. CAATINGA facilitates exchange of and appreciation for popular and ancestral knowledge so that people become more autonomous in relation to the food and pharmaceutical industry.⁸

CAATINGA also strives to ensure gender balance in team composition, debates and internal decisions. In coping with the violation of women's rights, the organisation prioritises specific training with peasant and urban women on agroecology, rights, public policies and social organisation.⁹ The Araripe Women's Forum, which CAATINGA supports, promotes the formation and political participation of women and formulates proposals for policies and programs appropriate to the vulnerabilities, needs and interests of young and adult women. The Forum also enables dialogue sessions with groups of women in communities. The organisation offers training and advice on specific productive activities for women to generate income and contribute to healthy eating habits for their families. Hence, CAATINGA actively supports the achievement of SDG 5 Target 5.1 to give women equal rights to economic and natural resources.

“The group believes that operating within a network strengthens the effectiveness and promotion of agroecology.”

IMPROVING EFFECTIVENESS THROUGH NETWORKS

CAATINGA works together with other civil society organisations and in partnership with international networks, governments and private sector companies. The organisation believes that operating within a network strengthens the effectiveness and promotion

of agroecology. The group is a founder of the Articulação no Sêmiárido (ASA, Articulation in the Brazilian Semiarid Region)¹⁰, which for nearly 20 years has been proposing and implementing public policies to democratise access to water and land for family farming. ASA is one of the most important networks of Brazilian civil society,

contributing directly to the eradication of hunger in the country.

CAATINGA is also a founder of the Articulação Nacional de Agroecologia (ANA - National Articulation for Agroecology)¹¹ and participates directly in the formulation of the National Policy for Agroecology and Organic Production (PNAPO) and other policies for family farming and for the semiarid region. The group is part of the ATER Northeastern Network of Agroecology, which strengthens rural extension in Brazil with an agroecological perspective.



Woman keeping poultry for manure and additional income.
(Photo credit CAATINGA)

At the international level, CAATINGA is part of the Drynet network.¹² Its members, which cover four continents, are all operating in drylands susceptible to desertification. More recently, CAATINGA has participated in a regional network of civil society organisations in Latin America and the Caribbean focused on the United Nation Convention to Combat Desertification (UNCCD). It is also within the UNCCD that CAATINGA has until recently played a role as Focal Point of the Civil Society Organisations in Brazil. The actions performed by CAATINGA are multiplied nationally and regionally from its activities in these networks and in other political spaces. Looking forward, the new political context in Brazil may affect support for CAATINGA's activities if the government shifts investments and programmes toward development of large-scale agribusiness.

Typical small-scale farm in the dry Caatinga. (Photo credit CAATINGA)



NOTES

1 Ministério do Meio Ambiente (MMA). (2005). *Programa de Ação Nacional de Combate à Desertificação e Mitigação dos Efeitos da Seca*. MMA Secretaria de Recursos Hídricos. Retrieved from: http://www.mma.gov.br/estruturas/sedr_desertif/arquivos/pan_brasil_portugues.pdf

2 UNESCO Brazil, Pernambuco State Government & MMA. (2007). *Região do Araripe, Pernambuco: diagnóstico florestal*. Retrieved from: http://www.mma.gov.br/estruturas/sedr_desertif/arquivos/129_08122008042625.pdf

3 Grupo de Trabalho da Sociedade Civil para a Agenda 2030. (2018). *Relatório Luz da Agenda 2030 de Desenvolvimento Sustentável – Síntese II*. Retrieved from: http://actionaid.org.br/wp-content/files_mf/1499785232Relatorio_sintese_v2_23jun.pdf

4 See 1

5 See 1

6 See 1

7 Conselho Nacional de Segurança Alimentar e Nutricional (CNSAN). (2015). *Relatório Final Encontro Nacional 5ª Conferência Segurança Alimentar E Nutricional*. CNSAN. Retrieved from: <http://www4.planalto.gov.br/consea/eventos/conferencias/conferencias-2/5mais2/Web.pdf>

8 See 1

9 See 1

10 For more information, visit: <http://www.asabrasil.org.br>

11 For more information, visit: <http://www.agroecologia.org.br/>

12 For more information, visit: <https://dry-net.org/>