

**SUPPORT PROGRAM FOR MUNICIPAL CONSERVATION UNITS:
LIMITATIONS AND POTENTIALS OF ACTIONS TO PROTECT
BIODIVERSITY IN CEARÁ.**

**PROGRAMA DE APOIO ÀS UNIDADES DE CONSERVAÇÃO MUNICIPAIS:
LIMITAÇÕES E POTENCIALIDADES DAS AÇÕES PARA PROTEÇÃO DA
BIODIVERSIDADE, NO CEARÁ.**

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RESUMO

O semiárido brasileiro enfrenta desafios ambientais decorrentes da irregularidade das chuvas, secas recorrentes e práticas inadequadas de ocupação. O Programa de Incentivos às Unidades de Conservação Municipais (PROUC) do Ceará busca conter a degradação ambiental, promovendo a criação e gestão eficaz de unidades de conservação municipais. Este estudo de caso explora as contribuições do PROUC na preservação da biodiversidade e combate à desertificação.

Palavras-chave: PROUC, Semiárido e Desertificação.

ABSTRACT

The Brazilian semiarid region faces environmental challenges resulting from irregular rainfall, recurrent droughts and practices that are harmful to occupation. The Programa de Incentivo às Unidades de Conservação Municipais (PROUC) in Ceará seeks to contain environmental manipulation, promoting the creation and effective management of municipal conservation units. This case study explores PROUC's contributions to preserving biodiversity and combating desertification.

Keywords: PROUC, Semiarid is Desertification.

INTRODUCTION

The Brazilian semiarid region faces serious environmental problems marked by natural characteristics such as irregular rainfall and recurring droughts, associated with socio-economic and cultural aspects of inadequate occupation. These factors have caused instability in natural systems, resulting directly in the loss of biodiversity, reduction of water availability, and physical and chemical soil degradation. The mentioned conditions play a crucial role in the phenomenon of desertification, manifested by soil degradation in arid, semi-arid, and dry sub-humid regions, as well as surrounding areas.

The state of Ceará, aligned with the international environmental agenda adopted by Brazil, established the Program for Incentives to Municipal Conservation Units (PROUC). This program is conducted by the Secretary of Environment and Climate Change (SEMA), through the Biological Diversity Cell (CEDIB).

The adherence of Ceará municipalities to PROUC requires meeting specific technical criteria, such as the area's contribution to the protection of water resources, the possibility of forming ecological corridors between conservation units or large remnants of native vegetation, the preservation of endemic or endangered species of fauna and flora, inclusion in the Maps of Priority Areas for Conservation, Sustainable Use, and Sharing of Benefits of Brazilian Biodiversity, with emphasis on regions included in the Map of Areas Susceptible to Desertification.

Thus, this study aims to analyze the contributions of PROUC as a public policy for biodiversity protection and desertification combat.

MATERIALS AND METHODS

This research aims to conduct a case study to investigate the potential contributions of the Municipal Conservation Units Support Program (PROUC) in preserving biodiversity and combating desertification in the semi-arid region of Ceará. The methodological approach adopted is exploratory-descriptive, chosen for its ability to integrate elements of both approaches. This choice provides a comprehensive view of the program, allowing an initial understanding before exploring its particularities.

RESULTS AND DISCUSSIONS

Brazil is one of the main signatories of the Convention on Biological Diversity (CBD), an international treaty established by the United Nations (UN) during the ECO-92, held in Rio de Janeiro, during the United Nations Conference on Environment and Sustainable Development (UNCED).

The CBD is organized into three pillars: conservation of biological diversity, sustainable use of biodiversity, and fair and equitable distribution of benefits arising from the utilization of genetic resources. It is the responsibility of CBD signatory countries to establish systems of protected areas or areas where special measures must be adopted to preserve biological diversity.

The implementation of the CBD at the national level led to the creation of norms, guidelines, and legal regulations. Notable among them is Law No. 9,985, dated July 18, 2000, which establishes the National System of Conservation Units (SNUC), setting norms and criteria for the creation, implementation, and management of conservation units. The SNUC covers federal, state, and municipal conservation units. In this context, the SNUC represents a decentralized public policy, allowing federative units and their municipalities to create and manage their own conservation units.

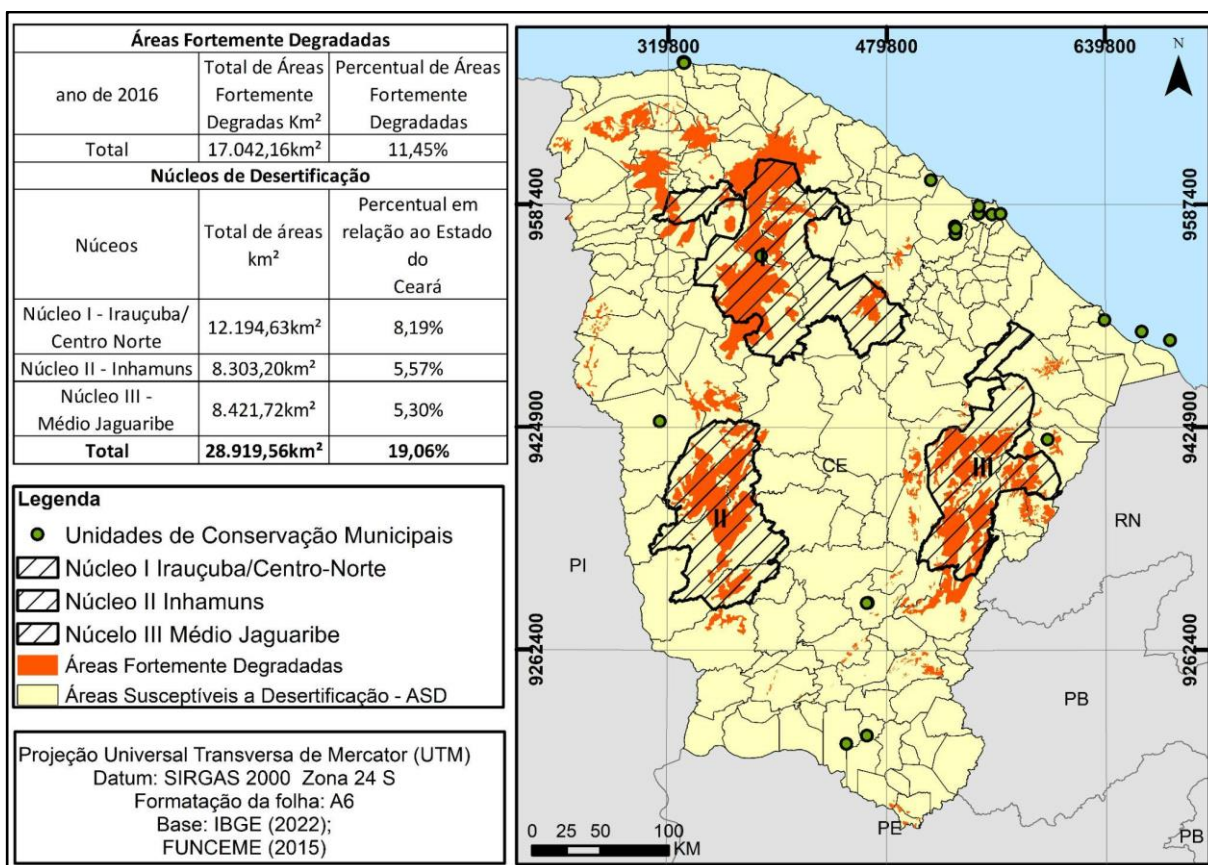
In this sense, the state of Ceará created, through Normative Instruction No. 02/2017, the Program for Incentives to Municipal Conservation Units (PROUCM), subsequently, the Program gained legal status through Law No. 18,190/2022 and became known as the State Program for Support to Municipal Conservation Units in the State of Ceará (PROUC).

Municipalities interested in joining the program must follow certain technical items that will be analyzed by SEMA's CEDIB, such as: contribution to the preservation of water resources, areas inserted in regions with a lower amount of preserved and protected remnants; territories included in the map of priority areas for conservation; areas that allow the formation of ecological corridors between conservation units or large remnants of native vegetation; areas that present endangered fauna or flora, and territories included in the map of areas susceptible to desertification.

According to Silva and Oliveira (2017), the identification of Areas Susceptible to Desertification (ASD) is an approach used by decision-makers in Public Policies and

scientific research related to the degradation and desertification process of the semi-arid region. According to studies by the Ceará Meteorology and Water Resources Foundation (2015), in Ceará, there are three areas compromised regarding the preservation of natural resources: the Inhamuns/Sertões de Crateús Region, the municipality of Irauçuba and surrounding regions, and the Middle Jaguaribe. According to the State Registry of Conservation Units (2024), as of the date of this research, there are 17 registered municipal conservation units. The following figure shows the location of municipal CUs in relation to heavily degraded areas undergoing desertification processes.

Figure 1: Strongly Degraded Areas in the Desertification Process



Source: Adapted FUNCEME 2016

The main activities and services within PROUC's competence include providing technical support to municipalities regarding the training of local agents, redefinition and delimitation of the polygon, regularization of legal acts, formation of the management council, and contracting of studies. The table below presents PROUC's actions.

Table 1: Actions carried out by PROUC

Municipal Conservation Unit	Município	Action taken
APA Lagoa da Bastiana	Iguatu	Redefining the polygon and training local agents
PNM of Timbaúbas	Juazeiro do Norte	Regularization of legal acts
REVIS Sondadinho-do-Araripe	Crato	Contracting studies
MONA da Serra Rajada	Caucaia	Contracting studies
REVIS da Pedra da Andorinha	Sobral	Regularization of legal acts and Training of the management board
Ponta Grossa Beach APA	Icapuí	Regularization of legal acts
APA of Manguezal da Barra	Icapuí	Regularization of legal acts
MONA Knights of Hop	Crateús	Regularization of legal acts

Source: CEDIB 2024

According to Figure 1 and Table 1 of the 17 municipal conservation units in the state of Ceará, 9 units were targeted by PROUC actions, and of these 17 municipal conservation units, only the REVIS of Pedra da Andorinha is located in a heavily degraded area and inserted in a desertification core.

FINAL CONSIDERATIONS

Climate change, combined with irregular land use processes, contributes to the degradation of the semi-arid region. Considering the State's responsibilities in preserving and conserving the environment, in compliance with international environmental goals to which Brazil is a signatory, the state of Ceará, through PROUC, establishes a management tool based on decentralization by providing support to municipal conservation units. This is achieved through the training of local municipal agents in the management, regularization, and creation of conservation units. The PROUC's proposal to encourage the creation and efficient management of municipal conservation units in the semi-arid region, particularly in municipalities included in the Map of Areas Susceptible to Desertification, is of paramount importance for preserving local

biodiversity. Despite the program's contributions, it is worth noting that, except for the Pedra da Andorinha REVIS conservation unit in Sobral, there are no other units located in heavily degraded areas and/or desertification cores. This highlights the need to expand the program to strategic areas for biodiversity preservation in the semi-arid region and to combat the advancement of desertification.

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