

RESEARCH ARTICLE

# A Reflection on Governmental Actions Caused by the Current Drought that Were Reported in the Written Press of Rio Grande Do Norte- Brazil

SA, Vinícius C\*, Costa, Sérgio LF, Vasconcelos, Geisa MR

*Universidade do Estado do Rio Grande do Norte - UERN*

\*Corresponding Author: Email: [viniciusclaudino@gmail.com](mailto:viniciusclaudino@gmail.com)

## Abstract

This paper analyzed the main components of speech that are being used by the press of Rio Grande do Norte to enlighten the population about the actions that have been taken by the government in response to drought. The discussion on the phenomenon of drought in northeastern Brazil has led to an understanding that more than a climate problem, this problem of major droughts is a social problem, because the preparation for these moments of great decrease in rainfall requires a cultural change, where the paradigm would be "combating drought" passing "coexistence with the semi-arid". The methodology used was the literature and documents, which were consulted on four newspapers websites, two of Natal/RN and two Mossoro/RN. On these newspapers were surveyed the 2013 editions, being raised the titles of articles published over the current drought. For the analysis of these data subsets were created by category, where through lexical analysis and content was possible to list the main aspects are presented in the press about the phenomenon of drought and how government agencies are responding to the challenges. Among the results, it was found that there is drought-related news in every newspaper investigated and notes a tendency to address the negative effects of drought, highlighting the economic damage, social and environmental. Another category of news identified relate to government policies and actions that are being taken to address the effects of the drought.

**Keywords:** *Information, Public policies, Semi-arid.*

## Introduction

This paper analyzed the main components of speech that are being used by the press of Rio Grande do Norte to enlighten the public about the actions that have been taken by the government in response to drought. The state of Rio Grande do Norte is located in the Brazilian Northeast, and much of its territory is in the semi-arid region, a geographic complex and serious social and economic problems. The last ten years have been able to improve the semi-arid many social indicators, however, the drought is still a threat, and in some municipalities in the region, the rains have been insufficient, reducing the capital of the small farmers and aggravating social problems. In some cases, the drought is already extending to three years, characterizing most of the past 50 years. The discussion on the phenomenon of drought in northeastern Brazil has led to an understanding that more than a climate problem, this problem of major droughts is a social problem, because the preparation for these moments of great decrease in rainfall requires a cultural change, where the paradigm would be "combating drought" passing

"coexistence with the semi-arid". Thus, news organizations consulted for this study, still present in your news kind of information which refers more to combat drought, and begin to spread over the consequences and social dramas of the successful experiences and that can mean a change in thinking and acting on this climate issue.

## Literature Review

### Presentation of the Brazilian Semi-arid

The Brazilian semi-arid region has historically been characterized as a region with serious social indicators, where they remain to this day extreme poverty, even with a large number of municipalities with low Human Development Index - HDI. It is therefore urgent to understand the complexity of this area in relation to environmental challenges, socio-cultural, political and economic, so exceeding the vulnerability to drought, and the society that inhabits this complex region can find a viable and sustainable way development.

According to Ab'Saber [1], Aspects that give similarity semi-arid regions of origin are always climate, water and phytogeographic, low humidity levels, shortage of rainfall annually, irregularity in the rhythm of rainfall over the years, longer periods of water shortage, soil problematic from the point of view of the physical and geochemical (saline soils, carbonate soils) and absence of perennial rivers, especially in relation to indigenous drainages.

The Northeast region of Brazil, with 1.56 million square kilometers (18.2% of the national territory), includes most of the Brazilian semi-arid, with annual rainfall of 800 mm maximum, average insolation of 2,800 h./Year, average temperatures 23rd annual. C to 27. C, average evaporation 2000 mm / year and average relative humidity around 50% [2].

Although the above data highlighted, officially, according to the Interministerial Working Group, formed in 2004 by the Ministry of Environment - MMA and the Ministry of National Integration - MI, currently the Brazilian semiarid region comprises 969,589.4 km<sup>2</sup>, 1,133 municipalities and a population of 20,858,264 people. This group was based on three technical criteria to formalize this definition:

- Average annual rainfall less than 800 mm;
- Aridity index of up to 0.5, calculated by the water balance, which relates rainfall and potential evapotranspiration in the period between 1961 and 90;
- Risk of drought greater than 60% taking up the basis for the period between 1970 and 1990 [3].

The study by Melo et al [4] points out that the Brazilian semiarid regions is one of the most populated of all drylands in the tropics or between the tropics, and its population over several countries of Latin America and its territory surpassing square kilometers several European countries. These figures reinforce the geopolitical complexity of the region and the challenge of working with the climatic peculiarities of this site.

The data in Table 1 describes numerically the number of municipalities that are located in the Brazilian semiarid and what percentage it represents the area of each state. Here we highlight the reality of Rio Grande do Norte, which has 93.4% of its territory included in this climatic context. This distribution can also be seen in Fig. 1, soon to follow.

With regard to water resources, the irregularity and low values of precipitation contribute to the

**Table 1: Distribution semiarid in the states**

States	Number of counties in semiarid	% Percentage of semiarid area per state
Piauí	127	59,9
Ceará	150	86,8
Rio Grande do Norte	147	93,4
Paraíba	170	86,6
Pernambuco	122	88,0
Alagoas	38	45,6
Sergipe	29	50,9
Bahia	265	69,7
Minas Gerais	85	17,7
Total de municípios no semiárido	1133	

Source: Adapted from Silva et al (2010).



**Fig.1: Definition of the Brazilian semiarid, BNB.**

low rates of runoff, making it essential to build dams and the drilling of wells in order to enable the use of water for human and animal consumption as well as for the production of food. However, groundwater is limited; due to the fact 70% of semiarid is located under geologic crystalline basement, causing the soils present small thickness and therefore low potential for storing water [2].

Reinforcing the issue of water in the Brazilian semiarid, to Vieira [5], the main features inherent to the Northeast Semi-arid are:

- Intermittent streams;
- Periodic droughts and frequent floods;
- Using predominantly of water for human and agricultural;
- Groundwater limited due to the crystalline formation which covers about 70% of the semiarid;

- Precipitation and runoff small, compared to the rest of Brazil, while nationwide the specific disposal is 21l/s/km<sup>2</sup> in the northeast is only 4 l/s/km<sup>2</sup>;
- The hydrological efficiency of the reservoirs is extremely low, due to high evaporation rates, the effective annual availability, derived from reservoirs, is about 1/5 of its accumulation capacity;
- Domain conflicts between federal and state governments, in stretches of consistent rivers by public reservoirs;
- Need the joint use of surface and groundwater in alluvial deposits that extend along rivers filled reservoirs upstream, and
- Existence of broad, though insufficient water infrastructure built over the years, with reservoirs of all sizes, public and private, and wells drilled in the sediment and in the lens; no safety issues, maintenance and operation [5].

In the description of the climatic conditions in the Northeast, especially in semiarid, Silva et al [2] argues that the interannual variability of rainfall is, in many cases, due to large-scale weather phenomena such as El Niño. However, in years where there is the occurrence of droughts without having to record the phenomenon. Can thus also be associated with patterns of sea surface temperature (SST) over the tropical oceans, which affect the position and intensity of the Intertropical Convergence Zone (ITCZ) over the Atlantic Ocean which influences the occurrence of precipitation in quantity, intensity and frequency.

However, the weight of the lack of rain in this part of Brazil is marked not for physical reasons, but for political and socioeconomic issues, which have not changed. As a result, droughts continue to represent the largest proportion of disasters worldwide, since they generate economic crises and disasters produce social, implemented in million enlisted in emergency programs, which has been repeated continuously throughout the history of this part of the country [4].

Reinforcing the idea of the previously mentioned studies indicate that EMBRAPA Semiarid the greatest challenge to be faced in relation to water for household consumption and animal and food production, perhaps not the scarcity of rain, but an integrated and shared with the different users of water resources. There is lack of rain is responsible for the inadequate supply of water in the region, but the poor distribution, associated with a high rate of evapotranspiration, resulting

in the phenomenon of drought.

From the historical point of view, according to Melo et al [4]. The phenomenon of droughts has been discussed since the Brazilian imperial period, there are reports that the drought of 1877, led official emergency measures by the Brazilian government, because in that year the death toll reached 500,000 people. Fortaleza, capital of Ceará, there was a loss of half of its 120,000 inhabitants.

The case proved to be serious and the Emperor, "empathized" to the situation, promising the country if necessary, would use up the last jewel of the Crown to resolve the problem, so that no more northeastern died of hunger.

However, such objects remain untouched promised in museums, and drought, with its consequences, continued to increase the number of its victims on a regional scale, displaced thousands of peasants who had no access to the few sources of water used to feed the cattle of the colonels of the interior.

Nowadays, the problem of desertification has been gaining ground in the debate on the main challenges of semi-arid, often as a result of drought. However, making a distinction between these two phenomena, Mainguet [6] states that it is the time scale that desertification and its effects differ from the effects engendered by the crisis of drought. In this sense, the drought and its effects are recurring problems and short-term, while desertification is a chronic and long-term.

Given what has been said, the challenge of reducing the vulnerability of the people who inhabit semiarid is something that showed up in the course of history as a complex problem that deserves serious attention and lead to real changes in the quality of life of the human inhabiting these regions, although today these are more a set of ideas that have failed to be present, so widespread in the daily lives of people who inhabit this land. Still, there are good prospects.

In this sense, the expression "live with the semiarid" versus the "coping with drought" has meant a change of approach to the problem, with enough force to propel programs, projects and actions with measures seemingly simple but of great impact in achieving resulting in the best indicators of the region.

### **Development Programs in the Northeast**

In recent years, several studies on the Brazilian Northeast highlight breakthroughs that happened in relation to the improvement of social and economic indicators, reflecting primarily on

improving the quality of life of people. However, some problems still persist, and the "deeper" hinterlands, an alarming picture of neglect in some communities survive.

Holland [7] states that by 1955, the Northeast lived almost three hundred years of economic stagnation, which led the region to set up, in the 70s, as the largest and most populous underdeveloped region of the West. To illustrate, at that time, only Mexico had a population higher than the Northeast in Latin America. Therefore, the improvement of the situation in the region had an emergency and some programs were implemented to try to boost the regional economy.

Development policies in force for the Northeast in the '70s had as main objective to obtain a close correlation between the mechanisms of economic policy and global or national instruments and institutions related to regional development. To do so would require a strengthening of cooperation and coordination between agencies that defined national policies, such as the National Monetary Council, the Interministerial Price Council, the Industrial Development Board, the Central Bank and regional bodies such as the Superintendency Development of the Northeast (SUDENE), for example, which is responsible for translating the government to the impact of certain measures for the development of the region [7].

With respect to sectorial development policies, Netherlands [8] highlights how basic objectives the expansion and modernization of the agricultural sector and intensified industrialization program. Moreover, lines of action that promote integrated rural development programs, agribusinesses, supporting scientific and technological research and promotion of exports and investments were being proposed.

These development projects focused on economic growth; were still incipient discussions that brought to the development the social, cultural, institutional, environmental and ecological.

Thus, it is noted that the development projects being implemented in Brazil followed some features and international influences. The first major project had a more productive and aimed at economic growth logic. In the postwar period, and especially during the Cold War, these projects were given an ideological component, as it sought to increase the area of influence of the capitalist or socialist nations. This logic was very common until the 80s, and with the oil crises and the fall of the Soviet bloc, came a proposal for minimization of the state, known as

neoliberalism.

During the 90s and early 2000s, Brazil was still receiving large influence of neoliberal proposals and concepts of sustainable development grew stronger, even with the increased role of civil society and local communities, as was advocated by Agenda 21, one of the outcomes of Rio 92.

In the early 2000s, from the Lula government, development projects have had a greater participation of the state as a promoter of public policies. During this period, it was sought to reduce the concentration of income, through the expansion of compensatory policies, the implementation of the Zero Hunger Program and the expansion of the National Program for Strengthening Family Agriculture (PRONAF) and *Bolsa Família* program. In addition, new infrastructure projects were proposed by the Growth Acceleration Plan (PAC) I and II.

Credit programs and public funding for individuals and for productive activities have been enhanced and strengthened, thus increasing the demand for various goods, such as the purchase of tractors, trucks, machinery, and real estate, cars and household items.

In education, the Federal Government created and internalized many universities and institutes of technology, increasing penetration of these institutions of higher and technical education in smaller cities. Parallel to this, we created and expanded exchanges in private higher education institutions, generating a significant increase in jobs for young people who previously did not have access to this kind of formal education.

It is noteworthy that basic education has not received the necessary support to form a strong educational foundation for young Brazilians, and despite advances, the Index of Basic Education Development (IDEB) in some areas, still shows a low learning of public school students.

In health, the data are still lower than expected, but the creation of the Services Mobile Emergency (SAMUs) and emergency service units (PSUs) and the provision of free medicine for the chronically ill, such as hypertension and diabetes, have shown successful and already notice positive results in increasing life expectancy and reducing infant mortality.

Currently, the Brazilian government has several programs to spur development, which are managed by various ministries and have, in their definitions, concepts of economic growth and sustainable development, territorial or local, depending on the type of plan, such as the

Territories Citizenship Program by the Ministry of Agrarian Development (MDA), the program Brazil without Misery, by the Ministry of Social Development (MDS), and the National Policy for Regional Development (RUP), by the Ministry of Integration. The following is a description of each:

Territories of Citizenship Program: launched in 2008, has as its main objectives the promotion of economic development and universalization of basic citizenship programs through a strategy of sustainable territorial development. Social participation and integration of actions between the Federal Government, states and counties are fundamental to the construction of this strategy [9].

Program Brazil without Poverty: highlights that there are national and regional actions based on three axes: guaranteed income, productive inclusion and services. In rural areas, the main objective will be to increase the production of farmers, while in the city, the objective is to qualify the workforce and identify opportunities and jobs for the poor. Public programs, such as *Bolsa Família*, the Rural Welfare, the Literate Brazil, Family Health, the Smiling Brazil, More Education and the *Rede Cegonha*, will be expanded and improved throughout the country, as well as actions aimed at expanding the access of the poor to public goods and services, including water, electricity and housing [10].

National Policy for Regional Development: has the dual purpose of reducing regional inequalities and enable the potential development of the Brazilian regions, exploring the great diversity observed in the country. The focus of concern focuses, therefore, on the dynamics of the regions and better distribution of productive activities in the territory [11].

Another project managed by the Ministry of Integration, is the Integration Project in São Francisco River watershed in northeastern north, which aims to ensure the water supply for 12 million people in 391 counties of the wasteland and hinterland states of Pernambuco, Ceará, Paraíba and Rio Grande do Norte [11].

These are examples of some policies, programs and projects that are being promoted by the federal government and that directly influence the development of the Northeast .

## Presentation and Analysis of Data

**Table 2: News that circulated newspaper in the city of Mossoro/RN “O Mossoroense” on combating drought in 2013.**

Newspaper	Headline	Date
O Mossoroense	Assu City Hall reduces spending in São João celebration and prioritizes living with drought	24/05/2013
	Losses caused by drought reach \$ 5 billion	18/05/2013
	Deputy will insist proposal to establish the Special Committee on Living with Drought	16/05/2013
	Politician proposes a Special Commission institution on living with drought at the parliament.	12/05/2013
	The numbers of drought	09/05/2013
	House debate measures to fight drought in the Northeast	08/05/2013
	Farmers believe they can save 40% of the crops if rains continue until July	24/04/2013
	Resources to end thirst	23/04/2013
	Lack of assistance to producers and few resources exacerbate drought	18/04/2013
	Hall presents actions to be developed in the City Plan to Fight Drought	12/04/2013
	Paraú suffers to fight drought effects	09/04/2013
	Patu will hold hearing to discuss strategy for coping with drought	05/04/2013
	RN government participates in meeting to discuss actions to combat the effects of drought affecting the Northeast	03/04/2013
	Forgotten drought	29/03/2013
Drought Committee Meeting will be held in the city of Currais Novos	27/03/2013	
Dilma deals with drought governors meeting next week	25/03/2013	
Deputies have suggestions for the new government's package of drought	21/03/2013	

**Table 3: News circulated newspaper Gazeta do Oeste city Mossoró/RN and Novo Jornal city of Natal/RN on combating drought in 2013.**

Gazeta do Oeste	Mayor of Mossoró delivers plan against drought to President Dilma	03/06/2013
	After another meeting, Northeast mayors return empty handed	21/05/2013
	Government presents package for drought combat	30/03/2013
	Northeastern mayors are urging for help on drought combat	21/03/2013
	They are in drought	03/05/2013
Novo Jornal	Drought: after another meeting, Northeast mayors return empty handed	22/05/2013
	Orphans of drought protest neglecting of field	24/04/2013
	Dilma discusses actions to fight drought effects with governors in Fortaleza	02/04/2013
	Government announces underground dams to ease drought	26/02/2013
	More drought ...	22/02/2013
	Drought Committee approves work plan for installation of 270 wells in 49 counties	19/02/2013
Drought will cost R\$ 1 billion	07/02/2013	

**Table 4: News circulated newspaper Tribuna do Norte city Natal/RN on combating drought in 2013.**

Tribuna Norte	do	Living with Drought	19/05/2013
		The drought had damaged broadly damaged Caern	12/05/2013
		Mayors charge actions to combat drought in Northeast	12/05/2013
		Farmers take to the streets in "Grito da Seca"	21/05/2013
		Petrobras will invest R\$ 200 million in work against drought	08/05/2013
		Alert: RN will have nine years of drought	20/01/2013

## Conclusion

Among the findings, it was found that there are news related to drought during the study period, with small or large focus and with almost daily frequency. In these papers, it is evident a tendency to address the negative effects of drought, highlighting the economic damage, social and environmental impacts, addressing existing problems and to recent political issues of abandonment and lack of public management, without making mention of the use of alternative

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