Territorial transformations produced by the sugarcane agroindustry in the ethnic communities of López Adentro and El Tiple, Colombia

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ABSTRACT

This article presents a critical analysis of the relationship between the expansion processes of the sugarcane agroindustry and the territorial transformations experienced by an indigenous community and an Afro-descendant community in Colombia. In both cases, these transformations are related to the economic and spatial enlargement of the local industry, leveraged by national macroeconomic policies that harmonize with a transnational economic dynamic; the changes in land use have occurred on the basis of the application of various government mechanisms that have been legitimized under the heading of development. Through an analysis of a varied repertoire of figures, satellite images, and community testimonies, this research helps to understand the process of homogenization of the local landscape and the supremacy of the economic power of the sugar sector to define the ordering of these territories.

1. Introduction

There are divergent visions, actions, and emotionalities regarding the territory between different social groups; while in the academic literature there is also no consensus on its definition. This diversity, in many cases, is a source of not only conceptual debate but also social tensions and conflicts. For the communities that inhabit the territory, it constitutes not only the material base of their livelihoods but also their historical, cultural, and environmental being. The territory or “Mother”, as it is called by the Nasa natives, is life itself: the place and the being, who provides and shelters, who must be cared for and protected. The physical space, which is the material support of the future and the destiny of this communitarian territory, simultaneously constitutes the natural capital for expansive projects of extractive and productive industries. This tension creates conflicts because of the negative effects of the prevailing development model, which promises progress and promotes the restriction of rights—or what economists call structural adjustment policies.

The monoculture of sugarcane, present throughout the geographical valley of the Cauca River, owes its territorial consolidation to the great economic and political power of the industrialists of the region. These have been represented by renowned families such as the Eder, Garcés, Borrero, and Cabal, among others, who for several decades applied expansionist strategies, with some being materialized through governmental mechanisms, such as the law on wastelands (Quejada, 2016) or on irrigation systems.

Other mechanisms that have had an effect on the expansion of the area of sugarcane cultivation are: 1) aerial fumigations using herbicides, which in addition to ripening the cane, destroy other crops of the farmers surrounded by monoculture; 2) burning of the cane before cutting, which affects the health of the population and workers and generates impacts on the quality of life of neighboring communities; and (3) the construction of infrastructures that restrict access to water by communities that still persist and resist in confined spaces—close to the large grass cultivation lots. The previous mechanisms are part of the daily dispossession strategies (Ojeda et al., 2015) that in this region have allowed the homogenization of the sugarcane landscape. Lastly, there are the threats made by foremen to mill workers and the effects of violence by illegal armies since the 1950s (Centro Nacional de Memoria Histórica, 2013). These strategies, in partnership with the government for more than six decades, spatially cornered the communities and created radical transformations of their socio-cultural traditions during...
this same period.

However, the territorial effects of the expansion of sugarcane monoculture not only generate social impacts. Damage to ecosystems is also evident: the over-exploitation of water sources, the contamination of aquifers, the disappearance of wetlands, and soil pollution, among others. All of these impacts have been deepened due to the new demand on by-products of sugarcane, particularly the production of agrofuels (Perafán, 2012; Pérez-Rincón and Tadeu-Fabricio, 2013; Uribe-Castro, 2014). Because of this global intertwining, it is necessary to assert that socio-ecological transformations not only are a result of local decisions but also are harmonized with a global and hegemonic economic policy; the reason for this situation is that the Colombian regulations enacted in 2002 to promote the use of ethanol and biodiesel at the national level were made without an exhaustive study of the local conditions of production and without a differential analysis of the balance of materials between oil and agrofuels. Instead, the international agenda that was then focused on the promotion of so-called biofuels was adopted (Vélez, 2010).

The geographical valley of the Cauca River concentrates 91.5% (Valle 72.2% and Cauca 19.3%) of the country’s sugarcane production (Asocaña, 2016). There, the indigenous protected land of López Adentro and the community council of black communities of El Tiple are two of the populations affected by the intensification of sugarcane production. Through a methodological strategy that links satellite images, economic figures, and testimonies of local communities in the territorial analysis, this article seeks to answer the following question: what is the relationship between the expansion processes of the sugarcane agroindustry and the territorial transformations faced by the ethnic communities that inhabit the village of El Tiple and the indigenous reservation of López Adentro?

This article is structured in five sections. Following this introduction, the context of the research and the methodology implemented to address the research question are depicted. The third section describes the theoretical background and the problem from the regional, and local scales. The fourth presents the research results in two subsections: the first analyzes the social dynamics and their relationship with territorial transformation; the second lays out a comparative spatial analysis of sugarcane and transitional crops coverages for the years 1989, 1999, 2008, and 2015. Finally, the fifth section presents a series of conclusions aimed at emphasizing the counterpoint between social transformation and ecological transformation in this region.

2. Location and research methodology

The Valle del Cauca department, located in the southwestern part of the country, between the Andean and Pacific regions, has a total area of 22,140 km², equivalent to 1.9% of the Colombian territory. The Cauca department is also located to the southwest of the country and has an area of 29,308 km². The departments of Cauca and Valle del Cauca, of great ecological and sociocultural diversity, are crossed by the western and central mountain ranges, where the Cauca River—the main water source of the region—is born and meanders. Its average flow of 140 m³/s allows not only for the water supply of the city of Cali, but also supports other economic activities in the area.

The El Tiple village has an extension of 46 km² and is located in the south of the Valle del Cauca department, 28 km away from Cali and 23 km from Candelaria (Fig. 1). Its average temperature is 24 °C. Its completely flat relief extends over the fertile valley of the Cauca river. The totality of its territory falls within the warm thermal floor and is bathed by the Cauca, Desbaratado and Granadillo rivers. It is located at 984 m above sea level (masl). According to the last census of the National Administrative Department of Statistics (Dane), the village has some 1800 inhabitants, 90% of whom are Afro-descendants.

The NASA indigenous reservation López Adentro is located north of the department of Cauca, between the municipalities of Caloto, Padilla and Corinto (Fig. 1). It has a population of over 2000 inhabitants. The human settlements are presented as houses in the villages of San Rafael, Chicharronal, El Jagual, El Crucero, La Secreta, Los Alpes, El Danubio, Las Violetas, La Cristalina and El Boquerón. The reservation ranges from 1000 to 2500 msl, corresponding to mountainous landscapes and alluvial piedmont (Fig. 1). The indigenous community of this reservation is distributed in various thermal floors, ranging from temperate to low highland. The temperature ranges between 12 °C and 23 °C, with an average annual rainfall of 1673 mm (Ministerio de Ambiente y Desarrollo Sostenible, 2014). It is important to note that the sugarcane is sown in the flat area of the Cauca River valley, which corresponds to 38% of the indigenous reservation area, while 62% of it is located in the mountainous landscape.

To answer the question about the relationship between the expansion of sugar cane monoculture and the territorial transformations in the two ethnic communities under study, we developed a methodology that consisted of three simultaneous strategies:

(a) The first refers to the revision of secondary information, corresponding to (i) academic literature of a historical-descriptive nature regarding the region and the economic sector of interest; (ii) press archives referring to the sugarcane agro-industrial sector; (iii) and quantitative information on land uses of each municipality and settlement studied.

(b) The second involved the collection of information in the field through a series of visits to the El Tiple and López Adentro settlements. These were developed within the framework of the project “Exposición a glifosato y efectos en la seguridad alimentaria: un análisis interdisciplinario en la población étnica de la cuenca alta del río Cauca”, financed by the “Departamento Administrativo de Ciencia, Tecnología e Innovación” (Colciencias). During these visits to the communities, spaces for dialogue were set up to listen to the stories of the villagers, who shared their accounts and reflections about the difficulties that arise from being in the vicinity of the sugarcane monoculture. These dialogue activities were complemented by the information obtained through the realization of workshops of historical memory, in which timelines detailing the transformations lived by the inhabitants were prepared in a participatory way. Both open dialogues and workshops of memory are techniques that exalt the experiential and daily character of territorial transformations (De Certau, 1996).

(c) The third strategy focused on the analysis of the expansion of sugarcane with the use satellite images (Landsat and RapidEye) in the municipalities of Candelaria and Caloto—specifically, in the village of El Tiple and in the area of the indigenous reservation of López Adentro, corresponding to the municipality of Caloto. The periods analyzed were 1989, 1999, 2008 and 2015. This information was obtained from the project “Red Interinstitucional de Cambio Climático y Seguridad Alimentaria” (RICLIUSA), funded by Colciencias. The analyzed data is in raster format. The cell size is 30 m × 30 m and the spatial reference system used was the “Magna Colombia Oeste”. The software used for the analysis of spatial data was ArcGIS 10.3 and the toolbox used to calculate the areas of the different land covers was the “Spatial Analysis Tool”, specifically the tool “Zonal Geometry as Table”. It is necessary to clarify that due to the spatial resolution of the analyzed satellite data (30 m × 30 m), the urban areas (hamlets) of the studied settlements are not observed. However, spatial resolution is adequate to identify large land covers with similar patterns, as is the case with sugarcane plantations.

3. Description of the problem and theoretical background

The conceptual approach according to which this research is conducted is based on the analysis of the concept of territory as a social construction, criticizing theories centered on the material characteristics of space—for example, the Westphalian model, from which spatial
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