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Submitted by

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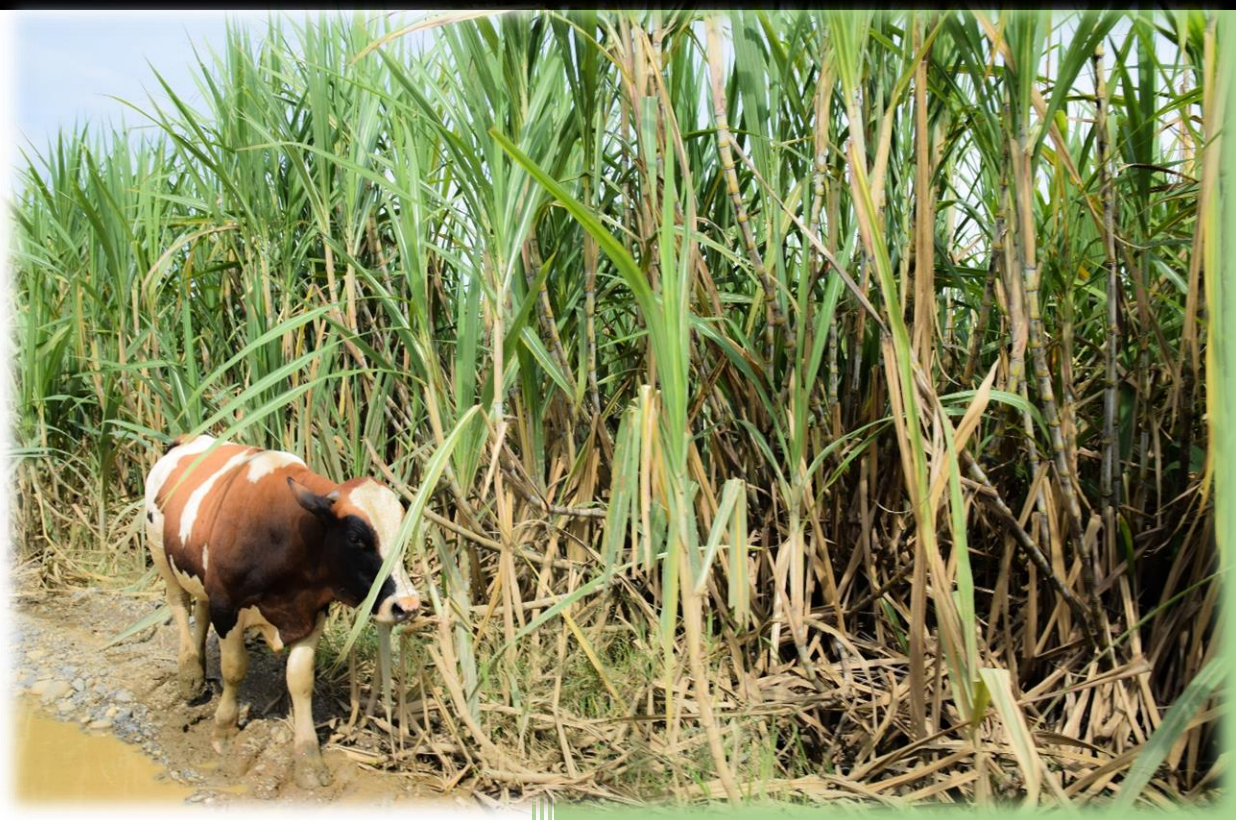
Environmental Justice. Cases of Sugarcane Expansion in the Southwest of Colombia



Supervised by

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Outline

Environmental Justice. Cases of Sugarcane Expansion in the Southwest of Colombia

Three contributions of socio-environmental conflicts from Colombia for the Atlas of Environmental Justice (EJ Atlas)

As biologist and philosopher, I was interested in crossing disciplinary boundaries on environmental issues at the Graduate Certificate Program in Environmental Studies. Especially, I was highly motivated in deepening my knowledge and acquiring experience in field research of environmental justice with a focus on Latin America. The opportunity of getting insights into socio-environmental conflicts in Colombia, encouraged me to do an internship at my former university (Universidad del Valle). During my internship, I was able to learn about the ecological unequal distribution that exists in Colombia, in which social conflicts came out to the light. The absence of the state, along with historically rooted inequalities and the recent growth of corporate industry, permit that marginalized sectors of the population such as minorities, poor people, peasants and women have very limited access to the land and to natural resources and face the burdens of pollution. The theoretical framework learned in order to understand these conflicts was the theory of collective action, the theoretical and analytical perspective of the transformation of the geographical environment and socioecological systems.

My principal inquiry is about the social and environmental inequalities that arise in the Valle del Cauca and Cauca departments, as a result of an expanding sugarcane agroindustry, rooted in the region since Colonial times, along with the indolence of the state. I am interested in making this situation widely known, with the hope that such a disclosure will create pressure towards environmental authorities. I was also enthusiastic about knowing how environmental activism emerges around ecological unequal distribution in Colombia. Communities are at risk and thus demand, through different means, environmental justice.

Therefore, my framework of engaged research focuses on understanding of how environmental conflicts have been constituted and how social struggles emerge and develop around them. The Global Map of Environmental Justice (EJ Atlas) created by the project of Environmental Justice Organizations, Liabilities and Trade (EJOLT), supported by the European Commission between 2011 and 2015, is an online tool that systematizes the information about environmental justice conflicts. Currently, there are 2.182 cases of ecological distribution conflicts reported from around the world. Thanks to my internship in my former

university, I was able to take part in the EJ Atlas led by my supervisor, Prof. Mario Pérez-Rincón. Thus, we identified three cases of environmental struggles against sugarcane expansion that are taking place in the Southwest of Colombia, cases that had not been documented in the EJ Atlas.

My final project was based on a question on the history, the stakeholders, the interests and the natural resources involved in social-environmental conflicts around sugarcane agroindustry in the Valle del Cauca in Colombia. It is founded on the conviction that the visibility and the transmission of activist knowledge through this online tool can provide a platform of communication among people who are working and interested on related issues. This includes activists, the state, scholars, committed citizens, teachers and think-tanks around the world.

Hence, three cases of Colombian urban and rural communities struggling to defend their means of life against the impact of sugarcane expansion were documented based on a descriptive analysis. Two cases take place in the department of Cauca, specifically in the municipality of Puerto Tejada and the rural settlement of Lomitas. The other case happens in the department of Valle del Cauca, in the town of Villagorgona. For documenting the cases, different social research methods were applied, including documentary and historical sources revision, participatory action research, semi-structured interviews, fieldwork and cartographic information. Not all methods were applied in each case. Semi-structured interviews and workshops were carried out in Lomitas. The cases of Puerto Tejada and Villagorgona were investigated through analysis of cartographic information and documentary and historical revisions.

Abstract

Environmental impacts caused by the advance of economic frontiers towards new territories, motivate protests by some social groups that defend their rights to land and means of life. Indigenous and African-Colombian communities, peasants, the inhabitants of marginal urban areas and other vulnerable social groups are the most affected by the expansion of the agroindustrial and extractive activities. Since colonial times, the cultivation of sugarcane is taking place in different parts of the southwestern region of Colombia. Academic research, legal claims and testimonies from the communities have alerted about the negative impacts of the expansion of sugarcane plantations on ecosystems and human health. Different collective actions by local communities are signs of a strongly felt need for resisting this expansion. The stories of environmental struggles need to be told in order to strengthen the calls for environmental justice and support the communities' claims against the companies and the state, so that the latter take responsibility for the violence inflicted through their activities or their neglect.

The first Environmental Justice Atlas created by the Institute of Environmental Science and Technology (ICTA) at the Universitat Autonoma de Barcelona in 2014 and supported by the European Commission enables visibilization of cases of socio-environmental conflicts. More than 2000 cases of socio-environmental conflicts have reported in the EJ Atlas until now. The aim of this project is, therefore, to document three cases of socio-environmental conflicts around the expansion of the sugarcane in the southwest of Colombia by applying qualitative and quantitative methods, in order to contribute to the database of the Environmental Justice Atlas. These three cases are located in the department of Valle del Cauca (Villagorgona) and Cauca (Puerto Tejada and Lomitas). They show how the stakeholders, their interests and power inequalities are contributing to the detriment of communities in the valley of Cauca river.

Introduction

"Never doubt that a small group of thoughtful,
committed citizens can change the world;
indeed, it is the only thing that ever has"
Margaret Mead (1901-1978)[1]

The inequitable environmental burdens coming from extractive and agricultural activities and damaging projects have produced heavy environmental and social impact around the world. As Colombia has been labeled as the country with the second highest biodiversity in the world, from a functional perspective, its ecosystems are the source of well-being to humanity at different scales [1]. In the context of globalization, Colombia constitutionally validates the economical exploitation of the commercial value of the land compounds (water, soils, plants, animals). Hence, vast areas of native ecosystems were provided to domestic and foreign private investors through the years, which claim to develop a sustainable management of them, but there is a contradiction about how the nature and local communities are being affected. The deterioration of different kind of ecosystems that started since colonial times, have produced that the communities principally set alarm bells ringing about the pressure of the companies for purchase, expropriation and contamination of their environments, losing the traditional farm, the home gardens and the peasant agriculture [5]. This growing degradation of the environment invites to challenge the current neoliberal mode of development and to analyze the socio-environmental impacts of these economic activities in Colombia.

Therefore, this advancement of economic frontiers with the various forms of privatization of the natural resources has affected the living of communities, especially, the inhabitants of marginal urban and rural areas, along with the peasants and indigenous and African-Colombian communities. The popular struggles of the communities have promoted collective actions, establishing thus new symbolic scenarios that demand environmental justice. The social impact is also given when the communities reveal the powerful dynamics inherent in the agroindustrial equity, permitting that social forces of environmental resistance arise. This indicated the importance of the issue of environmental struggles as a structural problem of national configuration, in which state, market and society forces converge on the use of environment that have been the epicenter of planned transformations from an intrinsic logic, where the interest of the economic income is taking place.

[1] Quoted in John M. Richardson, ed. Making it Happen, 1982.

The increase of the agroindustry of sugarcane during the past few decades has become one interesting economic alternative in Colombia [2]. Sugarcane cultivation occurs mainly in the southwest of Colombia. The first cultivations of sugarcane were established in Cauca river valley, in the departments of Valle del Cauca and Cauca in the 16th century, when the Spanish conquistador Sebastián de Belalcázar brought this plant from Europe [2]. The consolidation of the hacienda system with mill used to crush sugarcane and produce honey, panela, among others, started taking place until the arriving of the first sugar mill to the region, which was La Manuelita in 1864. It signaled the transition from the hacienda system, based on slavery, to the capitalist agricultural system [3]. The development of the sugarcane agroindustry started in the 1960s and consolidated in 1990s [2] [3]. Since that time, the sugar market business has strengthened and connected to the global markets. Different investors have endorsed by obtaining titles and concessions of the land, establishing until now thirteen sugar mills in the region over 100 years, increasing the cultivation of sugarcane from 7.958 hectares (ha) in 1915 to 232.070 ha in 2015 [4]. While the sugarcane companies argue they are implementing adequate sustainable management techniques, the rise of the environmental problems, documented by Rivera et al., (2007) and Uribe (2016) suggest the contrary. These studies are based on recent research about communities' experiences on the transformation of their environment in their daily life.

In particular, the transformation of a rich valley into monocultures of sugarcane, has drained tropical forests, lowered soil fertility and occupied lands that could be used for a bigger diversity of cultivated products, such as cacao, coffee, rice and fruits [6]. Also, lentic and lotic ecosystems have been affected, disturbing the water cycle and lowering the availability of the water resources [7]. The expansion of the sugarcane plantations has also caused the loss of biodiversity and a scenery of homogenized ecological landscape [8]. The practices of burning cane together with the aerial fumigation have created additional harmful effects on air, water quality and human health. This process has been accompanied by an official discourse that highlights regional development only through the production of sugarcane as the main economic activity.

Numerous mobilizations have been organized by local communities against this particular economic activity in the region. In practical experience, several socio-environmental struggles are unknown to the world and those who are specially involved in the field of environmental justice. However, until 2016 only sixty-one socio-environmental conflicts of sugar expansion in the valley of Cauca river were reported [5]. Many cases of socio-environmental problems are coming to the light but there is still a lack of investigations that can determine their impact and bring solution to them. The visibility of the stories of environmental struggles is

fundamental in order to draw attention to the true accountability of the companies and state for the injustices made through their activities. The creation of the first Environmental Justice Atlas (EJ Atlas) by the Institute of Environmental Science and Technology (ICTA) at the Universitat Autònoma de Barcelona in 2014, has given the possibility to collect the cases of the struggles of communities that demand environmental justice. Until now there are 124 Colombian cases of socio-environmental conflicts reported in the EJOLT Atlas [10]. According to this platform, Colombia occupies the second place in the world in number of reported conflicts [9]. This documented cases in the EJ Atlas is also an important online interactive resources for the academy, informal committees, NGOs, concerned citizens and other activist groups involved in the environment and social injustice.

The goal of this final project is to contribute with the documentation of three cases of environmental struggle against the sugarcane expansion and its environmental effects in the southwest of Colombia for the database of the EJ Atlas. These cases of environmental resistance against the expansion of sugarcane and its productive practices are located in the Valley of the Cauca River between the departments of Cauca and Valle del Cauca. They expose the ways in which the sugarcane agroindustry is impacting communities located in the mentioned territories. Qualitative and quantitative methods were applied with the aim of documenting the cases. These include the documentary and historical revision, semi-structured interviews, fieldwork and cartographic information.

In Quest of Water and land Justice. Three Cases of Department of Cauca and Valle del Cauca

The expansion of sugarcane in the Department of Cauca and Valle del Cauca has occurred around the Valley of the Cauca River since the last two centuries with particular strength in the last years (Figure 1 & 2). The environmental impact of this expansion has been high in both departments. However, there are differences between the economic situation of these departments that can define these cases of environmental resistance differently. The department of Cauca is the poorest of the country together with Chocó, having at the same time a high income inequity and high ethnic diversity including indigenous, afrodescendants and peasants [11]. In contrast, the department of Valle del Cauca is one of the most prosperous in Colombia and its population is mostly composed of people who define themselves as “without any ethnic affiliation” and afro-descendants [12].

Figure 1. Valley of the Cauca river. Photo by Ceñicaña, Public domain, Retrieved 25 July 2017 from http://www.cenicana.org/quienes_somos/agroindustria/historia_eng.php

The urban community from the municipality of Puerto Tejada and the rural community from the settlement of Lomitas are located in the department of Cauca, while the urban community from the town of Villagorgona is located in the department of Valle del Cauca. For all the documented cases, a descriptive analysis was carried out. The collection of cartographic information and historically documentary review were applied to all the cases for which institutional documents produced by the environmental authorities, consultation of the local and national press (El País and El Tiempo) as well as web pages and legal and judicial documents including sentences, popular actions, tutelas, among others, were reviewed that deal with the state of the territories and the expansion of the sugarcane agroindustry.

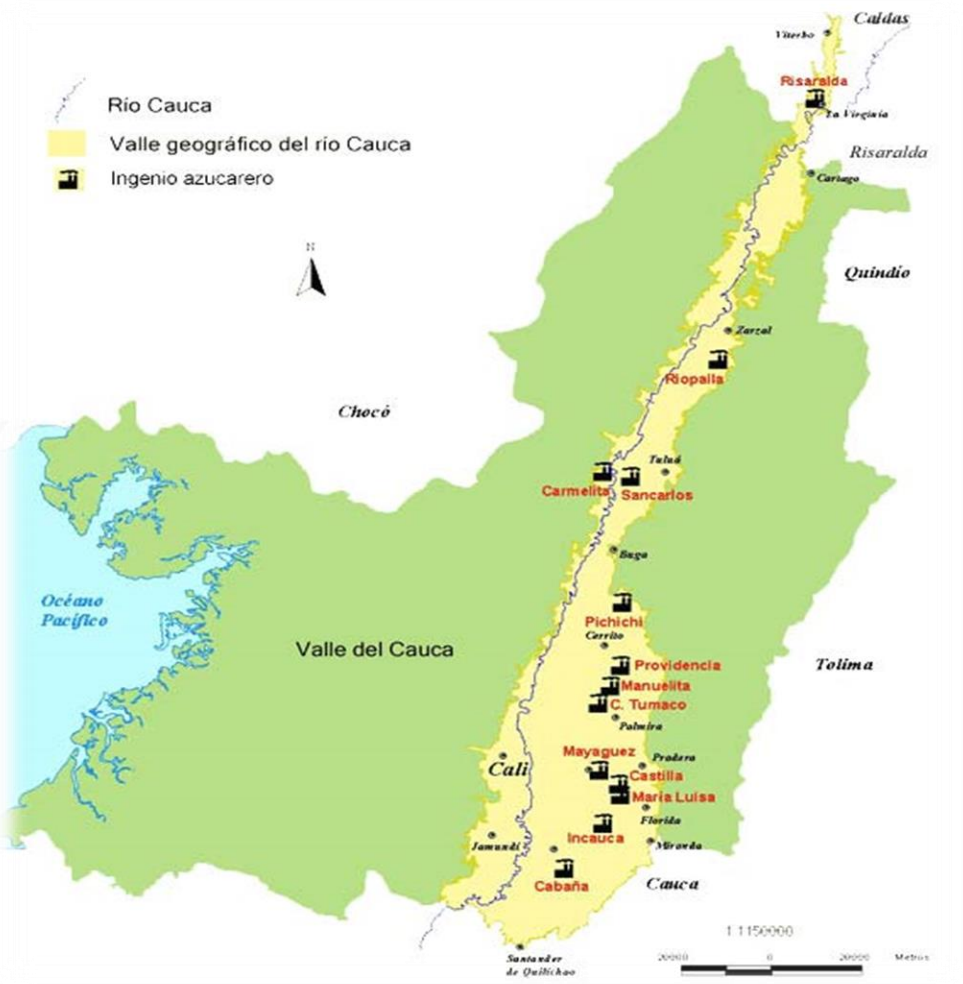


Figure 2. Map of the agroindustry of sugarcane (Ingenio azucarero) located in the Valley of Cauca River (yellow color) within the department of Caldas (north), Cauca (sur), Risaralda (northeast) and Valle del Cauca (middle). Photo by Ceñicaña, Public domain, Retrieved 02 August 2017 from http://www.cenicana.org/quienes_somos/agroindustria/historia.php

During the fieldwork, four semi-structured interviews and three workshop focused on participatory action research were done in the case of Lomitas, only.

These techniques applied to the Lomitas were possible thanks to the opportunity of participating in the project "Study of the Environment Impact in the rural settlement of Lomitas - Municipality of Santander De Quilichao" which is conducted by the Regional Autonomous Corporation of Cauca (CRC) and Universidad del Valle. The fieldwork was carried out, which consisted of a tour for the principal areas affected by the sugarcane industry and the technique of the semi-structured interview and workshops based on the application of the participatory action research were used with inhabitants and sugarcane workers from the sugarcane mills to identify the causes of the main environmental conflicts.

The data collected of these three cases of ecological distribution conflicts took into consideration information established by the Atlas, which has also been collected for the other cases around the world. They include the type of the conflict, the basic data and source of conflict, the drivers of the deals and their impacts, conflict and mobilization, impacts, outcome, references to legislation, the investors, academic research, pictures, videos, among others (See Annexes).

Case of Contamination of the River Palo and Agroindustry in Puerto Tejada, Colombia

Liquid waste discharged from the Propal S.A company and the Cabaña mill and other polluting activities caused serious pollution of one of the most important water sources of the Cauca department

Basic Data

Description

The Palo River is considered the principal water body that supplies the drinking water and hydroelectric power to different municipalities of the department of Cauca. This water body has also been a means of transport, space of recreation and sport as well as the livelihood for families, which dedicate to the fishery and the extraction of building materials including sand and ballast. Especially, the river Palo is the source of energy production of the micro power plant that provides the municipalities of Caloto, Padilla and Guachené and the source of the regional aqueduct of the north of Cauca that supplies the municipalities of Caloto, Villarrica and

Puerto Tejada. It is also one of the main affluents of the Cauca river contributing 35.90m^3seg [13] [14]. The area of the Palo river basin is 1.471,01 Km^2 and its length of main channel is 46.21km. Its' main tributaries are López, Jambaló y La Paila rivers [14]. The intervention of different actors on the river basin produced the division of its geographical area in three zones: the indigenous communities in the upper zone, afrodescents in the middle zone and settlers and agroindustry in the lower zone [13].

The sugarcane agroindustry has been arriving to these territories since 1944 and other companies appeared in the last two decades of twentieth century [5]. The cane agroindustry of the Cauca and La Cabaña sugar mills along with the companies such as Propal S.A and industrial parks in Caloto, Villa Rica and Puerto Tejada have obtained benefits from this water body. The contamination of the Palo river has directly or indirectly affected different municipalities since the last two decades of twentieth century, with the arrival of the agroindustry of sugarcane, the increase of the population, phenomena associated to climate change such as the El Niño phenomenon and mining and livestock production. In particular, Puerto Tejada is being greatly affected by the contamination of the river taking into consideration that 80% of the drinking water supply of this municipality is obtained from the Palo river, which is managed by the company EARPA S.A. providing water to its neighborhoods of the South and part of its rural area [15] [20].

Some leaders of Puerto Tejada have carried out collective actions for bringing solutions to the contamination of this river. In 1991, community leaders filed a lawsuit through a writ for protection of fundamental rights against La Cabaña sugar mill, the company Propal S.A., the Regional Autonomous Corporation of Valle del Cauca (CVC) -the regional environmental authority that had jurisdiction on the region in that time- and the municipal secretary of health in Puerto Tejada Circuit Criminal Court [16]. The claimants testified that the Palo river has been a source of work and life in the region and its contamination has brought serious impacts on the aquatic life such as the dead of fishes and, subsequently, economic and cultural effects on the population due to the liquid waste discharged from the Propal S.A company and the Cabaña mill and the inadequate protections of the river by the environmental authority [16].

The leaders won the lawsuit on 18 December 1992 (Sentence N° T-254/93), establishing that the private and public entities must fulfill their duties of the care and protection for the population and environment health. Less than one year later, on 3 February 1993, this decision was reversed by the High Court of Judiciary District of Cauca and, subsequently, confirmed eight months later (20 September 1993) by the Second

Chamber of the Constitutional Court, arguing that the legal mechanism used by the petitioners was not appropriated, because it defends special rights for them instead of collective rights for the community. It was also argued that there was a lack of evidence for proving that the companies denounced along with the breach of the government entities were causing contamination of the river [16].

However, the company Propal S.A and sugar mills La Cabaña, Central Castilla and Incauca founded a non-profit organization called Corpopalo with the aim of establishing an integral management of the Palo river basin one month after that the High Court of Judiciary District of Cauca challenged the decision of Puerto Tejada Circuit Criminal Court [18]. 500.000 native species of trees were cultivated in 1995 by Corpopalo in order to preserve the river basin but a study reported in 1999 that the frequent burning of crops, deforestation, erosion and overgrazing were observed on the land zones of the river basin, affecting the quality of the drinking water of different municipalities [18].

As the Palo River became jurisdiction of the Regional Autonomous Corporation of Cauca (CRC), its director Carlos Alberto Castañeda initiated a lawsuit through a class action against the Puerto Tejada municipality and CRC in 2003 defending the environmental collective rights of the population [5]. On the 8th of April 2007, the Administrative Disputes Chamber ordered that the Puerto Tejada Municipality constructs a wastewater treatment plant with the purpose of restoring the ecological balance of the affected zones of the river. Until now the construction of a WTP is still in process. The huge amount of dragging material from the Palo river provided to different rivers such as the Cauca river has brought overflows since 2011 and the works of mining exploration and exploitation of the river have also caused the degradation of the river since 2013, affecting different local communities [17].

According to different studies carried out in the last years, the river Palo has currently a high level of pollution due to spills of industrial waste, inadequate agriculture to supply sugarcane fields and surrounding farms, deforestation, domestic waste and waste produced by the exploitation of materials from its bed legally and illegally, impacts of climate change, mining in the surrounding mountains and growth of the towns [17] [19]. The socio-environmental conflict of the Palo river is still present and the community of Puerto Tejada is waiting for an environmental solution in order to have a better quality of life.

Country

Colombia

State or Province

Cauca

Location of the Conflict

Puerto Tejada

Accuracy of Location

High local level

Project area

4

Type of population

Urban

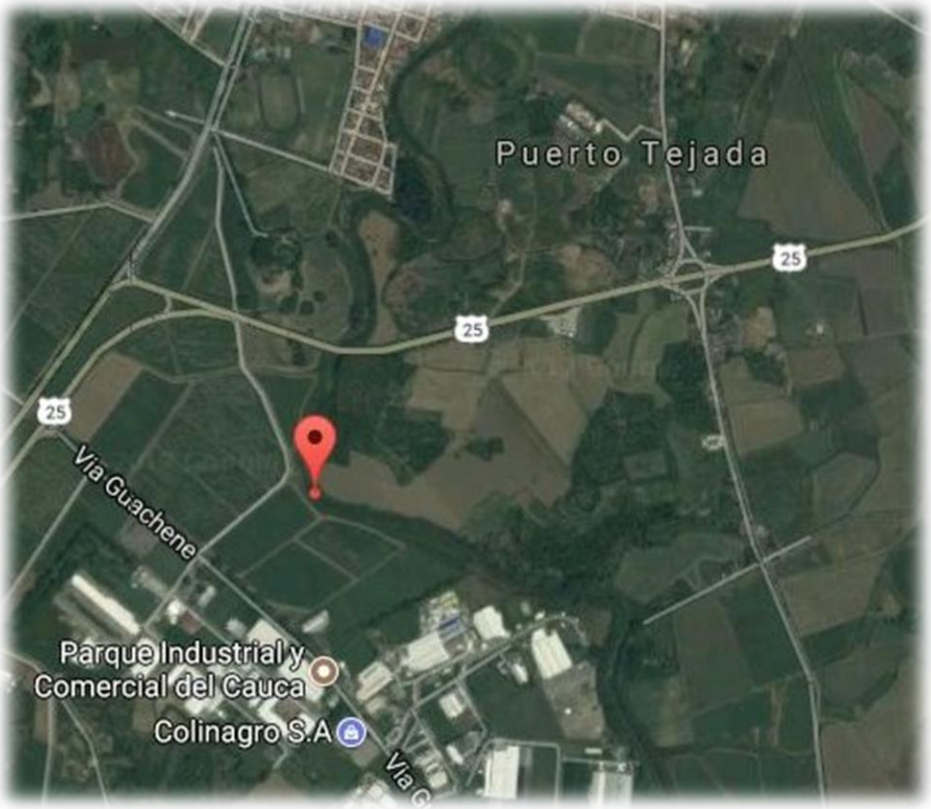
Latitude

3.213167

Longitude

-76.422389

Map by Google



Source of Conflict

Type of conflict: 1st level

Water Management

Type of Conflict (2nd level)

Landfills, toxic waste treatment, uncontrolled dump sites

Deforestation

Intensive food production (monoculture and livestock)

Agro-toxics

Water access rights and entitlements

Water treatment and access to sanitation (access to sewage)

Dams and water distribution conflicts

Plantation conflicts (incl. Pulp)

Specific Commodities

Sugar

Project Details and Actors

Affected Population

45,840

Company names or state enterprises

La Cabaña Sugar Mill

Central Castilla Sugar Mill

Propal S.A Company

Incauca Sugar Mill

Relevant government actors

Municipality of Puerto Tejada

Regional Autonomous Corporation of Valle del Cauca (CVC)

Regional Autonomous Corporation of Cauca (CRC)

The municipal secretary of health in Puerto Tejada

Environmental justice organizations (and other supporters) and their websites, if available

Asopalo

Corpopalo

Local leaders of Puerto Tejada, Caloto y Miranda

Indigenous communities such as Nasa

Conflict and Mobilization

Intensity of conflict

Medium (street protests, visible mobilization)

When did the mobilization begin

Mobilization for reparations once impacts have been felt

Start of the conflict

1991

Groups mobilizing

Fishermen

Indigenous groups or traditional communities

Neighbours/citizens/communities

Social movements

Women

Forms of mobilization

Community-based participative research (popular epidemiology studies, etc..)

Development of a network/collective action

Lawsuits, court cases, judicial activism

Public campaigns

Arguments for the rights of mother nature

Impacts of the project

Environmental impacts

Visible: Surface water pollution, Decreasing water (physico-chemical, biological) quality, Biodiversity loss (wildlife, agro-diversity), Desertification/Drought, Global warning, Soil contamination, Soil erosion, Waste overflow, Deforestation and loss of vegetation cover, /, Groundwater pollution or depletion, Mine tailing spills

Potential: Loss of landscape/aesthetic degradation, Large-scale disturbance of hydro and geological systems, Reduced ecological / hydrological connectivity

Health impacts

Visible: Occupational disease and accidents

Potential: Infectious diseases, Exposure to unknown or uncertain complex risks (radiation, etc…)

Socio-economic impacts

Visible: Increase in Corruption/Co-optation of different actors, Lack of work security, labour absenteeism, firings, unemployment, Loss of livelihood, Loss of traditional knowledge/practices/cultures, Loss of landscape/sense of place

Outcome

Current status of the project development

In operation

Conflict outcome / response

Institutional changes

Court decision (victory for environmental justice)

Court decision (failure for environmental justice)

Negotiated alternative solution

Technical solutions to improve resource supply/quality/distribution

Do you consider this an environmental justice success? was environmental justice served?

No

Briefly explain

As the contamination of the river Palo is still present, the community of Puerto Tejada is being affected and facing the detriment of the quality of life of its inhabitants.

Other Documents

Pictures

River Palo at the municipality of Puerto Tejada. Photo by Luis Barrera, Las 2 Orillas, February, 2016, Public Domain, https://www.las2orillas.co/la-agonia-del-rio-palo/

The Palo river and extraction of materials. Photo by the Proclama del Cauca, 20 February 2016, Public Domain, https://www.proclamadelcauca.com/2016/02/76517.html.

Final Contribution

The contribution of this case of socio-environmental conflict to the Environmental Justice Atlas can be found in the following link: https://ejatlas.org/conflict/contamination-of-the-river-palo-in-puerto-tejada-colombia

Case of Plantations of Sugarcane and Gold Mining in the Rural Settlement of Lomitas, Colombia

The dispossession of the traditional farms by the expansion of the sugarcane cultivations on lands acquired violently by paramilitary groups and the environmental and health impacts of the gold mining in the Rural Settlement of Lomitas

Basic Data

Description

Lomitas is a rural settlement located within the municipality of Santander de Quilichao, part of the department of Cauca. There is a division of this rural settlement in two sectors of its territory known as Lomitas Arriba and Lomitas Abajo. The population of Lomitas is composed principally of afrodescends, which have occupied historically the region for 200 years [21]. This rural community has experienced the change of its social dynamic and its environmental conditions, affecting thus the quality of life of its people [21] [23]. The inhabitants of Lomitas faced the dispossession and abandonment of their traditional farms by the expansion of the sugarcane agroindustry and the armed conflict with the presence of illegal armed groups such as guerrillas and specially paramilitaries [22] [24].

Based on testimonies of community members, the sugarcane crops of the rural zones of Lomitas started to be established approximately in 1987, replacing extensive livestock. Breeding of animals such as cows, horses, chickens and pigs was the main source of livelihood for the families, along with the intensive cultivation of coffee, rice and citrus. In 2000, the paramilitaries of the Farallones Front - Calima Block of the United Self-Defense Forces of Colombia (Autodefensas Unidas de Colombia or AUC) arrived to this rural settlement establishing training camps. This caused a wave of violence, and led to the forced displacement of its inhabitants to other places in Colombia and foreign countries [22].

Therefore, parcels of land were abandoned and some of them were taken by sugarcane workers. The difficult situation of poverty for the people who remained in their lands made them sell their lands at cheaper prices to big landowners, who rented the lands or sold sugarcane production to the mills. This extended the monoculture of sugarcane in the region: currently 70% of the Lomitas territory is used for sugarcane cultivation [24]. The decrease of the population in these territories is evident. The community census obtained from Community Action Councils reports that there are currently 700 inhabitants in Lomitas Arriba and 650 inhabitants in Lomitas Abajo [25] [26].

In Lomitas, there are currently three sugarcane mills: Incauca, La Cabaña and Mayagüez [21]. Studies of the regional environmental authority (Regional Autonomous Corporation of Cauca (CRC)) reported that there are 2.128,34 hectares (ha) of sugarcane cultivation of which only 879,62 ha are monocultures belonging to these mills [27]. The other 1.248,72 ha belong to individual landowners. Although the economy of this rural settlement is based on cultivation of the sugarcane, the population has not received benefits from the sugarcane agroindustry, considering that only 56 men of the community are sugarcane workers [21]. Indeed, the majority of the people live with temporal contracts by day of laboring outside of their community, evidencing high rates of unemployment and also secondary consequences such as drug addiction and prostitution.

According to the testimonies of the community, the practices of illegal gold mining have also affected the community of Lomitas. The municipality of Santander de Quilichao has been considered a gold - rich territory and the exploration and exploitation of gold have been carried out since the beginning of the twenty-first century, bringing serious degradation of the water bodies and lands, loss of biodiversity and detriment of the communities [22]. Hence, the expansion of the sugarcane agroindustry, together with the illegal gold mining, has brought strong environmental and health impacts to this rural settlement.

The sugarcane crops have produced contamination, given the high toxicity and inadequate biodegradability of herbicides used for weed control including glyphosate, ametrine, fusillade and DCMU, acid reaction of soils and accumulation of salts and aluminum [21] [28]. The contamination of water bodies such as the Teta and Catalina rivers by the dumping of toxic wastes and the high amounts of water used from the process of the sugarcane productions and gold mining are observed [21]. Research on the perception of the communities has also shown the changes of the landscape, the loss of the diversity of the vegetation cover

including native forest, fruit trees and agricultural crops and human health impacts by the burning of sugarcane. After 2005, when the paramilitaries left Lomitas, the displaced people came back to their lands, finding that their homes were destroyed, their crops and animals no longer existed and their properties were invaded by the sugarcane agroindustry [29]. The fear of the population for denouncing this social and environmental injustice is reflected in the lack of collective action through years.

However, the issuing of the law N° 1448 with the aim of repairing integrally the victims of the armed conflict with the restitution of lands by the national government along with the international assistance of the Norwegian Refugee Council in 2011, allowed the return of fifty-seven families to Lomitas and the legal restitution of 408 hectares that they had been forced to abandon [30] [34]. In 2012, five families began the struggle to recover their lands with the victims' law through the Land Restitution Unit [32]. The sentence N°046 in favor of these families came out on 28 April 2015, establishing the reparation of their lands and the general benefit of the Lomitas community [31]. This sentence orders the evaluation of the socio-environmental impact of the sugarcane cultivation in Lomitas and, specifically, in the properties of the involved families.

Currently, the Regional Autonomous Corporation of Cauca (CRC) and the Universidad del Valle carry out this evaluation. Although this sentence is still in process of execution for land restitution, other twenty-two restitution judgments from families of Lomitas have been issued in the First Civil Court of the Specialized Circuit in Land Restitution of Popayan [33]. Hence, the rural settlement of Lomitas has become an emblematic case for the department of Cauca, considering the highest number of land restitution judgments obtained positively. Nevertheless, the inhabitants of Lomitas are still hoping that the restitution of their lands can also bring solutions to the environmental impacts of sugarcane cultivations and illegal gold mining, which are contributing to the detriment of their community.

Country

Colombia

State or Province

Cauca

Location of the Conflict

Santander de Quilichao/Lomitas

Accuracy of Location

High local level

Project area

2,128.34

Type of population

Rural

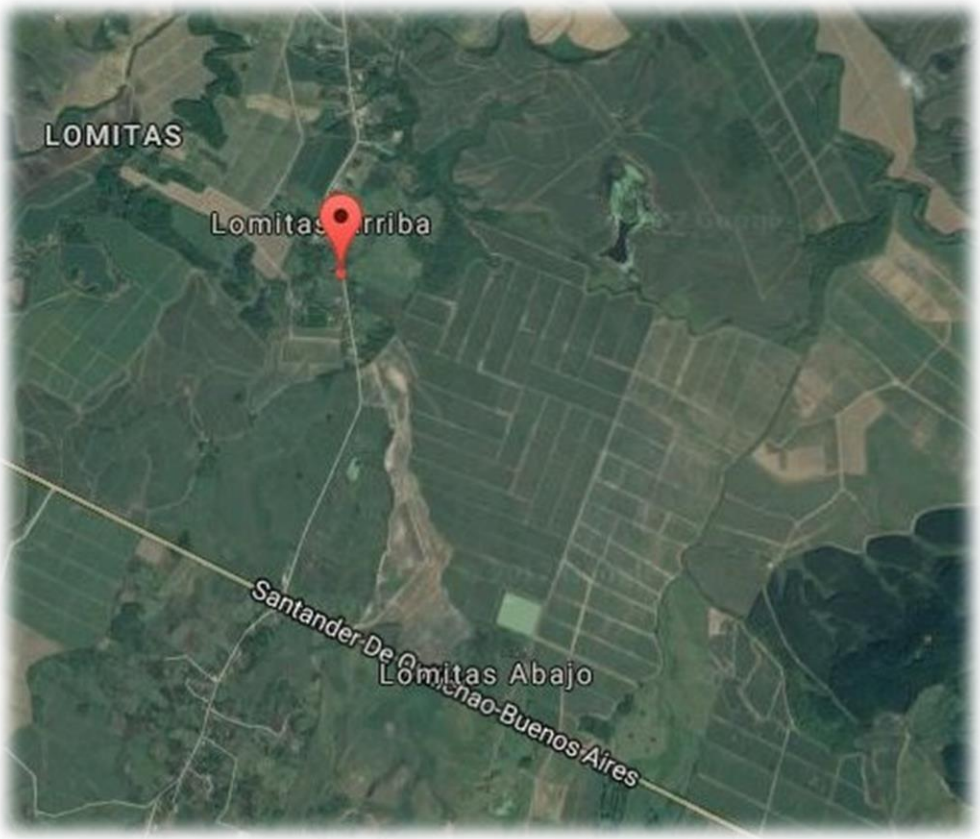
Latitude

3.077389

Longitude

-76.556889

Map by Google



Source of Conflict

Type of conflict: 1st level

Biomass and Land Conflicts (Forests, Agriculture and Livestock Management)

Type of Conflict (2nd level)

Mineral ore exploration

Plantation conflicts (incl. Pulp

Specific Commodities

Sugar

Other types of conflict

Armed Conflict with Paramilitaries

Project Details and Actors

Affected Population

1350

Company names or state enterprises

Incauca Sugar Mill

La Cabaña Sugar Mill

Mayagüez Sugar Mill

Relevant government actors

The Victims Unit

The Land Restitution Unit

The Regional Autonomous Corporation of Cauca (CRC).

International and Financial Institutions

United Nations

The Norwegian Refugee Council

Environmental justice organizations (and other supporters) and their websites, if available

The Association of Northern Cauca Community Councils (ACONC)

Conflict and Mobilization

Intensity of conflict

Low (some local organising)

When did the mobilization begin

Mobilization for reparations once impacts have been felt

Start of the conflict

1987

Groups mobilizing

Farmers

Indigenous groups or traditional communities

Neighbours/citizens/communities

Women

Forms of mobilization

Blockades

Development of a network/collective action

Lawsuits, court cases, judicial activism

Official complaint letters and petitions

Public campaigns

Street protest/marches

Impacts of the project

Environmental impacts

Visible: Water and Air pollution, Biodiversity loss (wildlife, agro-diversity), Desertification/Drought, Loss of landscape/aesthetic degradation, Soil contamination, Soil erosion, Waste overflow, Deforestation and loss of vegetation cover

Potential: Large-scale disturbance of hydro and geological systems, Reduced ecological / hydrological connectivity

Health impacts

Visible: Exposure to unknown or uncertain complex risks (radiation, etc…)

Potential: Occupational disease and accidents, Infectious diseases

Socio-economic impacts

Visible: Increase in Corruption/Co-optation of different actors, Displacement, Increase in violence and crime, Lack of work security, labour absenteeism, firings, unemployment, Loss of livelihood, Violations of human rights, Land dispossession, Loss of landscape/sense of place

Potential: Loss of traditional knowledge/practices/cultures, Social problems (alcoholism, prostitution, etc..)

Outcome

Current status of the project development

In operation

Conflict outcome / response

Compensation

Court decision (victory for environmental justice)

Under negotiation

Do you consider this an environmental justice success? was environmental justice served?

No

Briefly explain

Although the sentence N° 046 and others are still in process of execution for land restitution, there is no a clear solution to the impacts of the sugarcane expansion and illegal gold mining.

<u>Other Documents</u>

Pictures

Plantations of Sugarcane in Lomitas. Photo by Stephanye Zarama-Alvarado

Meeting of the Elderly Population in Lomitas. Photo by Stephanye Zarama-Alvarado

The Rural Settlement of Lomitas in Santander de Quilichao. Photo by Stephanye Zarama-Alvarado

Final Contribution

The contribution of this case of socio-environmental conflict to the Environmental Justice Atlas can be found in the following link: http://ejatlas.org/conflict/plantations-of-sugarcane-in-the-rural-settlements-of-lomitas-colombia

Case of Drinking Water Supply and Agroindustry in Villagorgona, Colombia

The contamination of rivers by agroindustry of sugarcane and the lack of groundwater because of intensive agricultural activities have affected the town of Villagorgona since its foundation

Basic Data

Description

The town of Villagorgona located within the municipality of Candelaria, which is part of the department of Valle del Cauca, has been facing problems of drinking water supply since its foundation in 1953 [35]. As new poor population arrived to this municipality, it was necessary to extend urban territory between beds of rivers and road networks. The inadequate urban planning led to several floods, given the town's proximity of the Cauca river [36].

Despite the fact that there is a water network composed by tributaries of the Cauca River – Rivers Fraile, Bolo, Póraga and Desbaratado in the municipality of Calendaria-, Villagorgona has a poor coverage of drinking water, considering that this settlement was established without an aqueduct [37] [38]. The community has supplied its water throughout the years by using four underground wells and water carts provided by the Municipal Firemen of Candelaria or the Public Utility Company of Emcandelaria [39]. In the 1990s, studies revealed that this water was not suitable for human consumption due to the high concentrations of iron, manganese and potassium [40] [41]. This water was rejected by the community, arguing also the bad taste, staining of the clothes and production of skin diseases [5].

Different initiatives for improving the quality of water have arisen in Villagorgona. A project of interconnection of the aqueduct between the municipalities of Pradera and Candelaria to the town of Villagorgona was announced on 2 April 1992 with the investment of $ 1,346 million Colombian pesos (COP) granted through a credit given by the Territorial Development Fund (Findeter) [42]. Few months later, the negotiations with

the municipality of Pradera were unsuccessful given that it requested in return for this interconnection an initial investments of COP$ 300 million for the reforestation of the Pradera basin composed of the Bolo, Parraga y Vílela rivers [42]. The new mayor of Candelaria denied this request of the Pradera municipality and decided to search for the support of the municipality of Florida, which wanted in return investments for infrastructure works.

In 1994, another project was announced by the departmental governorship of Valle del Cauca with the investment of COP $5,228 million for the construction of the aqueduct in Villagorgona and other towns such as San Juaquin, Tiple, Carmelo, Caucaseco and Juanchito [38]. One year after, the investment of COP $ 4.5 billion to this project was also announced by the departmental governor of Valle del Cauca [38]. This new project brought hope to the community of Villagorgona. The company Emcandelaria, in charge of supplying water through carts also reported on November 1995 that its services were wound up and thus each town required to have its own aqueduct management. While the municipality of Candelaria required to provide solutions to the water supply through other companies, the project of the construction of aqueduct was stopped [43].

In 2000, the inhabitants of Villagorgona protested the lack of drinking water and demanded the construction of the aqueduct [44]. Nevertheless, the municipality of Candelaria gave no suitable solution. Five years later, the Local Association of Users requested an inter-administrative agreement signed as a strategy to seek solutions to the problem of water supply by the departmental governorship of Valle del Cauca. The people of Villagorgona also returned to the streets in protest against the poor conditions of the water service. These protestes were peaceful in the beginning but later became violent. The following year three solutions were proposed by the governorship of Valle del Cauca. These were the obtainment of the water from Cali (the departmental capital), the expansion of the water network of the Fraile river in Florida and the extraction of water from the Bolo river in Pradera [45].

These two latter options were problematic, considering that the communities of Florida and Pradera were afraid of lacking their own water supply, because of the expansion of their water networks [46]. The mayor of Candelaria filed a lawsuit through a writ for protection of fundamental water rights against the municipalities of Florida and Pradera [5]. The public utility company called Society of Aqueducts and Sewers of Valle del Cauca (ACUAVALLE) in charge of the construction of the aqueduct also initiated a lawsuit through a class

action. After three years and under the pressure of inhabitants from Villagorgona, the second solution was initiated. The community of Florida reacted against this project, arguing that Candelaria has near the Desbaratado, Cauca and Párraga rivers that can be used for its water supply [46].

Only as a result of this conflict between municipalities environmental activists became aware of how the rivers Desbaratado, Cauca and Párraga have been strongly contaminated by the agroindustry of sugarcane and the groundwater has been used for extensive agricultural activities [5]. The Mayagüez, Manuelita and Incauca sugarcane mills and private landowners, who rent their land for the production of sugarcane have been identified as the main users of water in the region [47] [48] [49]. Water treatment to the contaminated rivers is very costly; therefore, the use of the water from the river Fraile in Florida was considered by the municipality of Candelaria the best option to be taken.

The impossibility to obtain water from the rivers around the Candelaria municipality, as a result of the activities of the sugarcane agroindustry and the irresponsibility of the highest environmental authority (Regional Autonomous Corporation of Valle del Cauca (CVC)) suggest that there was a political manipulation to deflect attention from the real actors that were using and affecting the essential water bodies which could have provided the drinking water to the population of Villagorgona many years ago.

On the 6th of March 2015, the Mayor's Office of Candelaria announced finally that after fifty years of the absence of water service, the community of Villagorgona could have its aqueduct, bringing the water supply from Florida with the investment of COP $17.000 million [46]. Although Villagorgona was able to solve its deficiency of drinking water through the construction of an aqueduct, the contamination of the rivers Desbaratado, Cauca and Párraga by the sugarcane agroindustry and the lacking of groundwater by the use of agriculture activities are still present.

Country

Colombia

State or Province

Valle del Cauca

Location of the Conflict

Villagorgona

Accuracy of Location

High local level

Project area

25000

Type of population

Urban

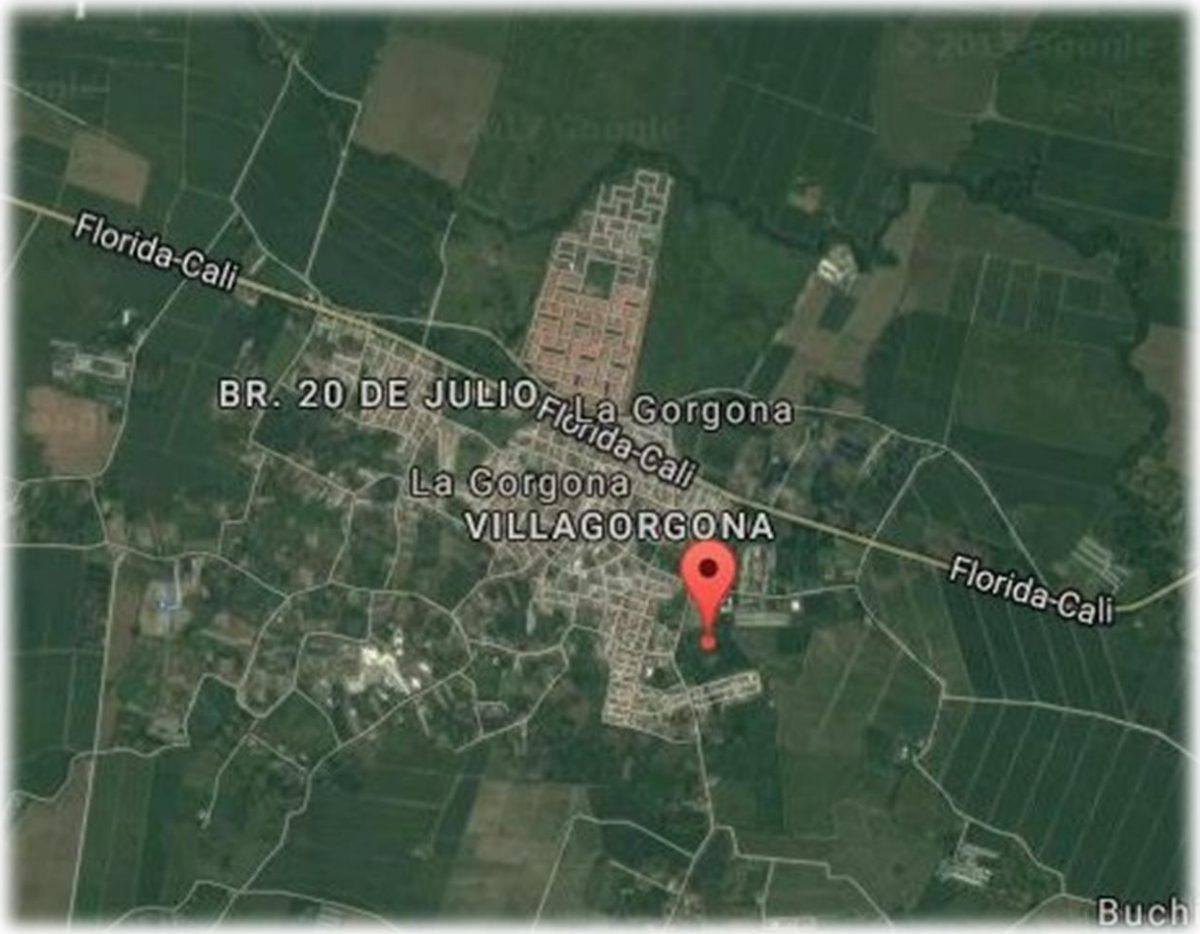
Latitude

3.392258

Longitude

-76.382525

Map by Google



<u>Source of Conflict</u>

Type of conflict: 1st level

Water Management

Type of Conflict (2nd level)

Water access rights and entitlements

Water treatment and access to sanitation (access to sewage)

Dams and water distribution conflicts

Plantation conflicts (incl. Pulp)

Specific Commodities

Water

Sugar

Other types of conflict

Cultivations of sugarcane, agricultural activities and drinking water supply

Project Details and Actors

Level of Investment

5,638,350.3344

Affected Population

27000

Company names or state enterprises

Society of Aqueducts and Sewers of Valle del Cauca (ACUAVALLE)

Municipal Firemen of Candelaria

The public utility company of Emcandelaria

Mayagüez sugarcane mill

Manuelita sugarcane mills

Incauca sugarcane mills

Relevant government actors

Regional Autonomous Corporation of Valle del Cauca (CVC)

the departmental governorship of Valle del Cauca

The Mayor's Office of Candelaria, Pradera and Florida

Environmental justice organizations (and other supporters) and their websites, if available

Community Aqueducts of the Valle del Cauca

Council of the Municipality of Candelaria

Conflict and Mobilization

Intensity of conflict

High (widespread, mass mobilization, violence, arrests, etc...)

When did the mobilization begin

Mobilization for reparations once impacts have been felt

Start of the conflict

1953

End of the conflict

2015

Groups mobilizing

Farmers

Landless peasants

Local government/political parties

Neighbours/citizens/communities

Social movements

Local scientists/professionals

Forms of mobilization

Community-based participative research (popular epidemiology studies, etc..)

Creation of alternative reports/knowledge

Development of a network/collective action

Involvement of national and international NGOs

Media based activism/alternative media

Official complaint letters and petitions

Public campaigns

Occupation of buildings/public spaces

Arguments for the rights of mother nature

Impacts of the project

Environmental impacts

Potential: Biodiversity loss (wildlife, agro-diversity), Desertification/Drought, Surface water pollution / Decreasing water (physico-chemical, biological) quality, Groundwater pollution or depletion, Large-scale disturbance of hydro and geological systems, Reduced ecological / hydrological connectivity

Health impacts

Visible: Infectious diseases

Potential: Malnutrition

Socio-economic impacts

Potential: Increase in Corruption/Co-optation of different actors

Outcome

Current status of the project development

Stopped

Conflict outcome / response

Compensation

Environmental improvements, rehabilitation/restoration of area

Negotiated alternative solution

Strengthening of participation

Technical solutions to improve resource supply/quality/distribution

Application of existing regulations

Do you consider this an environmental justice success? was environmental justice served?

Not sure

Briefly explain

The municipality of Candelaria took more than 50 years to provide adequate drinking water coverage and it was only in 2010 that the construction of the aqueduct was undertaken. There is no victory of environmental justice since the generators of the conflict such as the cultivation of sugarcane have not assumed any commitment or have assumed costs for the implementation of its solution.

Other Documents

Pictures

Town of Villagorgona, Candelaria. Photo by the Mayor's Office of Candelaria, Public Domain, http://candelaria-valle.gov.co/apc-aa-files/663664663163666133376265353366 31/VILLA_GORGONA_3_2.jpg

Socio-Environment Conflict in Villagorgona: Water Supply from Rivers and Cultivation of Sugarcane. Photo by Stephanye Zarama-Alvarado.

Final Contribution

The contribution of this case of socio-environmental conflict to the Environmental Justice Atlas can be found in the following link: https://ejatlas.org/conflict/drinking-water-candelaria-colombia

Conclusions

The descriptive analysis of these three socio-environmental conflicts document the ways, in which the geographical expansion of the sugarcane agroindustry in the valley of the Cauca River of southwestern Colombia, has brought serious environmental impacts that have affected the means of life of the local communities.

Four main stakeholders are involved in these cases: the agroindustry, different levels of the state (particularly regional environmental authorities and municipalities), nature itself (water, land, biodiversity) and local communities and their organizations, sometimes linked to national and international supporting institutions. There is a power imbalance between the first two actors and the latter two. It is expected that the state protects nature and the rights of the people to live with dignity, but this is not happening.

The abandonment of these communities by the state has allowed the uncontrolled expansion of the sugarcane plantations, often associated to the on-going civil war in the country and the related land-grabbing process. This has produced environmental degradation and economic inequity. The exploitation of nature for agroindustry in these territories has caused biodiversity loss, water scarcity, contamination of rivers, land dispossession, soil erosion and the homogenization of the landscapes.

The compilation of these conflicts questions the official discourse in favor of sugarcane agroindustry as the main motor of development for the departments of Cauca and Valle del Cauca. I argue that there is an urgent need to think about the social and environmental consequences of the expansion of sugarcane agroindustry, endorsed by the Colombia state.

Urban and rural local communities have taken part in environmental protests through lawsuits, peaceful and violent manifestations and requests for information and action by the state. The dispersion of these environmental resistances -the lack of a coordinated network - has partly allowed the on-going expansion of the agro-industry and its social and environmental impacts, which cannot, or will not, be controlled effectively by the state.

The deployment of different strategies by the communities for denouncing the existence of these ecological distribution conflicts are paramount for creating pressure to the environmental authorities to finding solutions to their situation. The support of academia through detailed documentation is also fundamental for strengthening and legitimizing such vindications. The online database of EJ Atlas can contribute to this aim.

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Interviews

Inhabitants, Case of environmental conflict in the rural settlement Lomitas Arriba and Lomitas Abajo

Annexes

- Three cases of socio-environmental conflicts were reported to the Environmental Justice Atlas (EJ Atlas) taking into consideration the following Database Form:

Figure 1. Interactive Presentation of the Online Tool EJ Altas

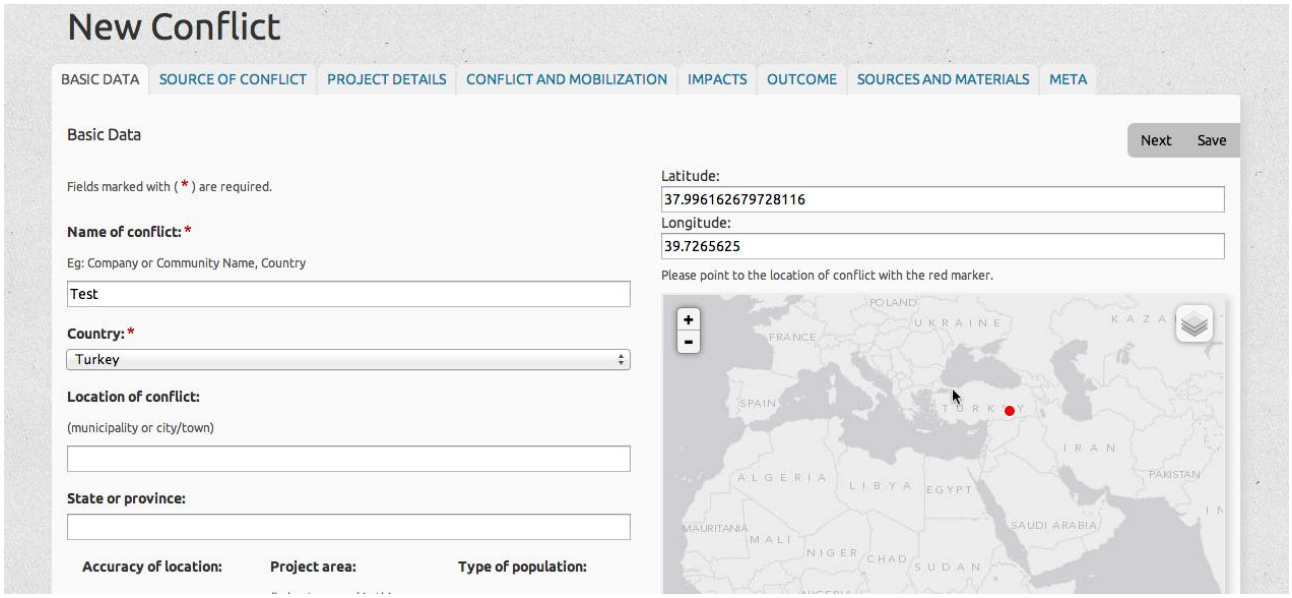

Figure 2. The fulfillment of the EJ Atlas' database form.

Table 1. Structure of Data Collected in the EJ Atlas.

Page 1 - Basic Data	
Name of conflict* Eg: Company or Community Name, Country	
Country*	
Location of conflict (municipality or city/town):	
State or Province	
Accuracy of Location	HIGH local level MEDIUM regional level LOW country/state level
Project Area (in hectares and in this format: 1,000)	
Type of population	Unknown Urban Semi-urban Rural
Page 2 - Source of Conflict	
Type of Conflict 1st level* (Please pick one based on the activity most responsible for the environmental disturbance)	● Nuclear ● Mineral Ores and Building Extractions ● Waste Management ● Biomass and Land Conflicts ● Fossil Fuels and Climate Justice/Energy ● Water Management ● Infrastructure and Built Environment ● Tourism Recreation ● Biodiversity Conservation Conflicts ● Industrial and Utilities Conflicts
Type of Conflict please pick all relevant	✓ Uranium extraction ✓ Nuclear power plants ✓ Nuclear waste storage ✓ Mineral ore exploration ✓ Mineral processing ✓ Tailings from mines ✓ Building materials extraction (quarries, sand, gravel) ✓ Ship-breaking yards ✓ Waste privatisation conflicts / waste-picker access to waste ✓ Incinerators ✓ Landfills, toxic waste treatment, uncontrolled dump sites ✓ Land acquisition conflicts ✓ Plantation conflicts (incl. pulp) ✓ Logging and non timber extraction ✓ Deforestation ✓ Agro-toxics ✓ GMOs ✓ Agro-fuels and biomass energy plants

	✓ E-waste and other waste import zones ✓ Aquaculture and fisheries ✓ Intensive food production (monoculture and livestock) ✓ Oil and gas exploration and extraction ✓ Shale gas fracking ✓ Gas flaring ✓ Oil and gas refining ✓ Coal extraction and processing ✓ Climate change related conflicts (glaciers and small islands) ✓ REDD/CDM ✓ Windmills ✓ Mega-project solar plants ✓ Geothermal energy installations ✓ Water access rights and entitlements ✓ Desalination ✓ Interbasin water transfers/transboundary water conflicts ✓ Dams and water distribution conflicts ✓ Water treatment and access to sanitation (access to sewage) ✓ Transport infrastructure networks (roads, railways, hydroways, canals and pipelines) ✓ Ports and airport projects ✓ Pollution related to transport (spills, dust, emissions) ✓ Urban development conflicts ✓ Tourism facilities (ski resorts, hotels, marinas) ✓ Establishment of reserves/national parks ✓ Wetlands and coastal zone management ✓ Biopiracy and bio-prospection ✓ Invasive species ✓ Manufacturing activities ✓ Metal refineries ✓ Chemical industries ✓ Other industries ✓ Military installations ✓ Thermal power plants ✓ Other
Other Types of Conflict Please insert other types of conflict which are not in the list above	
Description * Please describe the project and the point of conflict here in ~500 words.	
Specific Commodity*	■ Aluminum/Bauxite ■ Asbestos ■ Asphalt ■ Biological resources ■ Carbon offsets ■ Cellulose ■ Cement ■ Charcoal ■ Chemical products ■ Coal ■ Coffee

	■ Copper ■ Corn/Maize ■ Cotton ■ Crude oil ■ Cut flowers ■ Diamonds ■ Domestic municipal waste ■ Ecosystem Services ■ Electricity ■ Ethanol ■ Eucalyptus ■ E-waste ■ Fish ■ Fruits and Vegetables ■ Gold ■ Industrial waste ■ Iron ore ■ Jatropha ■ Land ■ Lead ■ Lithium ■ Live Animals ■ Manufactured Products ■ Meat ■ Natural Gas ■ Palm oil ■ Pesticides ■ Pine ■ Rare metals ■ Recycled Metals ■ Rice ■ Rubber ■ Sand, gravel ■ Shrimps ■ Silver ■ Soybeans ■ Steel ■ Sugar ■ Timber ■ Titanium ores ■ Tourism services ■ Uranium ■ Water ■ Wheat ■ Zinc ■ Other (please specify below)
Other commodities	
Page 3 - Project Details and Actors	
Project details (Please insert specific details on the relevant quantitative data eg tons of mineral extracted per year, kwh of electricity, etc...):	
Level of investment (Please enter in USD and in this format: 1,000,000,000.00)	

Directly Affected people (It may also be a range)	
Company names or State enterprises	
Relevant government actors	
Home country (The country/-ies where the company/-ies main office is/are)	
International and financial Institutions (Insert please the full name and avoid acronyms)	
Environmental justice organisations and other supporters (Please insert also their websites)	
Page 4 - The Conflict and the Mobilization	
Status of the conflict* Please pick according to the highest intensity based on degree of mobilization and level of conflict	➢ High (Widespread, Mass mobilization, Violence, Arrests,...) ➢ Medium (Street Protest, Visible Mobilization) ➢ Low (Some local organizing) ➢ Latent (No visible organizing at the moment) ➢ Unknown
When did the mobilization begin?	◆ Mobilization for reparation once the impacts have been felt ◆ In reaction to the implementation(during construction or operation) ◆ Preventive resistance (precautionary phase) ◆ Latent (no visible resistance) ◆ Unknown
Is this conflict directly related to any other EJOLT ecological conflict? Please enter the name of the conflict as per the Ejolt inventory	
Start of the conflict* (YYYY/MM/DD)	(YYYY/MM/DD)
End of the conflict (YYYY/MM/DD) (leave blank if ongoing)	(YYYY/MM/DD)
Groups mobilizing (check all that apply)	• Artisanal miners • Ethnically/racially discriminated groups • Farmers • Fishermen • Indigenous groups or traditional communities • Industrial workers • Informal workers • International ejos • Local ejos • Landless peasants • Local government/political parties • Local scientists/professionals • Neighbours/citizens/communities • Pastoralists • Recreational users • Religious groups • Social movements • Trade unions • Wastepickers, recyclers

	• Women • Other (please specify below)
Other groups mobilizing	
Forms of mobilization (check all that apply)	➔ Appeals/recourse to economic valuation of the environment ➔ Arguments for the rights of mother nature ➔ Artistic and creative actions (eg guerilla theatre, murals) ➔ Blockades ➔ Boycotts of companies-products ➔ Boycotts of official procedures/non-participation in official processes ➔ Community-based participative research (popular epidemiology studies, etc..) ➔ Creation of alternative reports/knowledge ➔ Development of a network/collective action ➔ Development of alternative proposals ➔ Hunger strikes and self immolation ➔ Involvement of national and international NGOs ➔ Land occupation ➔ Lawsuits, court cases, judicial activism ➔ Media based activism/alternative media ➔ Objections to the EIA ➔ Occupation of buildings/public spaces ➔ Official complaint letters and petitions ➔ Property damage/arson ➔ Public campaigns ➔ Referendum other local consultations ➔ Refusal of compensation ➔ Sabotage ➔ Shareholder/financial activism. ➔ Street protest/marches ➔ Strikes ➔ Threats to use arms ➔ Other (please specify below)
Other forms of mobilization	
Page 5 - Environmental impacts	Visible (V) or Potential (P)
Air pollution	
Biodiversity loss (wildlife, agro-diversity)	
Desertification/Drought	
Fires	
Floods (river, coastal, mudflow)	
Food insecurity (crop damage)	
Genetic contamination	
Global warming	
Loss of landscape/aesthetic degradation	
Noise pollution	

Soil contamination	
Soil erosion	
Waste overflow	
Oil spills	
Deforestation and loss of vegetation cover	
Surface water pollution / Decreasing water (physico-chemical, biological) quality	
Groundwater pollution or depletion	
Large-scale disturbance of hydro and geological systems	
Reduced ecological / hydrological connectivity	
Mine tailing spills	
Other Environmental impacts	*OTHER IMPACTS…*
Page 6 - Health impacts	Visible (V) or Potential (P)
Accidents	
Exposure to unknown or uncertain complex risks (radiation, etc…)	
Malnutrition	
Mental problems including stress, depression and suicide	
Violence related health impacts (homicides, rape, etc..)	
Health problems related to alcoholism, prostitution	
Occupational disease and accidents	
Infectious diseases	
Deaths	
Other environmental related diseases	
Other Health impacts	*OTHER IMPACTS…*
Page 7 - Socio-economic impacts	Visible (V) or Potential (P)
Increase in Corruption/Co-optation of different actors	
Displacement	
Increase in violence and crime	
Lack of work security, labour absenteeism, firings, unemployment	
Loss of livelihood	
Loss of traditional knowledge/practices/cultures	
Militarization and increased police presence	
Social problems (alcoholism, prostitution, etc..)	
Specific impacts on women	
Violations of human rights	
Land dispossession	
Loss of landscape/sense of place	

Other socio-economic impacts	*OTHER IMPACTS…*
Page 8 – Outcome	
Current status of the project development *	× Unknown × Proposed (exploration phase) × Planned (decision to go ahead eg EIA undertaken, etc) × Under construction × In operation × Stopped
Conflict outcome / response (check all the outcomes that apply)	➢ Application of existing regulations ➢ Compensation ➢ Corruption ➢ Court decision (failure for environmental justice) ➢ Court decision (undecided) ➢ Court decision (victory for environmental justice) ➢ Criminalization of activists ➢ Deaths ➢ Environmental improvements, rehabilitation/restoration of area ➢ Fostering a culture of peace ➢ Institutional changes ➢ Land demarcation ➢ Migration/displacement ➢ Moratoria ➢ Negotiated alternative solution ➢ New Environmental Impact Assessment/Study ➢ New legislation ➢ Project cancelled ➢ Project temporarily suspended ➢ Repression ➢ Strengthening of participation ➢ Technical solutions to improve resource supply/quality/distribution ➢ Under negotiation ➢ Violent targeting of activists ➢ Withdrawal of company/investment ➢ Other (please specify below)
Other outcomes	
Development of Alternatives (What are the proposals being brought forward and by what ejos)	
Do you consider this an Environmental Justice success? Was environmental justice served? *	Yes No Not Sure
Briefly explain*	
Page 9 - Sources and Materials	
Relevant laws and legislations	
References (Article, book, etc)	
Web links - related web pages, news articles, etc	

Related Media (link to photos, videos, etc)	
Other documents (here you may upload a photo, video, pdf, etc.)	
Other comments (Please feel free to add here whatever further comment or additional information you might have)	
Page 10 – Contact Data	
Contributor: Your Name/email/organization *as you want it to appear on the Atlas (this data will be public. Leave it blank if you don't want to make any data public)*	
Meta Data (any commuication with the editors should be inserted here)	

For more details about the database form go to www.ejatlas.org

- **Evidences of photos collected through the fieldwork carried out in the rural settlement of Lomitas**

  Tour around the sectors of Lomitas Arriba and Abajo detecting the impacts of the sugarcane agroindustry.

Figure 3. The Rural Settlement of Lomitas Arriba. Photo by Stephanye Zarama-Alvarado.

Figure 4. Impact of Sugarcane Plantations on River in Lomitas Abajo. Photo by Stephanye Zarama-Alvarado.

Figure 5. Sugarcane Cultivations near a Farm in Lomitas Abajo. Photo by Stephanye Zarama-Alvarado.

Figure 6. Livestock and Plantations of Sugarcane from a Landowner in Lomitas Abajo. Photo by Stephanye Zarama-Alvarado.

Figure 7. Plantations of Sugarcane from La Cabaña Sugar Mill. Photo by Stephanye Zarama-Alvarado.

Figure 8. Sugarcane Workers from La Cabaña Sugar Mill. Photo by Stephanye Zarama-Alvarado.

Figure 9. Researcher and Sugarcane Workers from La Cabaña Sugar Mill. Photo by Stephanye Zarama-Alvarado.

Figure 10. Lagoon from La Cabaña Sugar Mill. Photo by Stephanye Zarama-Alvarado.

Figure 11. Sugarcane Worker and Cultivation of Sugarcane from La Cabaña Sugar Mill. Photo by Stephanye Zarama-Alvarado.

- Interviews and workshops carried out with the inhabitants from the sectors of Lomitas Arriba and Abajo.

Figure 12. Researcher and Presidents of the Community Action Commitment from Lomitas Arriba and Abajo. Photo by Stephanye Zarama-Alvarado.

Figure 13. Researcher and Presidents of the Community Action Commitment from Lomitas Arriba and Abajo. Photo by Stephanye Zarama-Alvarado.

Figure 14. Interview to Inhabitants from Lomitas Abajo. Photo by Stephanye Zarama-Alvarado.

Figure 15. A farm and Inhabitant from Lomitas Abajo. Photo by Stephanye Zarama-Alvarado.

Figure 16. Interview to Inhabitants from Lomitas Abajo. Photo by Stephanye Zarama-Alvarado.

Figure 17. Workshops with the Local Community of Lomitas. Photo by Stephanye Zarama-Alvarado.

Figure 18. Workshops with the Local Community of Lomitas. Photo by Stephanye Zarama-Alvarado.

Figure 19. Workshops with the Elderly Population of Lomitas. Photo by Stephanye Zarama-Alvarado.

Figure 20. Workshops with the Elderly Population of Lomitas. Photo by Stephanye Zarama-Alvarado.

Figure 21. Workshops with the Elderly Population of Lomitas. Photo by Stephanye Zarama-Alvarado.