TRADITIONAL COMMUNITIES, TRADITIONAL LANDSCAPES? AFRO-DESCENDANT LANDSCAPES IN THE COLOMBIAN PACIFIC REGION

C. Nancy AGUIRRE^{1,2,3,4}

¹Affiliate Researcher, Dept. of Geography and the Environment, The University of Texas at Austin, 305 E. 23rd Street, A3100 RLP 3.306 Austin, TX 78712, e-mail: naguirre@utexas.edu
 ²Geography Commission Research Committee, Pan American Institute of Geography and History (PAIGH), Ex-Arzobispado 29, Colonia Observatorio 11860 Ciudad de México, México
 ³GEOT, Research Group of the Universidad Pedagógica y Tecnológica de Colombia (UPTC), Carrera 30 \$\$48-51, Of. 109, Edificio CIAF, Bogota, Colombia
 ⁴Affiliate Researcher, Observatorio en Gestión de Riesgo de Desastres of the University Bernardo O'Higgins, Av. Viel 1497, Santiago, Chile

Keywords: Traditional landscapes, gendered LULCC, Afro-descendant communities, collective lands, Colombia

Abstract: This work addresses gender dimensions of traditional agricultural landscapes, in collective lands titled to Afro-descendant communities in the Pacific region of Colombia, South America. Historical and current information on environmental, socio-economic and settlement processes provided a comprehensive portrait at a subdivision of the collective land-title "Los Delfines", named "El Cedro". The remote sensing process (a mainstream method for identifying land use and land cover change) helped exploring the spatial setting of this traditional landscape under the lenses of researching their gendered dimensions. Statistical analyses on both census data (secondary data) and survey sample data (fieldwork data) allowed to reassert a set of three groups of gendered land uses, namely, women-akin, men-akin, and gender-inclusive uses. However, a narrative perspective helped to bond previous theoretical, spatial and quantitative outcomes, under the lenses of the practical experience of fieldwork, which also by way of participatory observation and semi-unstructured interviews brought to the researcher (me) valuable insights and information besides the previous outcomes. The found rearrangement of settlement spaces and production systems provided practical indications that women's roles, decisions, and strategies on this traditional landscape have restructured settlement patterns, and landscape dynamics of large areas at heterogeneous spatial and temporal scales.

Introduction

This work addresses traditional landscapes (Antrop 1997, Cullotta and Barbera 2011, Fischer et al. 2012) under lenses of researching gender dimensions of Land Use and Land Cover Change (LULCC) in the last few decades in a collective land titled to Afro-descendant communities in the Pacific region of Colombia, South America, and examines socio-economic and political signifiers affecting land-use decisions, rights, and responsibilities (Aguirre 2013).

Colombian territory encompasses five major regions: Andean, Caribbean, Pacific, Amazonia, and Orinoquia. The Colombian Pacific region is bordered by the Pacific Ocean to the west and the Western Andean mountain range to the east, and includes four secondary level political-administrative units (i.e. the Departments of Choco, Valle del Cauca, Cauca, and Nariño) (Figure 1).

The Pacific region encompasses roughly ten percent of the Colombian territory, is mainly covered by tropical rain forests, and has the world's largest plant biodiversity (IGAC, 2002, Moreno et al. 2016). Law 70 in 1993 recognized collective land rights of rural areas settled by Afro-Colombian communities (Peña 2017) with traditional production practices in the Pacific region, and encompasses three basic endeavors: collective land tenure, cultural identity protection, and improving quality of life through economic and social development (Diario Oficial, No. 41.013, August 31, 1993). Offen (2003: 44) states that "this novel collective land titling project is among the most ambitious and radical territorial reordering ever attempted in Latin America" (Offen, 2003), yet is an ongoing process.

Between 1997 and 2011, community councils in the Pacific coast were able to gain collective land titles to more than 5.2 million hectares, evidencing the recognition of new forms of democratic participation in the 1991 constitution (Almario 2005).

According to IGAC-MADS (2000), due to the Pacific region's geographic location (approximately between 1 to 8 degrees north latitude and 75 to 78 degrees west longitude), its tropical rainforest (heterogeneous forest) climate is mainly influenced by the Intertropical Convergence Zone (ITCZ), maritime air masses with orographic lifting rainfall, and regional phenomena such as the La Niña / El Niño Southern Oscillation (ENSO); this tropical climate is characterized by low annual range temperature with an annual mean rarely exceeding 28°C, and high relative humidity (more than 80% year-round), while mean annual rainfall is amongst the highest in the world, reaching 13,000 millimeters in some areas.

Territorial formation in the Pacific region witnessed processes of slavery and liberation during the 16th to 18th centuries when Spaniards brought African slaves as the principal labor force in gold mining (Sharp 1976, West 1957, Friedeman 1995, Vargas 1999, Tubb 2015). In Colombia, the abolition of enslavement was sanctioned by law in 1851, however, juridical and philosophical controversies lasted for all the independence period wars (Friedemann 1995). Most slaves were sold at mining areas where notary records are now inexistent, although population accountings corresponding to rural Chocó in 1759 lists mining crews of 500 slaves evidencing significant slave investments by some families (Colmenares 1991).

Crews were composed of just men initially (Colmenares 1979) but subsequently included women who became the 'medullar elements of matrifocal families' creating their own language of social and genetic kinship (Romero 1991). According to Romero (1991), the reference for these enslaved groups was the ancestor original of the familiar group that could be a woman – mother or grandmother. It is possible that some freed slaves ceased being itinerants after colonial mines and established at places where they began to create a system that these days is known as 'troncos' (logs): Cognitive groups of consanguineous relatives traced their lineage through both the maternal and the paternal ancestor, with working and inheritance rights on mining lands and crop plots claimed by the founder as the property of their offspring (Friedeman and Briceño 1990).

Independence in 1810 and enslavement abolition in 1851 prompted free slaves to migrate to different locations and thus inhabiting all the Pacific territory. Many of them searched for new places following river courses, coastlines, and old indigenous trails (Jiménez 2000). Manumission (the process of slave liberation after which the slave acquired his/her freedom) engendered a novel colonization process in the region that produced a new territorial appropriation model (Aprile-Gniset 1993). The migration of black communities to the Pacific lowlands caused the retreating of indigenous peoples to upstream areas of many rivers (West 1957, April-Gniest 1993, West 1957, Leal and Restrepo 2003).

'Manumisos' could have followed the life paths of previously illegally freed Cimarron by down streaming various rivers and arriving to the Pacific coast by the end of the 19th century (Mosquera and April-Gniset 2001). Since then, in the middle and lower parts of the Pacific region (lowlands) 'Black Communities' have developed different forms of production and resource access that were, and still are, strongly based on kinship relations (Friedmann 1974); "more than individual property, cleared lands are patrimony of a kin group, and this phenomenon takes the form of a collective property" (Mosquera and April-Gniset 2001).

Nowadays, widespread river networks are the focus of all economic, domestic and social activities of the Pacific region's populations that endure physical and economic marginality with respect to the rest of the country (Oslender 2001 and 2016). Main livelihoods include fishing and agriculture in lower to higher reliefs, and the combination of other activities in each of these areas including hunting, gathering, and logging. Domestic animal breeding has also

been in practice in all ecosystems based on local interchange networks on a seasonal basis (Moreno and Monje 2006).

Working conditions and technological progress are today similar than during colonial times; men and women had been socialized from early ages to work in the jungle, and eventually as proletariat in ports and cities, and kinship has been an effective social resource connecting social networks in both rural and urban areas (Friedemann 1995). The extractive economy has been the economic model practiced in the Pacific region since colonial times: It is aimed at supplying natural resources to external markets and has seen 'boom and bust cycles', each incorporating new products and institutions (Leal and Restrepo 2003, Tubb 2015, Oslender 2001 and 2016). These new cycles have included the collection of plant ivory seeds and latex from rubber trees; logging of red mangroves for their bark tannin; and wood extraction as economically significant since the 1940s (Leal and Restrepo 2003).

Finally, as Losonczy (1999) puts it, these communities are comprised inside a 'mythic mold' resulting from ontological rather than historical records where the latter becomes clear and precise again only in narratives of postcolonial periods: The myth has been replaced by history by erasing black people's collective memory on Africa and slavery.

The objective of this work is to reassert these traditional landscapes based on a gendered approach to its Land Use and Land Cover Dynamics in the last few decades. Within this general purpose the special goal was to show how locally, resettlement processes also resulted in novel spatial rearrangements of land tenure and use in the study area. Practical evidence also shows that current gendered LULCC (GLULCC) have resulted from historical events previous to the last few decades in which this research is focused, under broader and longer traditional societal processes leading to particular customary laws and practices (Aguirre 2013).

Materials and methods

The study area is a subdivision of the collective land "Delfines", namely "El Cedro", in the Department of Choco, in the Pacific region of Colombia, which comprises a large agricultural floodplain surrounded by tropical rain forests. West (1957) introduced the regional perspective of these traditional landscapes: "culturally the area is one chiefly because of its predominant Negroid population; because a common way of life-based mainly on subsistence agriculture, fishing, and primitive mining; and because of similar historical development which differs from that of adjacent areas" West (1957).

The Department of Choco is located in the northern part of the Colombian Pacific region, limiting with Panama, and comprises 31 municipalities, among them Bahia Solano where the study area is located (Figure 1). Out of a total of 32 departments nationally, Choco comprises the highest biodiversity in Colombia (25% of plant and bird species), and hydrological basins with rivers flowing both to the Pacific Ocean and the Caribbean Sea. In the national context, Choco is considered one of most marginal departments, enduring amongst the poorer transportation infrastructure and lowest quality of life.

"Los Delfines", a collective land legally titled to local Afro-descendant communities in the year 2002 to 1,329 families or 5,846 persons (according to INCORA Resolution 03 of December 2002) encloses an area of 67,327 hectares. It is inside the municipality of "Bahía Solano", Corregimiento of the "El Valle", at the coastal area of the Department of Choco. Multiple political-administrative units overlap. "Los Delfines" is delimited by another Afrocollective title named "Jurado" to the north, and the National Natural Park "Ensenada de Utria" and the Afro-collective title "Los Riscales" to the South. Two indigenous *resguardos* (i.e. Boroboro, and El Brazo and Poza Manza) are neighboring to the east. By 2007, the total population in the study area ranged approximately from 2,300 to 2,500 persons (with an average of five persons per family) (NGO Natura 2004). The study area under the Local Community Council (LCC) of El Cedro has an extension of approximately 15,000 hectares and comprises six distinct management areas recognized by their local people (Figure 2). Supervised classification of a LANDSAT TM image shows Land Cover in the El Cedro, including forest, secondary forest, cropland, pastures, and built-up areas, among others (Figure 3).

The El Cedro is located over cretaceous basaltic rocks and quaternary deposits. Landforms include marine and fluvial plains, and low range hills with a maximum relief of 800m in some areas (but more commonly of 300m). Poorly drained, acid soils, with low to moderate fertility are most common. The main rivers inside the study area include "El Valle" (the largest one), "Boroboro", "Tundo", and "Nimiquia".

This rural area, where traditional land uses and livelihoods still prevail, is currently almost uninhabited (but essentially in use) with locals now clustered inside a small village (i.e. El Valle). In the field, this area was 'surveyed' using satellite images, thematic maps, global positioning systems, and exploratory walkthroughs. Participatory observation, structured interviews with men and women at the individual and household levels, and unstructured/semistructured interviews with open-ended questions to many local community leaders, and governmental and non-governmental organizations' officials working in this region were also conducted. Empirical evidence allowed identifying gender-based time allocation, resource-use power relations, and reproductive strategies (Aguirre 2013).

Reflection on the knowledge that may be produced or constrained about these traditional communities' landscapes was based on Land Use and Land Cover Change (LULCC) surveys, particularly on image processing and interpretation (i.e. remote sensing) for visualization and representation, and on the collection of 'data' by way of structured surveys/interviews (Aguirre 2013). Main land-use categories in the El Cedro were further compared with the Anderson et al. (1976) hierarchical "resource-oriented" Land Use and Land Cover Classification System for Use with Remote Sensor Data, in land use planning and management activities. Notwithstanding that this classification was developed to meet the needs of Federal and State agencies in the US, it served to better explain and compare the local settings, as the research was undertaken under a doctoral dissertation defended in this country.

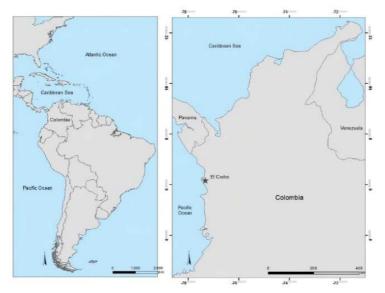


Figure 1. Location of the studied area

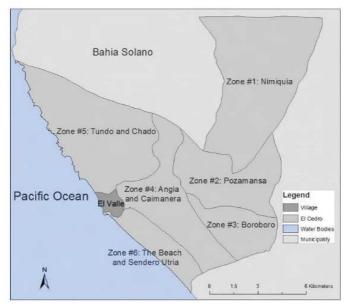


Figure 2. "El Cedro", inside the collective land title "Los Delfines"

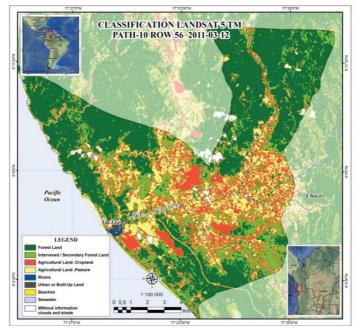


Figure 3. Supervised classification of Land Cover (2011, El Cedro)

Statistical procedures to both primary and raw secondary datasets on socioeconomic, cadastral, and land use questions at the research area provided ancillary data for gendered land use assessment. Raw secondary data of a twofold census survey (NGO Natura 2004) on the relative location of 'fincas' (farms) including their land use and tenure types, and on demographic information with emphasis on the educational attainment of local inhabitants were analyzed. Primary data was also obtained by conducting structured and semi-structured interviews during a fieldwork campaign that took place in 2006–2007. The resulting figures sought to assess whether or not statistical models could also help explain or reinforce evidence on gendered land use obtained by qualitative and spatially explicit research methods (Aguirre 2013).

Finally, a narrative perspective of gendered land use and land cover change GLULCC helped to bond, previous theoretical, spatial and quantitative outcomes, under the lenses of the practical experience of fieldwork that brought to the researcher valuable insights and

information besides the previous outcomes. The results of the research undertaken, which are explained in the next section are those bonded by this narrative of traditional landscapes in the study area.

Results and discussion

Assessments of the demographic development of the Pacific region by Mosquera and Aprile, (2001) suggest that down streaming the rivers Atrato, San Juan, and Baudo in the Department of Choco, African slaves arrived to the pacific coast by the end of 19th century; during 1920 to 1930 more than 60 small villages were founded in the coastal areas, with fishing economy playing an important role in their livelihoods; after 1930 current configuration of coastal settlements remains basically the same. The exploitation of ivory plant and rubber (latex) during the second half of the 19th century until the first decades of the 20th century fostered the consolidation of migratory processes to these coastal areas in the Pacific region (April-Gniset 1993, Valencia and Villa 1992). Mosquera and Aprile, (2001), thus propose a generalized settlement process for the pacific lowlands: Collectors of ivory plant and rubber (mainly black settlers) arrived at a given location and established a small settlement with one or two families; other groups that were part of the latter families arrived at locations close to the previous settlement, and established their livelihoods there; each settlement core was connected to the other by way of their family members, which in turn participated in the formation of other settlements through 'reciprocal marriage exchange', and the 'inter-village circulation of spouses (the "exchange of couples" probably fostered development of productive forces in the area, while the resulting demographic growth prompted the transition from collection to agriculture).

Today the territory of the El Cedro (El Valle) may be broadly subdivided into four main or primary land use (and land cover) types, plus one secondary land-use type that are openly differentiated and recognized by the community (Table 1), namely: Monte (bravo and viche), Respaldo, Rastrojo –including Potreros (Figure 6) for cattle raising, the El Valle village (Figure 7**Hiba! A hivatkozási forrás nem található.**), and Azoteas (Figure 8) (Aguirre 2013). The Monte is often part, or all, of the Respaldo. The marginal portion of fincas (farms) due to their access difficulty, their lower quality of soils, or their higher costs of production (Doolittle 1988), more general is named Respaldo; alternatively, these lands are reserved for both logging and hunting activities and for inheritance purposes more general. Thus, Respaldo may overlap or correspond completely with those lands that are identified as Monte bravo or Monte viche. Hitherto, Respaldo is considered as an integral part of fincas and therefore hold customary (or legal) property rights. Yet, the ways in which the Respaldo is used, are normally the result of verbal agreements on who could use these lands and for which purposes (e.g. family, neighbors, community; for logging, hunting, or gathering). Azoteas are elevated container gardens found in all the pacific lowlands next both to rural and urban houses.



Figure 4. Monte bravo (right); Monte viche (left)



Figure 5. Rastrojo in the El Valle River natural levees



Figure 6. Potrero in the pathway to Utria



Figure 7. Urban and built-up area of El Valle village



Figure 8. Azoteas in the village

The above renders the classification process problematic considering that added uses (significances) diverging from land use and land cover properly (including those related to tenure and nuances of use conditions, or that are symbolic) may be also important for thorough local classification schemes.

Under a land use and land cover classification scheme (e.g. Anderson et al. 1976) the above may be broadly interpreted as follows: Monte bravo, approximately corresponding to primary forest with different levels of fragmentation and relatively less fertile soils; Monte viche, approximately corresponding to secondary forest, mixed bushes and shifting agriculture; Rastrojo, corresponding to agricultural lands, pastures (Potrero), mixed agricultural lands, bushes and pastures, and gardens; and Azoteas, which are elevated container gardens found in all the pacific lowlands next both to rural and urban houses. These could be further grouped into four terrain mapping units more general:

i.) Denudational hills comprising most Monte bravo, are exclusively used for hunting and logging and are primarily men's spaces, whereas hill slopes that are often covered by Monte viche, and shifting cultivation, are gender-neutral or inclusive spaces (Figure 9).

ii.) Alluvial floodplains in which most Rastrojo (including Potreros) and patches of Monte viche are found. These plains comprise a larger portion of fincas (farms). Natural levees and river terraces are among the best farmlands; whilst parts of fincas are cultivated for about six years and then abandoned. Alternatively these fincas are cultivated every other year if planted in maize or sweet manioc. Rice is often grown on back swamps (Figure 10).

iii.) Beach ridge areas of marine and fluvial origin. To the north, beach ridges formed on top of Mesozoic rocks (erosional coastline). These are the preferred areas to private properties of inhabitants from the interior of the country who acquired those lands around 30 years ago for tourism and leisure purposes. 20 years ago, these beach ridges that are intersected by head shores and rock formations, were sites of abundant clams (shelve fish). To the southern part of the study area are found a larger extension of beach ridges (approximately 9km in length). These areas have been traditionally owned by locals with very few exceptions. Today its landforms comprise many fincas (farms). Coconut, sweet manioc and pineapple are among the main crops (Figure 11).

iv) Ciudad Mutis-El Valle road corridor (on denudational hills and floodplains), comprise Monte viche, Rastrojo and many Potreros. Mixed secondary forest, bushlands and pastures are found. This area is rich in fruit and palm trees such as ivory nut, and rubber, among others. Due to its high accessibility, this corridor is preferred by women and children for gathering seeds, tree products, and medicinal plants (Figure 12).



Figure 9. Monte bravo in denudational hills



Figure 10: Rastrojo in alluvial plains of the El Valle River



Figure 11. Leisure and Rastrojo in northern beach ridges



Figure 12. Monte viche and Rastrojo in the Ciudad Mutis-El Valle corridor

Local (translated to USA *) Classification schemes		Gendered Space			Gendered Use		
Level I	Level II	Physical Characteristics	Ŷ	8	В	Ŷ	б
Monte (* Forest Land - Tropical rain forest - may include Forested Wetland)	Monte bravo (Primary Forest)	Denudational terrain, higher relief, relatively less fertile soils, slash and mulch shifting cultivation		6			Logging, Hunting
	Monte Viche (Secondary Forest)	Hill slopes, upstream tributary floodplains, upstream main river floodplain			В	Gathering, Animal husbandry (E),	Logging, Hunting, Fishing

Table 1: Gendered S	Success and Lines	in the El Codro	$(\Lambda a 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 $
<i>Table 1.</i> Gendered 3	spaces and Uses	In the El Cedro	(Aquiffe 2015)

Respaldo (* Forest and Transition between Forest and Agriculture)	Partial or complete overlap with Monte (Forest land)	Marginal lands and/or to be inherited			В	Gathering, Fishing, Animal husbandry (E),	Logging, Hunting, Fishing None
	Cropland	Best soils, flatter relief; closer to rivers, the village, and the sea			В	Agriculture, Animal husbandry (E), Gathering, Fishing	Agriculture, Fishing
Rastrojo (* Agricultural Lands)	Azoteas (Nurseries, Horticulture)	Neighboring to houses	♀ E			Gardening (Nurseries, Horticulture) (E)	
	Potrero (Pastures)	Farther to the village, close to rivers and roads, low relief, soils of any quality			В	Cattle raising (I), Gathering, Animal husbandry (E)	Cattle- raising (I)
El Valle village (* Urban or built- up area)	Residential	Multiple-unit structures of urban cores, high to low density, farmsteads, rural residential and recreational subdivisions, may have forest or agriculture			В	Paid labor (I), Handcrafts (I), Gardening (I), Animal husbandry (I)	Paid labor (I), Handcrafts (I), Residential
	•	B = Gender-neutral (F) = Almost Extinct	•	•	•	(I)= Incipient 30-	40 years ago

 $\mathcal{Z} = Men$

(E) = Almost Extinct

* Anderson et al. (1976) Classification scheme Levels I and II. As the research was part of a doctoral dissertation in the USA, this classification scheme was used to help explain local land use and land cover types.

Although the above local classification is widely used in the Colombian Pacific region, nuances of these classes have encroached inside local perceptions and beliefs. It is unclear how perceptions of younger generations towards land and its uses will continue endorsing current classifications. Shifting values towards land may result in fluctuating customary laws throughout time, leading to future assessment opportunities (Le Dû-Blayo 2011, Ho 2016, McKay 2018).

In addition, Monte bravo is basically a men space, whereas Monte viche and Rastrojo are gender-neutral spaces, of both women (including children) and men. Potreros (pastures) are gender-inclusive spaces more general. Inside these chief subdivisions are included subunits resulting both from gender and kinship relations, and symbolic practices, although these boundaries 'are porous and flexible, and patterns of usage change on a seasonal basis' (Arocha 1999). Subsistence farming is still the most important occupation of the population.

Azoteas are exclusively women activity where they grow food plants, cash crops, medicinal plants, and tree species, among other uses (Camacho 2001). This type of gardening is pivotal both to the consolidation and transfer of women's knowledge of their environment and to their social coherence. Various functions of Azoteas have been evidenced by scholars, among them, as food sources, as vessels for food and seed interchange between the broader community members, and as containers for keeping symbolic linkages to their extended families and lands (Leyton et al. 2001, Mena et al. 2001, Camacho 2001). Further research may explain why Azoteas are nearly extinct in the study area, perhaps by continuously losing their value to the community.

Subsistence agriculture in fincas (farms) is an activity in which men and women participate. Pertinent actions such as slashing, cropping, and harvesting are shared both by women (children) and men. However, agriculture is decreasing over time due to a generational value-related change. For younger women who seek to engage in urban types of activities, subsistence agriculture is becoming increasingly a secondary task. Whereas some of the younger men are becoming more inclined to activities such as fishing and logging that could increase more their income.

Fishing (in rivers and the sea) is a gender-neutral activity, which products are intended both for their own consumption and for cash benefits. However, aquatic spaces of rivers and the Pacific Ocean include sites that are used specifically by women and/or men. Women are mainly river fishers and use their own tools for this purpose; but, they also fish in the ocean at bay areas, or close to the shore, at head shores, or near cliffs. During the fieldwork campaign, at the study area women did not drive motored canoes, thus, fishing in open-ocean spaces was commonly performed only by men, who may also fish at rivers.

Livestock raising began in the 1970s. During the early to mid-90s cattle heads augmented while forest clearing increased in many areas resulting in transitions of the forest land cover into grasslands. This is mainly an activity performed by men. New colonizers from the interior of the country fostered the above changes using paid labor for slashing, forest clearing, pasture planting, and cattle raising, among other activities. This deforestation took place mainly along the dirt road to Ciudad Mutis and along a walking path to the Utria National Natural Park.

Likewise, Logging, is exclusively a men's activity. Most part of the logged wood is sold for cash to intermediaries who ship and market these products along the Pacific coast. Currently, logging is one of the major cash sources for men, although wood products are also used by locals for carpentry and construction.

Finally, Animal husbandry takes place close or within the local population's houses (mainly in corrals). Animals are more often raised by women, both for subsistence and for cash income. Notwithstanding, corrals are built largely with the aid of men. One of the most rapidly domesticated animals brought by Spaniards, by the indigenous population, was the pig who used to roam in Rastrojo near inter harvest periods (West 1957), thus playing ecological functions. Traditional pig horde practices are currently disappearing in "El Cedro", and therefore pigs are now largely maintained inside corrals within houses. Other corral animals include chicken and ducks.

Based on the above, and as stated by Bakker and Veldkamp (2008), is worth recognizing that land use properties and land cover properties are closely related but fundamentally different -and that there is a 'causality' between these two where land cover is constantly transformed by land-use change: "While 'primary land use', refers to the traditional concept of land use that directly affects and controls the land cover (e.g. Agriculture and forest as the dominant primary land uses), the secondary land-use does not claim a certain area, nor it has a significant impact on the land cover (e.g. leisure/tourism, extensive grazing, and hunting) and can co-exist with primary land uses and with each other."

On the other hand, labor exchange or cooperative labor groups (minga, mano cambiada, and mateo) are the main ways in which the labor force is provided by these communities for agricultural purposes saliently. Today, some paid labor is used especially for few days of slashing, while wealthier locals may use additional paid labor for cattle raising, and construction, among other activities.

We may assert that currently in the rural research area, men-akin (secondary) land uses (logging, hunting) are under the trend of almost completely controlling Forest land cover in the near future. Whilst the now (women-akin) secondary uses linked to rural agricultural lands (Rastrojo), as are gardening and animal husbandry, are practically collapsed, thus shifting to only agriculture (a primary use) more general. More so, also in Rastrojo, young women are in the trend of either abandoning the gender-neutral/inclusive agricultural-use or of reducing dramatically its frequency (Aguirre, 2013).

Conclusion

It is evident that the collective titling process to afro-descendant traditional communities in the Pacific region of Colombia has been official recognition of historical customary tenure and use of lands. Thus, the causes and consequences of this collective titling of traditional landscapes under the lenses of land use and cover change (as far as this research has shown) must be regarded prospectively as opposed to retrospectively.

Undeniably, the collective titling to the study area in 2002 seemingly controlled unwanted devastating effects of novel colonization land uses by agents and organizations with different (possibly lucrative) interests that could have led to radically different land cover trajectories (and to more impacted livelihoods), imaginably contrasting those envisioned/constructed by these communities (Goyes and South 2015).

But today, the progressively affected productivity is saliently perceived by villagers as a reduced diversification of food-crops, cash-crops, and wood-products throughout time (not only of lower quality). Various formerly cultivated crops have now almost disappeared (e.g. ivory plant, rubber, rice, maize, sugar cane), whilst plantain, and sweet manioc (yucca) that was a minor product, are increasingly becoming the main starch food in the last few decades.

Likewise, it has been asserted that traditional forms of local cooperation among Afro-Colombians are also progressively declining in the El Cedro apparently due to that less time is dedicated to agriculture throughout time (Valencia and Mosquera 2006). Seemingly, age is also an indication of the breakdown process of some secondary land uses, and thus of changes in traditional subsistence livelihoods (under customary tenure) and the landscape. Farms are gradually shifting to lone primary land uses (i.e. agriculture, or pastures, or forest), controlling land cover (causal relation), and hence showing trends towards a downfall of gendered secondary uses in the fields. For younger women who seek to conduct an urban type of activities, subsistence agriculture is increasingly becoming a secondary task. Whereas some of the younger men are inclined nowadays to activities such as fishing and logging that could increase more their income. However further research is needed to assess the novel activities and economies in which local inhabitants are now involved. Albeit, those collective lands already titled to Afro-descendant communities in the Colombian Pacific region need to keep their main traditional production practices to continue being protected by this legal figure in the country. Thus, potential migration processes of the younger population seeking novel livelihoods may be linked to this situation.

The Pacific region has been regarded as a 'cultural landscape' of ethnic groups that embodies a community living project. Although the national government does allocate financial resources to collective titling to afro-descendant communities (Melo 2015a), Local Community Councils (LCC) claim not envisaging coherent actions leading to the promised development objectives after collective titling (LCC personal communication).

It has been stressed that Afro-descendant communities' most valuable asset is land (Camacho 1999), making land use and cover dynamics even more closely linked to land tenure. Now that tenure has been secured for the El Cedro community under the sanctioned collective land title of 2002 (Law 70) the progression of kin relations and customary rules to their ethnic identities is yet to come to light. Decisions outside the collective land have affected these community in countless ways, including armed conflict processes, and development and territorial plans at national and subregional scales; indeed, in the near future, one of strongest impacts could be the proposed construction of transportation infrastructure connecting the El Valle village to the interior of the country via Nuqui (a neighboring village), which is an existing government plan. To be sure, interrelations between social and environmental processes will continue changing in many complex ways -particularly those linked to the

Colombian contemporary armed conflict peace process-, including insecurity for land claimants, disputes among regional and national elites, challenges to identify land rights' beneficiaries and contradictions between development and restitution policies (Melo 2015b). The latter, notwithstanding conjunctional agrarian politics "of land and territory that "unfold below the surface" of what is legible through a simplified understanding of post-conflict geographies" (Eloisa 2017).

Although African culture still prevails, vivid memories have sunk under centuries of social changes. And these changes have resulted in novel reconfigurations of livelihoods and landscapes. Afro-Colombians have created the Monte, Rastrojo, Azoteas, and their Respaldo, in sum, their traditional landscapes. These were the foundation for the passing of Law 70 in 1993, which sanctioned the titling process of collective lands to Afro-descendant communities in the Pacific region with traditional livelihoods and long settlement histories, and for the protection of cultural and ethnic identities of the "Black communities" of Colombia.

But outstandingly, according to the found rearrangement of settlement spaces and production systems inside this collective title, it was manifest that women's role on LULCC, as well as their decisions and strategies, have significantly restructured settlement patterns, and land-use dynamics at various spatial and temporal scales to produce these 'traditional landscapes' (Aguirre 2013). Recognition of the gender dimensions of these traditional landscapes could significantly support more sound development and territorial initiatives to these communities by acknowledging their landscapes and community values; by protecting and supporting knowledge transfer of traditional agriculture, Azoteas, and animal husbandry, and thus food security, and by opening new avenues for improved economies based on their traditional livelihoods.

Acknowledgment

C. N. Aguirre was supported by the Fulbright/OAS Graduate Fellowship, the International Fellowship for Study or Research from the American Association of University Women (AAUW), and the University of Texas at Austin's Donald D. Brand Pre-Dissertation Fellowship, Robert E. Veselka Endowed Fellowship for Graduate Research Travel, Tinker Foundation Travel Grant, Bruton Student Endowment Fellowship, and the Faculty Sponsored Fellowship from the Center of Environmental Studies in Latin America (CESLA). My appreciation to the affiliated organizations in Colombia that supported this research including the Local Community Council of the El Cedro, the National Geographic Institute "Agustin Codazzi", the National University of Colombia, and the Alexander von Humboldt Institute for Research on Biological Resources. The author is grateful to Kelley Crews, for her mentorship and vision towards completion of this endeavor; and to Jaime Arocha, William Doolittle, Bjorn Sletto, Charles Hale, and Brian King for their valuable insights throughout the development of this research.

References

- Aguirre, C.N. 2013: Work streaming/mainstreaming gendered land use and land cover change (GLUCC): Afrodescendant communities in the Pacific Region of Colombia (Doctoral Dissertation), The University of Texas at Austin, Austin.
- Almario, G. O. 2005: De la memoria de la esclavitud al cuestionamiento de la exclusión social y el racismo. Etnias y Política (2): 177–202.
- Anderson, J., Hardy, E., Roach, J., Witmer, R. 1976: A land Use and land cover classification system for use with remote sensor data. U.S. Geological Survey Professional Paper 964, 28p. United States Government Printing Office: Washington, USA.
- Antrop, M. 1997: The concept of traditional landscapes as a base for landscape evaluation and planning. The example of Flanders Region. Landscape and Urban Planning 38(1): 105–117.
- Aprile-Gniset, J. 1993: Poblamiento, hábitats y pueblos del Pacifico. Universidad del Valle: Cali, Colombia.
- Arocha, J. 1999: Ombligados de Ananse: Hijos Ancestrales y Modernos en el Pacifico Colombiano. CES: Bogota, Colombia.
- Bakker, M., Veldkamp, A. 2008: Modelling land change: the issue of use and cover in wide-scale applications. Journal of Land Use Science 3(4): 203–213.

- Camacho, J. 1999: Todos tenemos derecho a su parte: derechos de herencia, acceso y control de bienes en comunidades negras de la costa Pacífica chocoana. In (Eds.) Camacho J., and Restrepo E. 1999: De Montes, Ríos y Ciudades: Territorios e Identidades de la Gente Negra en Colombia. Fundación Natura, Instituto Colombiano de Antropología, Ecofondo: Santa Fe de Bogota, Colombia.
- Camacho, J. 2001: Mujeres, zoteas y hormigas arrieras: Prácticas de manejo de flora en la costa Pacífica chocoana. In (Eds.) Fundacion Natura and Fundación Swissaid. 2001. Zoteas: Biodiversidad y relaciones culturales en el Chocó biogeográfico Colombiano. Intempo Editorial: Bogotá, Colombia, pp. 35–59.
- Colmenares, G. 1979: Historia económica y social de Colombia Tomo II: Popayán una sociedad esclavista 1680– 1800. La Carreta: Bogotá, Colombia.
- Colmenares, G. 1991: Los Esclavos en la Gobernación de Popayán. 1680-1780. Nuevas Lecturas de Historia No. 15. Publicaciones del Magíster en Historia. Universidad Pedagógica y Tecnológica de Colombia: Tunja, Colombia.
- Cullotta, S., Barbera, G. 2011: Mapping traditional cultural landscapes in the Mediterranean area using a combined multidisciplinary approach: Method and application to Mount Etna (Sicily; Italy). Landscape and Urban Planning 100(1): 98–108.
- Diario Oficial, No. 41.013, August 31, 1993: Imprenta Nacional de Colombia: Bogotá, Colombia.
- Doolittle, W. 1988: Intermittent use and agricultural changes on marginal lands: the case of smallholders in Eastern Sonora, Mexico. Geografiska Annaler 70B: 255–265.
- Eloisa, B. A. 2017: Making space in the "Territorial Cracks." Afro-Campesino politics of land and territory in the Colombian Caribbean (Doctoral Dissertation) University of North Carolina at Chapel Hill.
- Fischer, J., Hartel, T., Kuemmerle, T. 2012: Conservation policy in traditional farming landscapes. Conservation Letters 5(3): 167–175.
- Friedemann, N. 1974: Minería, descendencia y orfebrería artesanal, litoral Pacifico, (Colombia). Editorial Universidad Nacional: Bogotá, Colombia.
- Friedemann, N. 1995: Presencia africana en Colombia. In: (Ed.) D. G. d. C. Presencia Africana en Sudamérica, Populares. 1995: Consejo Nacional para la Cultura y las Artes: México.
- Friedemann, N., Briceño, I. 1990: Lumbalú: ritos de la muerte en Palenque de San Basilio, Colombia. América Negra 65: 64–91.
- Goyes, D. R., South, N. 2015: Land-grabs, biopiracy and the inversion of justice in Colombia. The British Journal of Criminology 56(3): 558–577.
- Ho, T. 2016: Is it already too late for Colombia's land restitution process? International Human Rights Law Review 5(1): 60–85.
- IGAC Instituto Geográfico Agustín Codazzi. 2002: Atlas de Colombia. 5th ed. Imprenta Nacional: Bogotá, colombia.
- IGAC-MADS Instituto Geográfico Agustín Codazzi and Ministerio del Medio Ambiente. 2000: Zonificación Ecológica de la Región Pacifico Colombiana. Graficsa: Bogotá, Colombia.
- Jiménez, O. 2000: El Chocó: vida negra, vida libre y vida parda, siglos XVII y XVIII. (Master's Thesis) Universidad Nacional de Colombia: Medellín, Colombia.
- Leal, C., Restrepo, E. 2003: Unos bosques sembrados de Aserríos: historia de la extracción maderera en el Pacífico Colombiano. Editorial Universidad de Antioquia: Medellín, Colombia.
- Le Dû-Blayo, L. 2011: How do we accommodate new land uses in traditional landscapes? Remanence of landscapes, resilience of areas, resistance of people. Landscape Research 36(4): 417–434.
- Leyton-C, M., Arroyo-V, J., González, M., Valencia, M., Rentería, A., Rentería, G., Vallecilla, M., ODINCA. 2001: Diversidad florística, distribución y manejo de sustratos en zoteas de las comunidades negras del río Cajambre (Pacífico Vallecaucano). In (Eds.) Fundación Natura and Fundación Swissaid. 2001. Zoteas: Biodiversidad y relaciones culturales en el Chocó biogeográfico Colombiano. Intempo Editorial: Bogotá, Colombia, pp. 7–35.
- Losonczy, A. 1999: Memorias e Identidad: los Negros-colombianos del Chocó. In (Eds.) Camacho, J., Restrepo, E. 1999. De Montes, Ríos y Ciudades: Territorios e Identidades de la Gente Negra en Colombia. Giro Editores: Bogota, Colombia, pp. 25–48.
- McKay, B. M. 2018: Democratising land control: towards rights, reform and restitution in post-conflict Colombia. Canadian Journal of Development Studies/Revue canadienne d'études du développement 39(2): 163–181.
- Melo, J. B. 2015a: The intersection of race, class, and ethnicity in agrarian inequalities, identities, and the social resistance of peasants in Colombia. Current Sociology 63(7): 1017–1036.
- Melo, J. B. 2015b: Regional challenges to land restitution and peace in Colombia: The case of the Lower Atrato. Journal of Peacebuilding & Development 10(2): 36–51.
- Mena, A., Escobar, R., García, F., Valencia, R., Copete, S., Neita, J., Mosquera, H., Arboleda, M., ASOCASAN. 2001: Las azoteas como estrategia para la producción de plantas medicinales y alimenticias en comunidades del Alto San Juan, departamento del Chocó. In: Fundación Natura and Fundación Swissaid. 2001. Zoteas:

Biodiversidad y relaciones culturales en el Chocó biogeográfico Colombiano, Intempo Editorial: Bogotá, Colombia, pp. 63–70.

- Moreno, L. A., Andrade, G. I., y Ruíz-Contreras, L. F. (Eds.) 2016: BIODIVERSITY 2016. Status and trends of Colombian continental biodiversity. Research Institute of Biological Resources Alexander von Humboldt: Bogotá, D. C., Colombia.
- Moreno, E., Monje, C. (eds.). 2006: Semillero: una experiencia de jóvenes investigadores. Natura, Escuela Normal Santa Teresita, WWF and European Union: Bogota, Colombia.
- Mosquera, G., Aprile-Gniset, J. 2001: Habitats y sociedades del Pacifico. Volumen 1: La Bahía de Solano. Universidad del Valle: Cali, Colombia.
- Offen, K. 2003: The territorial turn: making black territories in Pacific Colombia. Journal of Latin American Geography 2(1): 43–73.
- Oslender, U. 2001: Black communities on the Colombian Pacific coast and the 'Aquatic space': A spatial approach to social movement Theory (Doctoral Dissertation), University of Glasgow.
- Oslender, U. 2016: The geographies of social movements: Afro-Colombian mobilization and the aquatic space. Duke University Press: Durham, USA.
- Peña, X., Vélez, M. A., Cárdenas, J. C., Perdomo, N., Matajira, C. 2017: Collective property leads to household investments: lessons from land titling in Afro-Colombian communities. World Development 97: 27–48.
- Romero, M. 1991: Procesos de poblamiento y organización social en la costa Pacífica colombiana. Anuario colombiano de historia social y de la cultura 18–19. Universidad Nacional de Colombia: Bogotá, Colombia.
- Sharp, W. 1976: Slavery on the Spanish Frontier: The Colombian Choco 1680–1810. The University of Oklahoma Press: Norman, USA.
- Tubb, D. 2015: Muddy decisions: gold in the Chocó, Colombia. The Extractive Industries and Society 2(4): 722–733.
- Valencia, E., Villa, W. 1992: Evolución del poblamiento del Chocó en el siglo XX: el caso del medio Atrato In (Ed.) Coa. 1992. Colonización del Bosque húmedo tropical. Coa: Bogotá, Colombia.
- Valencia, J., Mosquera, B. 2006: Caracterización de las prácticas agrícolas Minga, Mano Cambiada y Mateo en el corregimiento de El Valle, Municipio de Bahía Solano, Chocó, In (Eds.) Moreno, E., and Monje, M. Semillero: Una experiencia de jóvenes investigadores. Natura, Escuela Normal Santa Teresita, WWF and European Union: Bogota, Colombia.