

# Chapter 10

## Traditional Landscape Appropriation of Afro-Descendants and Collective Titling in the Colombian Pacific Region: Lessons for Transformative Change



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**Abstract** The Colombian Pacific region is one of the most biodiverse areas in the world, but several anthropic pressures threaten its ecosystems and the ethnic groups who live there. Since the colonial era, the region has experienced two different key strategies of landscape appropriation: (1) diversification of activities in the landscape; and (2) specialisation focusing on a few landscape products. These two strategies fall at opposite ends of a modified continuum over time, including a range of intermediate situations that combine elements of the diversified and specialised strategies. The first strategy is characteristic of Afro-descendant communities, based on harmony with nature and favoring human well-being, while providing multiple ecosystem services and cultural or spiritual values.

In this context, this chapter reviews the relationship of Afro-descendants with their environment in the Colombian Pacific region, taking as an example the San Marcos locality. Through interviews with key informants and participant observation, we investigate the productive and extractive practices in San Marcos. Results show that the appropriation strategy combines different sources of income. This denotes a great local ecological knowledge geared to maintenance of biodiversity. Despite Law 70 (1993) stipulating Afro-descendant communities to have guaranteed autonomy and the right to collectively manage their ancestral lands, this socio-ecological production landscape is endangered due to pressures from the dominant society towards conversion to a specialised strategy. Finally, we also analyse “transformative change” in the context of governance of San Marcos. Such change

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M. Nishi et al. (eds.), *Fostering Transformative Change for Sustainability in the Context of Socio-Ecological Production Landscapes and Seascapes (SEPLS)*,  
[https://doi.org/10.1007/978-981-33-6761-6\\_10](https://doi.org/10.1007/978-981-33-6761-6_10)

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could guide a profound transformation in conservation strategies based on a fundamental reorientation of human values.

**Keywords** Land use · Appropriation · Land-use transitions · Collective titling · Afro-descendants · Chocó biogeographic region

## 10.1 Introduction

Human interventions in the natural world correspond to what some authors have called landscape appropriation (González de Molina and Toledo 2014). Landscape appropriation refers to the action, material and symbolic, by which human beings extract elements or benefit from ecosystem by converting them into a social element, for example, filtration, retention, and storage of fresh water. Likewise, the appropriation and the constant interactions between humans and natural subsystems drive land use and cover changes (Rindfuss et al. 2008). A land-use change may affect land cover, while changing land cover may similarly affect land use (Zvoleff et al. 2014), leading to land-use transitions, that are any change in land-use systems from one state to another. One example is an annual crop for local consumption being replaced with a large tree plantation, due to new market demands (Lambin and Meyfroidt 2010).

Particularly, the traditional landscape appropriation in the Pacific region of Colombia, since the abolition of slavery in the nineteenth century, has been characterised by the multiple use of different goods and services by Afro-descendants based on a series of ancestral practices and logic. According to Restrepo (1996), it involves complex models of production, which demand detailed knowledge of the environment and successful adaptations allowing people to use different ecosystems to satisfy their basic needs without destroying them. Therefore, these territories are a dynamic mosaic of habitats and land uses, including large extensions of forest, croplands and Afro-descendant settlements that practice a traditional strategy of landscape appropriation at different levels. This can be considered in the framework of socio-ecological production landscapes and seascapes (SEPLS).

In relation to Afro-descendant communities and their territories, the National Policy Constitution of Colombia of 1991, and particularly, Law 70 of 1993, allow the organisation of these communities under the juridical figure of Community Boards (*Consejos Comunitarios* in Spanish), to serve functions that include conservation of their natural environment and their cultural identity. However, the future of many SEPLS in the Pacific region is still uncertain, as they could be in danger of disappearing due to external pressures (Quintero-Angel 2016).

In this complex context of SEPLS in the Colombian Pacific region, transformative change is necessary to maintain human activities within planetary limits and to establish and maintain productive, extractive, and conservation practices which are less disruptive to ecosystems and their inhabitants (Ashley and Plesch 2002).

Therefore, this chapter reviews lessons for transformative change, taking as an example the appropriation of the landscape and the transitions of land use in the community of San Marcos. San Marcos is one of 196 collective territories (eight million hectares in total) of Afro-descendant communities existing in Colombia. These territories are known as Afro-descendant settlements with agriculture, livestock and mining traditions inherited ancestrally from people who were slaves, runaway slaves and free people who looked after runaway settlements (*palenques* in Spanish) usually near rivers (Instituto Colombiano de la Reforma Agraria, resolution 2066 of 2002).

### ***10.1.1 Importance of the Colombian Pacific Region***

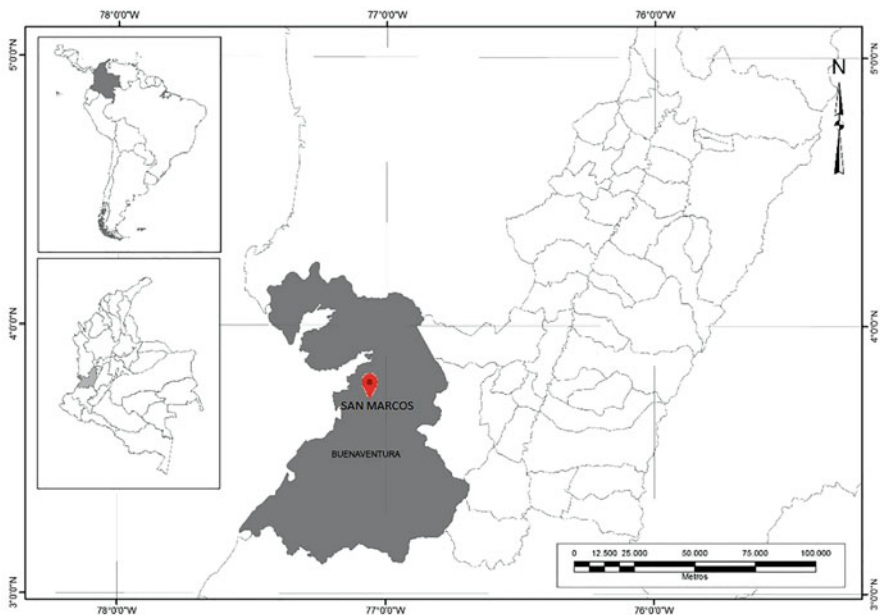
The Colombian Pacific region is part of the Choco biogeographic region, which is recognised as one of the most biodiverse areas worldwide. It is characterised by lowland rainforest with an exuberant diversity of plants and animals and a high level of endemism compared with other regions worldwide (Plotkin et al. 2000; Losos and Leigh 2004; Rangel et al. 2004). Despite being one of the richest biodiversity areas, the region's human population has one of the highest levels of poverty and social inequity, with incomes inferior to the national rural and urban averages (Barbary et al. 2004). Additionally, pressure on its mineral and forest resources has caused social conflict, which has increased the presence of illegally-armed groups and drug trafficking-related actors (Quintero-Angel 2015b). This situation has put the region's flora and fauna in danger, and has also endangered the communities of Afro-descendants and indigenous people in coastal and riverine zones. These populations enter into conflict with external immigrants and have a high tendency to solve problems in violent ways (Contraloría General de la República 2013).

Lowland rainforest in this region covers around 77% of the land (Escobar 2008). According to Rangel et al. (2004), the Pacific coast region of Colombia has 5474 plant species in 1406 genera and 271 families. In terms of fauna, this region records 134 amphibian species and 166 reptiles in the Pacific lowlands (Velasco et al. 2008), 793 bird species in 447 genera and 73 families (Rangel et al. 2004), and 12 orders of mammal species in 114 genera and 180 species (65% of the total genera and 40% of Colombian species) (Muñoz and Alberico 2004).

The regional soils are characterised by low content of organic matter and a highly acidic pH, which implies a low quality of soil for agriculture (Jaramillo 2002). As observed by West (1957) in the mid-twentieth century, productive soils for agriculture are scarce and limited to narrow bands in the alluvial plains of the Pacific coast region. Escobar (2008) stated that strips along rivers, dams, and meadows of different sizes provide space for human settlements and crops such as corn, coconut, cocoa, and plantain.

### 10.1.2 *The Collective Territory of San Marcos*

San Marcos is an ethnic territory of 3689 ha (Instituto Colombiano de la Reforma Agraria, resolution 2066 of 2002) (Ramírez 2006a) with a current population of 250 inhabitants, who are Afro-descendants of several generations. San Marcos is located in the rural area of the industrial, port, biodiversity and eco-tourism special district of Buenaventura, in the low basin of the Anchicaya river. The special district of Buenaventura is placed on the Pacific slope of the western mountain range, in the Valle del Cauca Department of Colombia, close to the Farallones de Cali National Park (Fig. 10.1 and Table 10.1). The region corresponds to a lowland rain forest biome, with an average temperature of 28 °C and annual average precipitation of 6600 mm (IREHISA 2013). Both San Marcos and the low Anchicaya areas are highly degraded especially due to deforestation, mechanised surface mining and the construction of two dams on the Anchicaya river during the twentieth century for hydropower generation.<sup>1</sup>



**Fig. 10.1** Location of San Marcos

<sup>1</sup>The first dam, which began operations in 1955, is located in the low Anchicaya basin with a total capacity of 64 MW, a median annual power of 360 GWh and a median fall of 72 m. The second dam is located in the high Anchicaya basin, and started operations in 1974 with an installed capacity of 340 MW, annual median energy of 1590 GWh and a height of 140 m (Larrahondo 1993).

**Table 10.1** Basic information of the case study area

|  |                                   |
|--|-----------------------------------|
| Country                                      | Colombia                          |
| Province                                     | Valle del Cauca                   |
| District                                     | Buenaventura                      |
| Municipality                                 | San Marcos                        |
| Size of geographical area (hectare)          | 607,800                           |
| Number of indirect beneficiaries             | 423,927                           |
| Dominant ethnicity(ies), if appropriate      | Afro-Colombian communities        |
| Size of case study/project area (hectare)    | 3,689                             |
| Number of direct beneficiaries               | 250                               |
| Dominant ethnicity in the project area       | Afro-Colombian communities        |
| Geographic coordinates (latitude, longitude) | 3° 42' 23.04" N; 76° 57' 32.04" W |

In the ecological zoning of San Marcos, around 93% of the territory is allocated for conservation (especially in middle and high zones), and 7% for productive activities and human settlements (Ramírez 2006b), especially in low zones. Meanwhile, 77% of the territory is collectively owned, while 12.5% is occupancy without legal documents that support the property and 10.5% is titled private property (Ramírez 2006a). According to Pérez (2008), a majority of the soils in Buenaventura (97%) are classified as having low or very-low productivity, which limits their development potential for agricultural activities.

According to a classification of Pacific settlements by Mosquera and Aprile (2006), San Marcos is a fluvial settlement typical of those along the Pacific, where generations of involvement in agricultural production, harvest, and shipping to nearby markets has generated a system whereby some inhabitants deal with transport, exchange and distribution, while the majority work in agroforestry and harvesting activities. The settlement is located in one of the less hilly areas, closest to the San Marcos stream, along the old road between Cali and Buenaventura.<sup>2</sup> Houses are built with wood or brick. The settlement has a school, health centre, several stores and an administrative community centre (Fig. 10.2).

## 10.2 Methods

An initial literature review on the collective management of the landscape in Afro-descendant territories was carried out, starting from the time of the below-mentioned Law 70 of 1993. Subsequently, the landscape appropriation strategies of the early twenty-first century were identified and categorised using the appropriation flow model proposed by González de Molina and Toledo (2014). According to Toledo

<sup>2</sup>Generally, other settlements in the Pacific region of Colombian tend to evolve around the river. However, in San Marcos and low Anchicaya, human settlements were built along the road, generally with some parts parallel to the river.



**Fig. 10.2** General aspects of San Marcos: (a) Panoramic view. (b) Settlement. Photos by M Quintero-Ángel

**Table 10.2** Description of landscape units of nature appropriation flow model. Adapted from Cordón (2007)

| Landscape units               | Definition   | Types of activities or exchanges  |
|-------------------------------|--|---|
| Used Environment (UEN)        | Refers to a group of elements (e.g. water, and soils) that are appropriated without causing a break in the ecosystem structure                         | All known forms of hunting, fishing, collection and sheep husbandry, as well as certain forms of low-impact extraction and animal breeding, such as foraging in original land cover |
| Transformed Environment (TEN) | Artificial ecosystems resulting from human labour that alter the ecosystem balance   | All forms of agriculture, livestock farming, forestry, development of plantations, aquaculture, and mining (high impact)  |
| Conserved Environment (CEN)   | Untouched areas that do not offer goods but diverse ecosystem services instead   | All activities related to the conservation of ecosystems and ecosystem services   |
| Social Environment (SEN)      | Sectors of the society as a whole that fall outside the limits of the P unit, such as carrying out some types of exchange using units of appropriation | Exchanges of an economic type that communities carry out with the larger society, such as trade or exchange of products, paid labour, etc.  |

(2008), units of appropriation (P) correspond to a group of individuals that enjoy, possess, dominate, or are owners of a fragment of nature which they exploit to subsist by extracting elements from the biosphere (living beings, water, and air) and the geosphere.

For this analysis, all units of rural production/extraction of households in San Marcos correspond to a single unit P, where two types of relationships or exchanges are recognised: (1) interactions of the ecological type with the surrounding environment: the used environment (UEN), the transformed environment (TEN) and the conserved environment (CEN); and (2) interactions of an economic type: social environment (SEN) (Table 10.2). The flow model considers the system of interactions between these four landscape units (UEN, TEN, CEN and SEN) and unit P (González de Molina and Toledo 2014).

Information-gathering techniques included semi-structured interviews and participant observation, which were conducted through several visits between January 2013 and December 2014, during the fieldwork of this study (Quintero-Angel 2015b). The information gathered consisted of the general aspects of life in the community, dynamics of landscape appropriation, and explanatory information on the management of nature. In total, 35 interviews were conducted, 29 of which were carried out with local informants, 11 were recorded and transcribed, and 18 were documented in the field book. Additionally, six interviews were conducted with informants from outside the community, two were recorded and transcribed, and four were documented in the field book. Other researchers (Cordón 2007; Cordón and Toledo 2008; García-Frapolli et al. 2008; Quintero-Angel 2015a, 2016) have used these same ethnographic techniques to study landscape appropriation.

## 10.3 Results and Discussion

### 10.3.1 *Management of Afro-Descendant Collective Territories from Law 70 of 1993*

In 1991, the Colombian government organised a National Constituent Assembly to reform the Political Constitution of 1886. The new Political Constitution highlights the inclusion of fundamental and third-generation rights such as economic, social, and collective rights, that cover respect and guarantees for minority ethnic groups. These ethnic groups (Afro-descendants, indigenous and Romani people) historically did not have any social, cultural, environmental or territorial guarantees (Sánchez et al. 1993).

Particularly, the transitory article 55 of the Constitution of 1991 established the right of the Afro-descendant communities in the Pacific region to collective ownership of land (Leal 2008).<sup>3</sup> Then on 27 August 1993, Law 70 of 1993 was issued. The purpose of this law was to recognise the collective ownership right of Afro-descendant communities<sup>4</sup> who had occupied<sup>5</sup> empty lands in riverine rural areas in the Pacific basin, following traditional practices of production (Article 1, Law 70 of 1993). Traditional practices refer to agriculture, manual mining, forest extraction, livestock husbandry, hunting, fishing and other harvesting of natural products, which

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<sup>3</sup>Paragraph 1 of Article 1 makes it clear that the law targets not only the populations of the Pacific Basin, but all communities with similar conditions in other areas as well.

<sup>4</sup>An Afro-descendant community refers to a group of families of Afro-Colombian descendant who has its own culture, shares a history and has its own traditions and customs within a rural-urban setting, and who reveals and conserves a conscience of identity that differentiates from other ethnic groups (Article 2, Law 70, 1993).

<sup>5</sup>The law refers to collective occupation, meaning the historic and ancestral occupation of Afro-descendant communities on land for their collective use, the land constituting their habitat, on which they developed their traditional practices of production (Article 2, Law 70, 1993).

have been used to guarantee the conservation of their lives and autonomous sustainable development (Article 2, Law 70, 1993). Additionally, this law looks to establish mechanisms to protect the cultural identity of the Afro-descendant communities of Colombia as an ethnic group and to support their economic and social development to guarantee that these communities obtain tangible conditions of equality compared with the rest of the Colombian society (Article 1, Law 70 of 1993).

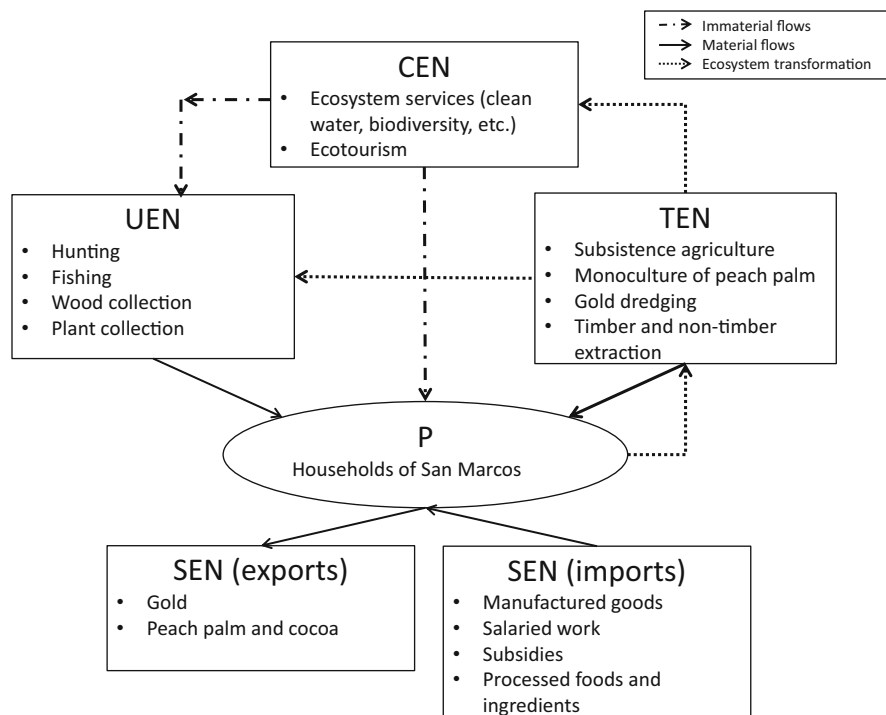
Before Law 70 of 1993, the Colombian state, as owner of the lands in rural areas in the Pacific region, dealt with them without considering the ethnic groups inhabiting the territory. Thus, the government facilitated and promoted the arrival of extractive entities and granted licences to companies for timber extraction and gold and platinum mining, among other activities, which degraded many SEPLS in the Colombian Pacific.

Law 70 of 1993 established that collective occupation of a territory is eligible for a collective title, meaning that historic occupations could then be recognised as property rights, calling the territories “Afro-descendant community lands”. However, to get access to the collective entitlement of the territory, it was necessary for the communities to organise administrative units called “community boards”. Some of the functions of the community boards include the delimitation and assignment of areas in the entitled land, conservation and protection of collective property rights and preservation of cultural identity, as well as use and conservation of natural resources, among others (Article 5, Law 70 of 1993). The requirement to form this community board to obtain access to the collective title and to act as a new organisation for the political and territorial management was a key feature of Law 70. Key decisions need to be discussed in a general assembly constituted by all inhabitants in the collective territory, who elect a community board for 3 years (Vélez 2011).

The application of this law for Afro-descendant communities has been complex, as these communities are diverse and heterogeneous. This law considered all Afro-descendant communities as the Pacific Region communities model, which denied the diverse levels of appropriation that Afro-descendant communities had given to inter-Andean valleys in the Colombian south and Caribbean (Duarte and Rodríguez 2014). There was also conflict in the formation or organisation of Afro-descendant groups in the rush to take advantage of the instrumental use of the Law, which led to some community boards being organised based on weak political significance and ethnic affirmation (Agudelo 2005; Romaña et al. 2010). Another situation that damaged the application of the Law was the location of many community boards with the presence of illegally-armed groups leading to human rights violations, e.g. forced displacement, forced disappearances, extrajudicial disappearances, and murder of social leaders.

In general, it has been recognised that the collective entitlement promoted by Law 70 did not have enough public funds to finance monitoring of local authorities, implementation of local management plans (Vélez et al. 2020), and the application of the law completely, as “there is no development of decrees or articles, for example, that allows for their economic autonomy or a major incidence in aspects



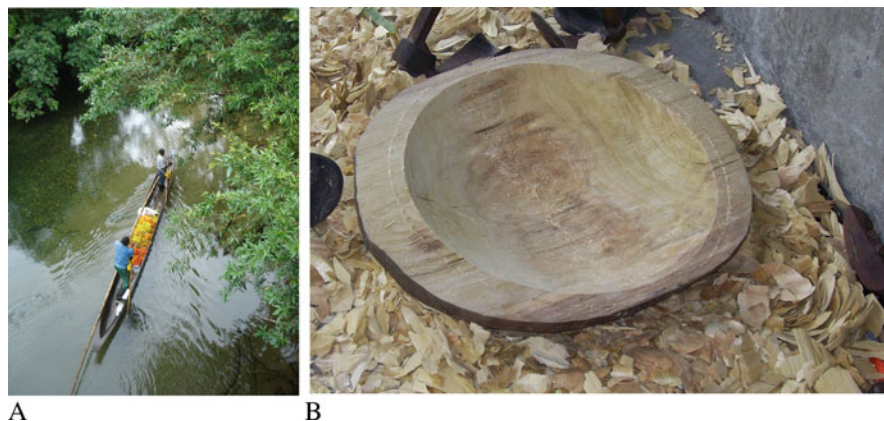


**Fig. 10.3** Flow model of landscape appropriation in San Marcos

like health or education” (Duarte and Rodríguez 2014, p. 4). Additionally, others have noted that the collective entitlement promoted by Law 70 cannot completely assuage the pressures of the illegal economy, including coca crops and gold mining. In general, these extractive activities are associated with illegally-armed actors that infiltrate the communities through violence and interrupt the capacity of local organisations to comply with rules and norms and modify traditional practices for landscape appropriation (Vélez et al. 2020).

### 10.3.2 Landscape Appropriation in the San Marcos SEPLS

The diversity of productive and extractive activities performed in the framework of the landscape appropriation in San Marcos at the beginning of the twenty-first century is represented in a model of goods and services flow (Fig. 10.3). The flow model indicates that the San Marcos community has developed a multiple-use



**Fig. 10.4** Traditional practices in San Marcos: (a) The traditional way of transporting the harvest of peach palm (*Bactris gasipaes*), (b) Traditional elaboration of a wooden pan for artisanal mining. Photos: M Quintero-Angel, 2015

strategy that combines time and spaces (in UEN, TEN, and CEN): multiple crops under the slash and decompose system<sup>6</sup> grown dispersed without a pattern between wild species in the river margins and alluvial plains, with plant species such as papachina (*Colocasia esculenta*), banana (*Musa paradisiaca*), borojo (*Borojoa patinoi*), and peach palm (*Bactris gasipaes*); fishing; hunting with traps oriented towards self-supply of the household; firewood collection; wood collection for building material; other forest fruit collection; domestic crafting; and artisanal extraction of gold, among others (Fig. 10.4). It is a multiple-use strategy that looks for diversification of activities in the landscape to obtain all materials, energy, water, and services required, relying more heavily on the UEN (González de Molina and Toledo 2014). This strategy puts pressure on different natural elements in time and space, denoting an ecological local knowledge and high adaptation to the environment.

Multiple-use strategies have their origin in the traditional or ancestral practices of the Afro-descendant cosmovision, which controls or regulates human activity and/or promotes solidarity. According to Escobar (2008), the natural world had an intimate presence in the cultural imagination of Afro-Colombian groups, which is elaborated in their narratives and shows that African, indigenous and catholic traditions have transmitted an ecological ethic of reciprocity and conservation, serving to advise people not to abuse nature. For example, through some myths and mythological characters, people are advised to stay away from certain areas of the forest or just to hunt or fish what is needed to feed their households. The multiple-use strategy is also supported by solidarity, reflected in the practice of sharing agricultural, hunting and

<sup>6</sup>The slash and decompose method (*tumba y pudre* in Spanish) consists of cutting weeds around the plants of interest. The weeds are then left to rot on the ground, contributing organic matter to very mineral-poor soils.

fishing products in exchanges, and the practice of “hand change”<sup>7</sup>, or collective work, on farms.

The traditional multiple-use system in San Marcos shares important features with different agroforestry strategies identified by Alcorn (1990) in Latin America, in that it: (1) incorporates native species; (2) uses natural variations of the environment; (3) makes use of natural succession to generate resources, protect the soil and control pests; (4) incorporates a large number of species; (5) develops flexible and individualised strategies; (6) reduces risks with diversification; and (7) seeks to ensure that independence survives.

In the Colombian Pacific region from the second half of the twentieth century, pressures from SEN altered the multiple-use strategy of appropriation in San Marcos (Escobar and Pedrosa 1996; Escobar 2008). On the one hand, some households transformed the multiple strategies to incorporate other activities that provide a diverse source of economic income through paid work, sale of products, rent, monetary remittance from relatives, subsidies, and return on investment outside San Marcos (e.g. renting a house in the city), among others. On the other hand, other households of San Marcos were pressured towards specialisation, such as selling one agricultural product, mechanised mining or paid work in nearby cities.<sup>8</sup> Agricultural production, since the mid-1980s, presented an intensification of peach palm fruit farming, stimulated by the government, NGOs and private companies, who sent agronomists and other professionals to advise the community on the agricultural practices under a monoculture system and technological packages of the Green Revolution (Fig. 10.5a). The professionals taught the community that traditional practices are rudimentary and must be changed into monoculture. This production generated new paid jobs, daily work cleaning plots, fumigating or harvesting in exchange for money.<sup>9</sup> Mechanised mining is an illegal activity of surface gold extraction, which is performed without environmental licence or restoration plan. The surface mining is performed with excavators controlled by people outside of the community who rent the land occasionally, incurring violence and/or unequal distribution of benefits, whereby the owner of the excavator receives 90% of the income, and the community only 10% (6% for the landowner and 4% for the community board), as well as 100% of the significant negative environmental impacts (Quintero-Angel 2015a) (Fig. 10.5b).

In general, the specialised strategy brought in external people, illegal exploitation of soil, loss of land cover, changes in land use, reduction in species diversity, loss of agricultural soils, landscape transformation, water contamination, traditional job

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<sup>7</sup>Collective and free work on farms or in forest for some benefit, which rotates, generating a relationship of reciprocal benefit. In San Marcos, two or more people assist each other for 1 day on a farm, then one of them the next day on the farm of another, and so on. During fieldwork in 2013 and 2014, it was possible to establish that this practice is still conserved by some male elders.

<sup>8</sup>In the twentieth century, up to the 1990s, the specialised strategy in San Marcos was focused on timber harvesting for the commercial market.

<sup>9</sup>These agricultural practices are not accounted for in formal contracts, nor is there coverage for work-related risks.

A



B



**Fig. 10.5** (a) Peach palm monoculture farm. (b) Significant negative environmental impacts associated with the removal of vegetation cover and alteration of soil layers due to turn over for gold extraction by mechanised mining in San Marcos. Photos: M Quintero-Angel, 2014

substitution, violence for the control of the land, and forced displacement of families. Additionally, it led to cultural fragmentation which corresponded to changes in relationships with nature, incorporation of new practices, as well as transformations in the used technology, knowledge, cosmovision and institutions or norms that had immersed the population in a severe crisis at the beginning of the twenty-first century (Quintero-Angel 2015b).

Between 2013 and 2014, mechanised mining and peach palm crops generated a severe crisis for households that still continue today. Peach palm crops were decimated by pests (*Dynamis borassi* and *Rhynchophorus palmarum* beetles). The government then took control of illegal mining by having the army blow up all excavators present in the lower Anchicaya region. A member of the community board described the situation like this: “...now there is nothing to do, the few incomes here are from the mine, there is no peach palm, what I mean is that in this moment we are in a critical situation” (interview with a member of the community board, 2014).

### ***10.3.3 Lessons for Transformative Change***

According to Toledo (2003), rural communities should maintain a hybrid character, combining the achievements of tradition with the positive aspects of modern society. However, replacement of the multiple-use strategies by a specialised ones in San Marcos has meant this has not been successfully carried out.

In general, the collective entitlement of Law 70 of 1993 reduced deforestation rates significantly, but its effect varied substantially depending on the subregion, organisation of the community to define rules for community use of the natural resources, expulsion of private companies dedicated to wood extraction and palm oil plantations, as well as the resistance against illegal groups and their pressures towards mechanised mining and drug trafficking (Vélez et al. 2020).

However, the responsibility for the actions for transformative change cannot be placed only on the communities and community boards.

As one leader from Nariño mentioned, “the Councils have struggled here, but the intimidation has not allowed the impact to be successful.... people have died here for standing up against certain dynamics: coca, oil palm... the councils have resisted..., but it is not enough” (Vélez et al. 2020, p. 12).

For transformative change, the Colombian government must play the main role in supporting the communities and recognising the socio-ecological context, so that the local government, NGOs, and other actors can improve local productive and extractive practices while maintaining local values. Also, the government must confront illegal activities and not allow intimidation of community councils (i.e. Afro-descendant collective territories under Law 70) and communities. Moreover, it should develop “new instruments to control illegal markets since the definition of property rights in the context of a weak state without the monopoly of violence is insufficient to protect the forest” (Vélez et al. 2020, p. 12). Also, it is essential that the government recognises and promotes the conservation of multiple-use strategies and the development of business activities compatible with traditional practices and ecosystem services offered by the territory. For example, a scheme for productive vocations utilising ecosystem services could be fomented by marketing products derived from the biodiversity, oriented towards markets with high aggregated value. Current policies based on monoculture implemented in recent years need to be reviewed.

To recognise, revalue and recover the Afro-descendant multiple-use strategy oriented towards conservation of SEPLS, it is necessary to develop ethno-education strategies. Ethno-education is “offered to groups or communities comprising the nationality who possess a culture, a language, traditions and their own and autochthonous status (. . .[, and]) should be linked to the environment, productive process, and social and cultural process, with respect towards their beliefs and traditions” (Law 115 of 1994, National Ministry of Education). It constitutes an instrument for the transmission of knowledge and ancestral wisdom, which is at risk of disappearing, to the younger generation, who will have the future of the communities in their hands.

In this sense, it is necessary to establish a new governance scheme with a fair balance between the State, civil society, and the economy of local Afro-descendant communities, based on harmony with nature. This new governance scheme must be integrative, adaptive, informed and inclusive, with a real and effective application of Law 70 and taking into account leverage points that guarantee the application of traditional multiple-use practices of these communities, as well as the incorporation of new technologies that respect the environment and cultural traditions. The different actors and their roles in actualising transformative change are listed in Table 10.3.

Finally, the appropriation flow model used to study landscape appropriation in San Marcos (Fig. 10.3), may be useful to assess or monitor transformative change in the Colombian Pacific region. In this regard, some indicators of landscape appropriation can be set as those proposed by Córdón (2007), e.g. the number of productive/extractive activities and the number of species used in each landscape unit. Likewise, other indicators could be used, such as the number of productive/extractive activities aimed at household self-sufficiency and the market, or total area and/or ratio of land surface dedicated by members of the community council to the multiple-use strategy, among others. Using such indicators, the actors involved in the governance of Afro-descendant territories may monitor and evaluate the impact of their interventions over time.

## 10.4 Conclusions

The multiple-use strategy of landscape use is flexible over time and space, giving more resilience to each household,<sup>10</sup> and in turn giving the community greater capacity to adapt to global changes using diversification as a strategy of subsistence, focused on different natural elements across time. However, in San Marcos, and generally in the Colombian Pacific region, there is a conflict between conservation and development, which is currently pressuring communities toward specialisation of household subsistence strategies in the production and sale of one agricultural product and/or paid labour in nearby cities. This strategy focused on specialisation signifies a major risk to communities that face changes in demand for products, price and environmental conditions, which are variable in nature and altered by climate change.

In San Marcos, the transition from a multiple-use strategy towards more specialised use signified changes in beliefs system and local knowledge, transforming the ecological ethic of reciprocity and conservation based on the

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<sup>10</sup>In the context of this research, resilience essentially includes three aspects: (1) quantity of change that the system can experience while still maintaining the same control over its function and structure; (2) degree in which the system is able to auto-organise; and (3) skills and increased capacity for learning and adaptation. Adapted from Cabell and Oelofse (2012).

**Table 10.3** Description of actions required for transformative change for different actors present in San Marcos

| Actor  | Actions required for transformative change  |
|--|---|
| Colombian national government                    | <ul style="list-style-type: none"> <li>• Monitoring of compliance with legislation and protection of the rights of community councils</li> <li>• Allocation of resources for application of Law 70 of 1993</li> <li>• Provide guarantees to stop illegal activities in Afro-descendant territories</li> <li>• Promotion of ethno-education</li> <li>• Organisational strengthening for citizen participation in community councils</li> <li>• Promote and fund research on the multiple uses of landscape strategy</li> <li>• Promote productive strategies that maintain the strategy of multiple uses of landscape. e.g. ethno-tourism</li> </ul>   |
| Afro-descendant communities (community councils) | <ul style="list-style-type: none"> <li>• Commitment to transfer traditional knowledge on the use of the landscape from generation to generation</li> <li>• Support and promotion of ethno-education strategies</li> <li>• Strengthening and promotion of the multiple-use strategy of the landscape</li> <li>• Diversified productive/extractive activities based on the multiple-use strategy of the landscape, e.g. promoting ethno-tourism</li> <li>• Coordination and planning of landscape use</li> <li>• Organisational strengthening for better dialogue with the State and to improve the governance of its territories</li> <li>• Use legal mechanisms of citizen participation provided in the Colombian Constitution to enforce the State to comply with the implementation of Law 70 of 1993</li> </ul> |
| Educational and research institutions            | <ul style="list-style-type: none"> <li>• Study and support the application of the multiple-use strategy</li> <li>• Design of indicators for monitoring the multiple-use strategy and the traditional systems</li> <li>• Guide and support the design of strategies of community councils for ethno-education, heritage conservation, and planning, among others</li> <li>• Management of the establishment of strategic alliances between community councils, companies, and the State</li> </ul>   |
| Companies  | <ul style="list-style-type: none"> <li>• Technical assistance adapted to the socio-cultural context of the communities</li> <li>• Technical assistance respectful of the local culture</li> <li>• Financing of actions for the conservation of the cultural heritage associated with the use of the landscape</li> </ul>  |
| International and regional organisations         | <ul style="list-style-type: none"> <li>• Financing and support for local development programs based on improvement of the landscape and multiple-use strategy</li> <li>• Financing of actions for the recovery of traditional knowledge</li> <li>• Cooperate with the Colombian government for the conservation of the multiple-use strategy and to stop illegal activities in Afro-descendant territories</li> </ul>   |

Afro-descendants' traditional rational use of nature into a more utilitarian vision. Therefore, in collective territories like San Marcos, reinforcement of mechanisms that bring together the community and individual interests need to be promoted. Additionally, public policies to generate new employment and income for locals, thereby causing less negative environmental impacts, need to be introduced.

For the future of San Marcos, it is very important to recognise, revalue and recover Afro-descendant strategies of multiple use, which contribute to biological and cultural conservation in the Colombian Pacific region. Science, technology, and innovation should be oriented towards deepening and improving the multiple-use strategies of the communities and offering alternatives and information to maintain practices of fishing, hunting, collection and gold mining within a framework of the productive limits of these ecosystems. These activities should involve community labour and the training of leaders, combined with development based on ancestral knowledge that reinforces the conservation of agrobiodiversity, strengthening the value to the people of continuing to live in the region. Also, an ethno-education strategy of knowledge divulgation wherein young people learn and appreciate ancestral practices is required.

The challenge in San Marcos, and other SEPLS along the Pacific coast of Colombia, will be to find sustainable ways of landscape appropriation that not only allow for the conservation of ecosystems, but also for the well-being of the human population. Accumulated local knowledge and the creativity of Afro-descendants are not only fundamental, but also represent the best hope to improve the community's future and become key to transformative change that will enable the conservation of the SEPLS.

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