Crossing gender and biogeography to rethink the habitat of a fluvial community in Ecuador

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human geography
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mangroves
patriarchal
Latin America

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Citation: Dazzini Langdon, M. (2023). “Crossing gender and biogeography to rethink the habitat of a fluvial community in Ecuador” UOU scientific journal #05, 68-81.

ISSN: 2697-1518. https://doi.org/10.14198/UOU.2022.5.07

Date of reception: 02/03/2023
Date of acceptance: 05/06/2023

Este trabajo es una mirada sociocrítica ambiental a la realidad de ciertas comunidades en un ecosistema fluvial latinoamericano. Es un camino que he iniciado como arquitecta, paisajista y geógrafa, a través de múltiples experiencias en diversas comunidades del continente. Las fronteras naturales determinan cómo se diseñan las comunidades rurales porque las personas dependen de los bienes y servicios de los recursos naturales para sobrevivir. Sin embargo, el diseño incluye múltiples dimensiones de relaciones sociales y culturales de una comunidad afrodescendiente. Esta investigación quiere desvelar las capas de poder ocultas en el diseño y fue realizada en una pequeña comunidad de 300 habitantes en la Isla Santa Rosa en los manglares del norte de Ecuador y reflejan una mirada especial sobre el territorio de esta comunidad pesquera. Los manglares constituyen un límite particular entre el mar y el territorio habitado y al mismo tiempo, da origen al establecimiento de un ecosistema económico social patriarcal que funciona con claras fronteras invisibles profundizando desigualdades sociales y de género. Los resultados muestran que una propuesta educativa que aborde la biopolítica del hábitat desde la igualdad de género y la investigación acción participativa contribuirá a través del empoderamiento de las mujeres a mejorar sus lugares de vida y brindará una contribución efectiva sobre los ecosistemas sociales y naturales.

This work is an environmental sociocritical view of the reality of certain communities in a Latin American river ecosystem. It is a journey that I have started as an architect, a landscape designer and a geographer, through multiple experiences in various communities in the continent. Natural borders determine how rural communities are designed because people depend on the goods and services of the natural resources for survival. However, the design involves multiple dimensions of social and cultural relations in an Afro-descendant community. This research focusses on the power layers that were hidden in design, and it was conducted in a small community of 300 inhabitants at Santa Rosa Island in the northern mangroves in Ecuador and reflects a special look at the territory of this fishing community. Mangroves constitute a special limit between the sea and the inhabited territory and, at the same time, give rise to the establishment of a patriarchal social economic ecosystem that works with clear invisible borders, deepening gender and social inequalities. Results show that an educational proposal that addresses the biopolitics of the habitat from gender equality and participatory action research will contribute through the empowerment of women to improve their places of living and to enhance an effective contribution on social and natural ecosystems.

MUTANT LANDSCAPES

The object of this research is to explore the inhabited spaces through the fictions that shape female subjectivities in the rural space of the Cayapas Mataje Mangrove Reserve at the northern part of Ecuador. First of all, it was necessary to understand how a particular landscape is built by nature, the second objective is to know how and why people in communities used those landscapes. This territorial occupation process is the same used on the Pacific coasts of Colombia, Ecuador and northern Peru, where the environmental services of the mangrove ecosystem are essential for survival and the floodplains are the spaces used for the construction of towns and houses.

Architecture is a techno-living process where interpretation and techno-cultural production of landscapes are previously internalised. It is projected onto a territory from a textual and sensory narrative strongly determined by the visual and lived experiences that reproduce a way of living. These narratives are fulfilled with meanings not always clearly visible. On the other hand, even in a participatory design process it is not possible for people to describe these meanings that unveiled patriarchal power strategies display. Moreover, many times, as designers, it is possible to interrupt some of those unknown meanings that could provoke undesirable consequences in the community-power relationships. The specificity of the narrative will lead to the success or failure of a proposed project.

I have focused my study on the representations involved in the production of domestic and community space as visible strategies that claim their own production of discourse and participation. I transit the biopolitics of the habitat, through the spaces of power recorded in the language of the bodies and the expressions of subjectivities. The complexity of the task also addresses an urgency, that of linking academic knowledge to practice and has led me to introduce visions and methodologies from various disciplines, community strategies and to in-inhabit the territories sharing daily life with the communities for more than 10 years. This supposes a new look in the understanding of the social dynamics and the ways of social construction of space for architecture, landscape and planning. This process gave me new meaning to the strategies conceived by women, in an attempt to approach the complex networks of invisible power. In this way, I registered particular modes of negotiation that question the subjectivity of the poor and Latin American minority women, within a highly normative patriarchal society.

The habitat built in fluvial contexts, both in the domestic sphere and in the community sphere, evidences the uniqueness and indivisibility of the ecological, environmental, relational and cultural systems that constitute ecologies, which merge into *natures-culture* and confront the use of dichotomies such as architecture-nature, built-unbuilt environment established by various discourses in the last decades (Braidotti, 2013). During the Capitalocene, genocide, extinction of resources, division of the world, evictions, territorial dispossession and any action that favours the extraction of resources from life systems is consented and consciously assists the extractive process, reaffirming representations and an idea of the world (Haraway, 2012). Donna Haraway urges us to rethink the minimum unit of the system, *natures-culture* as the indivisible unit that we inhabit. The dualities of nature and culture, man and woman, poor and rich, all dichotomies that have divided the thought of this era and invites us to deconstruct them in each exercise of thought.

These questions began around the birth of the 21st century. Despite the need for housing and safe environments for the thousands of people that inhabit Latin America and the Caribbean, the urban-architectural projects that were built in safe areas and with some minimal comfort, be it drinking water, electrical and sanitary service, do not receive acceptance by the users. New developments generate serious negative impacts, such as gender violence and violence against children, neglect of the elderly, social fragmentation and other impacts due to the relocation of people, when neighbourhood projects are proposed in places outside of a consolidated city, with difficulties of accessibility or long journeys to the areas where people cannot access health services, education and jobs. The evicted people have refused to inhabit them and if they have done so, it is due to the extreme need for a shelter, and they hope to return to inhabit the place of origin as soon as possible or rent the place to more disadvantaged people. These collective houses deteriorate very quickly, contributing to the slum condition of the habitat built with state funds. For this reason, the words of Habermas become relevant, "*the cynical recognition of an unjust world situation does not point to a deficit of knowledge but to a corruption of will. Those who could best know do not want to understand*" (Habermas, 2002).

THE NATURAL COMPONENT: A MANGROVE ECOSYSTEM

Safeguarding wetlands is a task that cannot be postponed. The future water and food security of 600 million inhabitants depends on the governmental decisions of LAC (Latin American and Caribbean), in each of the countries of the region. Water is one of the critical components of wetland ecosystems that provide environmental services and contribute to reducing the impacts of greenhouse gases (GHG), and among others, to protect the coasts from tsunamis in mangroves forest or floods in the delta, to provide habitat for a great variety of species, transportation of products and food to the communities.

However, there is a general consensus that the issues of biodiversity and natural resources, even when they are considered in the Sustainable Development Goals (SDGs) developed by the United Nations, and enunciated and adopted in 2015 by the countries of the region, are insufficiently positioned given the structural inequality in LAC, a state of play which sustains the production of asymmetric relations from the State, privileging regional or national power groups.

I have started this research by looking to identify the specific, the essence of the landscape, and the ways in which human habitability is built. However, in the expanded journey of situated knowledge I have found the power structures that are built in social relations. They are the ones that determine the idiosyncrasies and the act of design in domestic and community life. For this, I have analysed the behaviour of certain tangible and intangible critical components of the habitability of fluvial spaces, identifying the ecological processes that enable and determine the production of fluvial landscapes.

The most recent evidence from the scientific community that studies climate (IPCC, 2013, 2020; Nagy et al., 2019), strongly shows that climate change will produce an average increase in the temperature of the planet's atmosphere between 2 and 3 degrees by the year 2050, having a direct impact on the food security of the poorest countries. This situation will change the rainfall regimes in many regions, producing severe droughts and lack of food, a situation that we are experiencing in LAC in 2020 (IPCC, 2020). There is a general consensus that biodiversity issues are undervalued in development planning and in decision-making about unsustainable investments. Considering that current food security strategies are deficient and governments fail to comply with their commitments to protect natural resources and therefore the human population, it is foreseeable that this transition towards a dangerously hotter planet is set to continue.

For this reason, it is highly important for designers to know how to prevent serious changes in landscape formation. It could be said that fluvial landscapes are the geographical spaces that contain the areas of influence of a river or flow of water, that include its hydro-period. Habitability in fluvial spaces is determined by the particular dynamics that depend on

water and two daily tides with two maximum points of the water level that condition the daily activities of the communities (Kandus et al., 2010).

The region recognised as the biogeographic Chocó is a corridor that extends from Tumbes in northern Peru to Chocó Magdalena in the south of Panama in the Darién region, to the coast of the Pacific Ocean and inland bordering the western foothills of the Andes Mountains. The corridor covers an area of 200,000 km^2 and includes fluvial-marine plains, alluvial plains, humid and very humid forests on the Pacific coast of Colombia, the province of Esmeraldas and the dry forests of the province of Manabí, both in Ecuador, constituting a clear region of coastal edge of mangroves.

The climate is of high rainfall from 13,000mm to 3,000mm per year, with tropical temperatures with averages above 18°C with isolation from the Amazon basin by the Andes mountain range, and it houses a great biological diversity. A high variety of species lives in this region, especially vascular plants (9,000 endemic species), birds (830 species, 10.2% endemic), mammals (235 species, 25.5% endemic) and amphibians (350 species, 60% endemic). The inhabitants of the area are mostly Afro-descendants, mestizos and indigenous nationalities. Due to the importance of endemic species (Rangel, 2004), 6.3% of the biogeographic Chocó is protected by Ecological Reserves and National Parks.

Within the Chocó region is the Cayapas Mataje Mangroves Ecological Reserve (REMACAM) in Ecuador. The case study of Santa Rosa Island is part of the reserve inhabited by Afro-descendant families who maintain their cultural heritage along with other islanders of the Pacific coast. In Ecuador, mangroves are located on the coast of several provinces like Esmeraldas, El Oro, Guayas, Santa Elena, and Manabí, and the total surface extends to 161,835 hectares (MAE, 2014), where social, economic and political factors are directly related to mangroves.

The study area is a flat fluvial-marine plain, close to the sea, with recent alluvial deposits. It is located at the mouth of several rivers, including Cayapas and Mataje, which are the limits of the reserve that are intersected by islands with a maximum height of 3 m. separated by sinuous marine channels where the mangroves settle. Towards the interior of the islands, swampy depressions are found as closed units with a lower level than in the mangrove edges that are exposed to the influence of the tides (MAE, 2014).

The most widely dispersed mangrove species are the red mangrove, Rhizophora mangle, and the white mangrove, Laguncularia racemosa. They form mangroves with persistent leaves that grow in the mixture of river and sea water with physiological adaptations to salinity variations. Mangroves are halophytic plants that generate a horizontal network of roots for their stability and absorption of nutrients that come from both the sea and rivers, and are deposited on the surface of fine sandy soils. The islanders say that mangroves are trees that walk, due to the way they reproduce, since it is a pioneer plant that develops a large number of shoots that grow around it, and allows the habitat of various species to be generated under its crown and roots.

They have lance-shaped seeds that stick to muddy beaches and are washed away by the tides. The mangrove adapts to the cycles of the tides, which is why the roots are cyclically covered with water or exposed to sunlight. Some of their adaptation mechanisms for times of flooding are having aerial roots from the upper part of the crown that join an important network of roots and in other cases, such as mangroves that are found in primarily saline waters, develop roots that grow upwards, sticking out of the water. These adaptations prevent anoxia or lack of oxygen in the submerged parts and facilitate the removal of excess salts (Rangel, 2004).

Mangroves are a type of forest that grow at the interface between the sea (saltwater) and a riverine system (freshwater). Moreover, mangroves (Fig.1) are wetlands considered

Fig.1 – Mangroves, Ecuador, 2021. Author source.

as important carbon sinks, because of their high carbon sequestration services. Mangroves fix carbon dioxide (CO_2) from the atmosphere, into biomass and saturated soil, transforming them into organic carbon through the process of photosynthesis. The saturation of water in the wetlands helps to the accumulation of carbon since it decreases the rate of decomposition of organic matter (Hernández, 2010).

Indeed, the dynamics of wetlands is based on allowing a permanence of water in the soil, considering that each wetland has a specific hydro-period. The importance lies in the presence of water for long periods of time that can lead to permanent or semi-permanent saturation of the soil (Kandus et al., 2010). Consequently, it will present an adapted flora (mangroves) and fauna, which lives in saturated soils, since they require a temporal habitat with both terrestrial and aquatic characteristics to complete their life cycle (Barbault, 2011; Quintana, 2010).

In recent years, the Ministry of the Environment and Water of Ecuador has taken the initiative of granting 'use zones' within the mangrove to the communities in exchange for protection of the mangrove reserve through the "Agreements for Sustainable Use and Custody of the Mangrove to Ancestral Users". This situation has come about since the national government does not recognize the ownership of the land to the ancestral inhabitants. Although the initiative is a governmental advance of the Ministry of the Environment and Water, it has not been possible to materialise it, since it is not possible for the communities that live below the poverty level and without institutional support to protect the mangroves from deforestation or from the illegal activities that take place in this border area with Colombia. The agreements are generated to promote positive management actions from the communities, to maintain a sustainable fishery, but without possible practical implementation in the territories.

THE SOCIAL COMPONENT AND MANGROVE AS A SOCIAL SPACE FOR FREEDOM

In the 18th century, the southern area of Chocó became the largest slave economy in the Viceroyalty of Nueva Granada south of Colombia, with the extraction of gold for the owners of Cali and Popayán, where the population became mostly black with the intensification of slavery. The population numbers show for 1710 the number of 1,350 slaves and for the beginning of 1800 the number of 15,000 slaves (Leal León, 2016; Rangel, 2004).

According to population studies carried out by Almario García (2009), since the 17th century, the Nuevo Reino de Granada was one of the greatest centres of mining exploitation having rivers that formed the axis of the Spanish civilisation. Black slaves were brought from Africa from the west coast countries like Congo, Angola, the Ivory Coast, and Guinea. The coast of west Africa has plenty of mangroves, a similar ecosystem to that existing in the Chocó-Darién region (Rangel, 2004).

The rivers of the region are born in the western Cordillera and descend towards the Pacific Ocean. On its margins, alluvial mining settlements became consolidated. In river's upper part, called monte, new settlers organised agricultural spaces and the extraction of rubber and tagua (seeds of a tree palm), and in the lower part, up to the outlet to the sea, settlements of fishermen and shell and crustacean collectors. Although separated from their families and having different languages and cultures, the slaves quickly adapted to the warm tropical forest areas of the Pacific coast and became a new cultural group in America. At the first period of the slave system, "the miners had to feed their slaves and provided them with a diet of salted meat, panela, honey and brandy, which were produced in the Cauca Valley area" (Almario García, 2009, p.10). The diet is complemented with plantains, corn and forest products. Later on, the slaves grouped into little communities and started to provide their own resources for living.

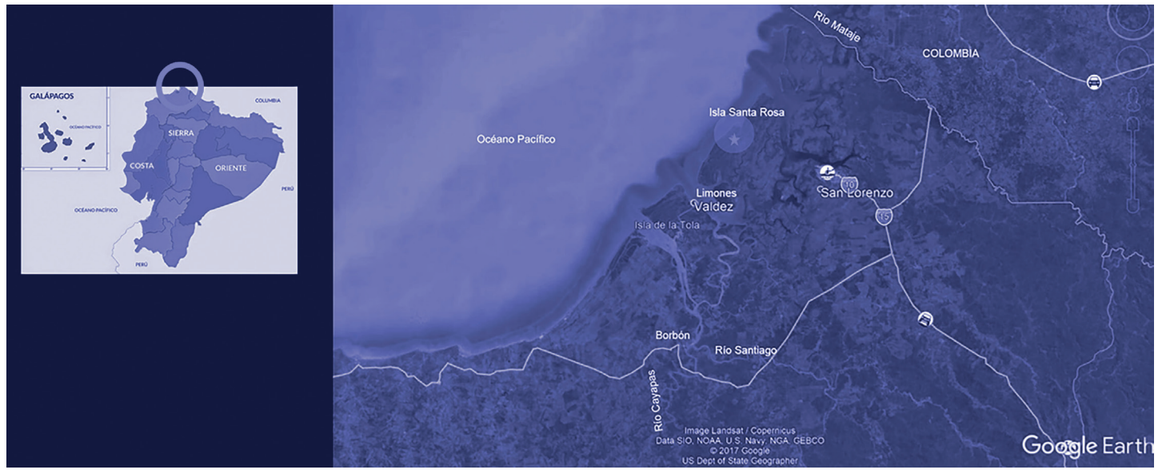

Fig.2 – Santa Rosa Island location. Ecuador. Source Google Earth.

From the colony, many slaves were able to escape to these areas with a great capacity for survival, while others bought their freedom with the gold obtained in the mines. The abolition of slavery in Colombia and Ecuador was promulgated in 1851. Slaves and free people conquered the rivers, due to their ability to live in the network of rivers and estuaries, and of the tropical forest which other people less trained did not access due to its dangerous nature. The Spanish expeditions in the mangrove territories failed many times because the swampy shores prevented them from disembarking and constituted an important defensive mechanism. In fact, it is very risky to walk on swamps or climb the slippery mangle roots. Indeed, the conquest of the rivers, from their headwaters to the outlet to the sea, and the skills developed for survival in the territory, made the first African communities create the conditions for habitability in a new social space of freedom.

The importance of the rivers in the settlement of the Chocó is evident in the specialisation of the productive activities that were carried out on its banks. Along the rivers, communities were established and territories were shared between the local indigenous groups and the free slaves or runaways who escaped from the mines (Lapierre Robles and Aguasantas, 2018). There were indigenous ethnic groups in this area, however their record is lost in the history of the region due to the intensive form of settlement of the Afro culture, with a reproduction system that greatly exceeded the number of the indigenous population. The mixture between Afrodescents and indigenous people was called *zambos*, especially in the territory of the Cayapas river, and their percentage is markedly lower in relation to the afro community.

The Chocó area is inhabited mostly by Afro-descendant families (Fig.2). This culture has had since its arrival in the American territory, the strategy of increasing the number of people in their communities to achieve group survival. This strategy allowed their supremacy in the region. Men performed the hardest and riskiest jobs, and women were excluded from these jobs as a mechanism to optimize the protection of their children and women. Likewise, women were assigned the role of reproductive and caretaker of the family group that prevails from colonial slavery (UNDP, 2011; Cortés, 2012).

Later, in the second half of the 19th century, the black communities established themselves on the coasts of the Pacific Ocean, at the port of Buenaventura and Tumaco and they extended in the domain of the sea to Guayaquil in Ecuador, towards the south of the Mataje river. The settlement had the same characteristics along the coast, small fishing villages in the mangrove islands. Consequently, the spaces of the river, the estuaries and the sea were associated with the masculine realm,

while women stayed in the family home facing the river. Fishermen considered that establishing oneself in a place meant bringing a woman to take care of the domestic spaces, the kitchen and some small crops, but especially for reproduction and family care.

Nowadays, the region is crossed by an infinite network of estuaries of various flows that run between the tropical mangrove forests and although there is a high degree of deforestation, the density of the forests is highly significant (Oslender, 2004). It is difficult to live in these areas. The way to communicate between islands is through the rivers. The aquatic space (Oslender 2017, 2004, 2002), is built and takes on meaning due to the influence that high rainfall between 3000 and 6000 mm per year has on life, tides that can rise daily up to 4.5m above the level of the rivers, and the periodic floods that mark the tempo of life in the communities. A substantial advantage was added by the climate and abundance of food.

The strip of the tropics where the temperature does not vary throughout the year is a favorable environment for the development of a great variety of animals, trees and plants, which means that these spaces can provide themselves with abundant and permanent food. The resource extraction system, mining, rubber, tagua, did not greatly affect the forests or the fauna and flora. Artisanal alluvial mining or the collection of black rubber, did not significantly affect the forest. Once the mine was abandoned the vegetation cover grew again, and since rubber trees grow sparsely, the damage is less, with the same subsequent recovery, as well as in the case of the tagua palm, from which the seeds were collected in clusters and it was not necessary to cut it (Leal León, 2016).

The communities deepened their knowledge of food and medicinal plants for daily food and symbolic, magical-religious and healing uses, emerging in the communities the mediators between nature and the community, such as healers, herbalists who knew the tradition. The river and the tropical forest will give rise to oral traditions, myths and legends of the area. Indeed, Afro-Ecuadorian culture has a strong relationship with its geographical environment, and generally remained in warmer areas closer to the rivers.

SANTA ROSA ISLAND AND THE POWER ECOSYSTEM

A territory is the place of exercise of power. From the social and political point of view, a territory is administered and communities establish a form of organisation which rules community life. It is where the territory joins another concept, accessibility (Gottman, 1973). At present, it is common to observe the notion of territory associate with belonging, managing, inhabiting and moving through a territory. Entry into a specific territory is restricted or limited and in this case, a new limit is conceived by the timeline of the water.

Since my first interaction with the community, I realised that life in mangroves depends on the timeframe of the hydro-period (Fig.3 and 4). It establishes the first and most important living condition and frames the economic and domestic life. Life plays around the hydro-period (Dazzini Langdon y Viola, 2020).

In Santa Rosa island, the community is coordinated by the association of women collectors of bio-aquatic products. River communities push their survival strategies to the extreme to face the challenges of inhabiting a place in, on, and with water (Fernández, 2012). However, the human being transcends the space-sphere of the individual sensations perceived by the body, installing the space that questions the mind, memory and the psyche. All these spaces shape their space, and are also, fundamentally sealed with affective relationships between people with the place where these relationships are acted, which leads human beings to build memories linked to the place (Tuan, 1974, 1979, 2018). The women's own space is the river (Fig.5) and the memories that the river bring.

In the fluvial communities, the water, the river, the estuaries, constitute the essence of daily life (Dazzini Langdon, 2020). The rhythm of the tides marks the tempo of everyday life. River communities make up a system interconnected by water that escapes all categories. The events that take place in these edge-spaces, margin-spaces, make possible the adaptation to the place with a greater permanence in their agency (Stavrides, 2016).

Fig.3 – Life in Santa Rosa at high tide. Author source.

Fig.4 – Life in Santa Rosa at low tide. Author source.

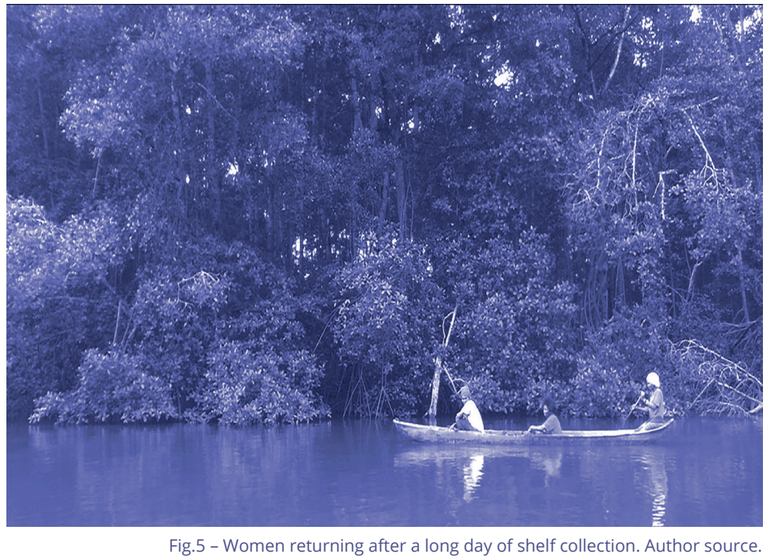

Fig.5 – Women returning after a long day of shelf collection. Author source.

The anthropologist Victor Turner (1980), developed the idea of marginal phase in Zambian ritual systems. In his research, he has determined that the spatialised social organisation is made between fixed structures of specialised spaces and spaces of passage or transition (Stavrides, 2016). These passing or intermediate spaces are where precise functions and spatialities become blurred and facilitate the transition to a new state. The space of passage or transition is the river and these nomadic communities settle according to the arrival of their inhabitants. The community is structured through family social relations and spaces of production. The informal market of shell collection and artisanal fishing generate spaces with diverse temporary uses. These are heterotopic spaces that are woven and consolidated on daily tasks.

In the river communities of the region, as well as at Santa Rosa island, access to natural resources is differentiated by gender, women are mainly shell collectors and men

Fig.6 – Typical house. Author source.

are in charge of artisanal fishing. A sexual division of labour exists. The supplies needed for women tasks of recollection are one canoe, and buckets, instead, fishermen need a motor boat, gasoline, and nets. The economic and power asymmetry arises when the money obtained from the sale of fishing is greater since it is sold in the nearest market. Women, on the other hand, use what was collected during the day for daily family food, and sell the surplus of their production on the same island at a lower price. The task of the women of Santa Rosa island is mainly the care economy for the assistance of the family.

Every day, women leave their houses when the tide begins to go down, and arrive at their working areas at low tide. This allows the shells to be easily removed. The tides let only five hours for the collection of shells and when the water rises again, they return to the community. The harvesting task is carried out among the mangrove roots, where women climb under the bite of gnats, barefoot and with minimal protection. It is an extremely arduous task. Women carry the 6 metres long canoes by hand, over their heads through the small paths of the town just to the front door of their houses. There, they unload and clean the shells on terraces outside their homes.

Houses are of minimum dimensions approximately 10m x 10m (33 x 33 ft), built with a mangrove wood structure that withstand the daily tide well, cement blocks or wood on the walls and aluminum sheet roof (Fig.6). They do not use traditional materials such as guadua cane because they do not resist high humidity or the deterioration caused by salt water. Inside there is a large living-dining-kitchen area where breakfast and lunch are prepared daily with the extended family in the elderly person's house. These areas have furniture to sit and rest as well as hammocks hanging from the roof (Fig.6).

When studying these dynamics, I have been able to observe that women use a differentiated path to go in and out of the settlement when they carry out their daily productive tasks. The material limits of the town of Santa Rosa are mangroves and rivers (Fig.7).

The image taken with a drone (Fig.8) shows the community of Santa Rosa island. It attempts to point out, the paths and social dynamics of the community identified by gender. The line in pink shows the path

Fig.7 – The town of Santa Rosa is surrounded by mangroves and rivers. Author source.

preferred by men who use the main roads and organise their activities from the pier (Number 1), which is their meeting space. At this place, fishermen share the news of the day, and wait for the tide to return from fishing. From the pier, it is possible to dominate the view of the Santa Rosa estuary on the left of the image. At this point, the movement of the boats that sail in the estuary is monitored, and at the same time, they can observe the activities within the settlement.

The pink line shows the daily route of the fishermen, who are in charge of the productive tasks of fishing from the dock where they

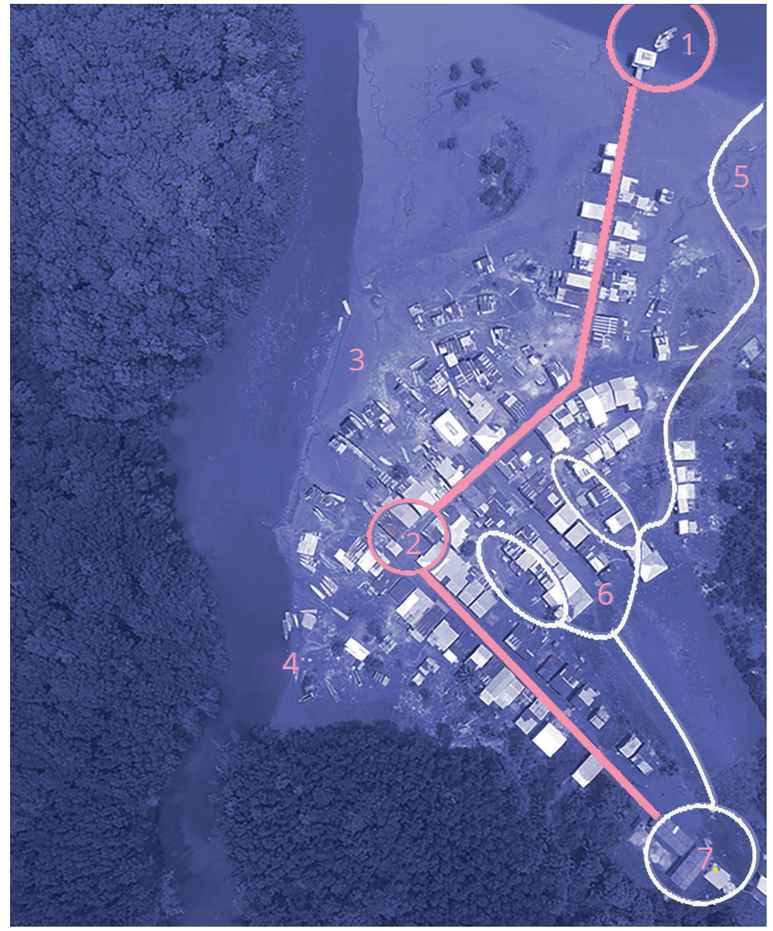

Fig.8. 1) Pier, male space, 2) Semi-covered meeting area, male space, 3) Roof area for repairing nets, male space, 4) Area for repairing boats, male space. 5). Entry of canoes, female space, 6) Terraces and backyards of houses, female space, 7) Public school and community rainwater collection tank, female space (Author source).

have visibility and control of the boats that come to the island. They have also a clear visibility to the meeting area in the middle of the community (Number 2), to the interior of the community and the public school (Number 7). On the other hand, the white line shows the daily path of women, who move through the interior of the community with the canoes that are left next to the houses. Every day, they take them out by walking towards the estuary. Children of the community are cared by the elders, and used to walk without a particular path differentiation. In the afternoon, they play in the estuary and between the houses.

In the community, houses are arranged on stilts at an approximate height of 1 metre above ground level. They are built with wooden planks with a mangrove structure and a gabled roof. At Number 2, there is another surveillance and male control point, which leads to the secondary entrance of boats, used when the tide is very low. From this point, the view opens up to the end of the settlement. Number 3 indicates a series of small semi-covered spaces or rooftops, with a structure on stilts, where men untangle and repair nets. At Number 4, there is a motor boat fibreglass repairer, in direct communication with the secondary entrance. As can be seen, male spaces are arranged in direct relation to the water, so supporting the productive activity of artisanal fishing. However, the dock and the meeting place are used during rest hours awaiting the rise of tides, and at the same time, to survey the activities of all the inhabitants of the community.

At point Number 5 is the entry area for women´s canoes. From that place women leave the estuary to go to their collection areas, and from there they return home. Number 6, are backyards where they clean and count the shells, and Number 7 is the public school. The constructed subjectivity is distinguished in areas of production clearly differentiated by gender.

DISCUSSION

In the case of Santa Rosa Island, the location of Afro-Ecuadorian fishing families is structured from a tissue of blood kinship that inscribes and determines territorial spatiality. Invisible gender frontiers have to be recognized by designers. Certainly, it is necessary to continue research to identify the spaces of meaning for women in the communities. From a prescriptive point of view, the methodology applied leads to identifying the productive and reproductive tasks separated by gender within the community.

Decoding the forms of occupation by gender, identifying the spaces of territorialised power of women, can direct the gaze to strengthen and optimise female ecosystems and promote gender visibility and equality. As a second point, it is necessary to identify the spatiality of human encounters, the crossing paths and the timeline of those moments. Indeed, to ask some questions like when is the encounter, who participates and how to find the main objective of that encounter?

Going deeper into the relationships that human beings weave with the territory, I was searching to give form to a different scheme that can explain how human relationships work, close to Deleuze´s rhizome thought. Socio-environmental ecologies are mutants, they are permanently transformed and constitute a system that is activated like the neurons of the brain in the process of synapses. The meaning of this term, together firmly, was the key to recognise and represent the changing experiences between the domestic and public sphere. From the case analysed, the islanders' strategies go beyond the category of housing as the minimum unit of domestic space (Dazzini Langdon, 2020). The sustainability of human habitat depends not only on the house unit, but also on the common social space which forms an indivisible bond.

The situation of Santa Rosa island is an example of lifestyle developed by the Afro-Ecuadorian community of Santa Rosa island on the Pacific coast of Ecuador. A series of islands make up the mangrove reserve and the situation extends to all the islands of the reserve, clearly linked to the family activity of artisanal fishing and collecting bivalves. The mangrove is not only a biogeographic border, but it is a social and productive border that contributes to the survival of the Afro-descendant peoples of the coast. Human geography and gender have to be tied together as a tool for understanding the lifestyle of the rural and urban communities.

Domestic life and the construction of habitat correspond directly to this activity differentiated by gender. Thus, housing and community designs are closely linked to the economic activity that takes place in the communities. The understanding of this social, cultural and economic relationship should be a way to recognise the motivations that lead to a particular design in coastal areas, either in Ecuador or in similar regions of the continent. New strategies for participatory planning may restore social justice and recognition of women's spaces.

Moreover, an educational proposal that addresses the biopolitics of living from gender equality and participatory action research will contribute through the empowerment of women to improve their places of meanings to address an effective contribution to social and natural ecosystems survival.

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