

SOCIAL EQUITY THROUGH AN ECO-CULTURAL TRAIL: THE NGÄBE-BUGLÉ MIGRATION UNDER CAPITALISM IN WESTERN PANAMA

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1 ABSTRACT

Panama is a country internationally recognized for the interoceanic canal which plays a unique role in the country's national economy as well as international commerce. Although the Panama Canal is the biggest source of income and is a key figure for understanding the Panamanian's history, identity, and economy, this study focuses on the overlooked and ignored western area of Panama. This area is in the shadow of the Canal and the fast-economic growth of Panama City where the canal's major ports prevail. Therefore, this study looks towards exposing the economic and environmental threats that this region faces, and overall to unveil the social disparities among Latinos and native indigenous peoples, living in the western area of Panama. In so doing, this study aims to uncover a new path of action for designers – to work with the communities and empower them to take actions on environmental injustices, social inequities and the economic burdens imposed by capitalism and global climate challenges. The study analyzes the Provinces of Bocas del Toro, Chiriquí and the "Comarca" (indigenous autonomous territory) Ngäbe-Buglé in the light of the burden of capitalist growth models imposed on the western area of Panama. At this point, the study raises relevant issues of social inequity and show opportunities for interventions with the aim to promote the care of the environment alongside better economic conditions for the most vulnerable groups of this region. This proposal focuses on issues of social equity in the interaction among Latinos and indigenous of this region.

1.1 Keywords:

Social Equity, Capitalism, Indigenous Tourism, Environmental Care.

2 INTRODUCTION

Capitalism can directly or indirectly erode equity in society and consequently negatively impact vulnerable populations. Studies on the effects of capitalism in “developing countries” and with other vulnerable communities, such as Indigenous peoples, have demonstrated how this system can shape and establish a set of conditions limiting their growth, development, and functioning (Ali, 2016; Castells, 1977; Howitt, 2001; Siddiqui, 2012). Thus, capitalism can hurt the very foundation of development and prosperity of the territories in which its interests are focused.

Diverse studies have shown the extent of the impact that extractive capitalist practices can have on the environment of developing countries. Under the umbrella of green development and economic growth, multinational companies and industries manage to exploit resources of powerless communities, harming ecosystems and diminishing biodiversity among others (AIDA, 2009; Aiken & Leigh, 2015; Cansari & Gausset, 2013; Finley-brook & Thomas, 2011; Howitt, 2001; Jaichand & Sampaio, 2015; Siddiqui, 2012). As a consequence, access to basic needs becomes limited for these communities and the unfavorable agrarian policies that free market practices impose on them end up devastating their subsistence economies (Aiken & Leigh, 2015; Ali, 2016; Cansari & Gausset, 2013; Jaichand & Sampaio, 2015; Patnaik, 2003). Finally, the rapid adoption of free market practices presents the possibility of eroding democracy to control the market and support big corporations, hence promoting disparities, generating social fragmentation, displacement, and loss of livelihood and cultural values (AIDA, 2009; Aiken & Leigh, 2015; Ali, 2016; Cansari & Gausset, 2013; Finley-brook & Thomas, 2011; Jaichand & Sampaio, 2015; Patnaik, 2003; Siddiqui, 2012).

As has been previously shown, capitalism can seriously affect small economies and vulnerable populations in developing countries. Panama is no exception. Since the development of the interoceanic canal, the country has been integrated into the world’s capitalist economy and has become almost wholly dependent on the trade and traffic through the canal (Manduley, 1980). Therefore, the economy of Panama – based on the facility for circulation of capital and not in accumulation – allows for unequal distribution of resources. Fast economic growth and stability occur in Panama City, the nation’s capital, where the canal and the International Banking center are located while rural countryside areas are isolated and excluded from these benefits (Manduley, 1980; Siddiqui, 2012; Sigler, 2013). (see Figure 1)

The purpose of this study is to expose the problems generated by capitalism in overlooked areas of Panama and propose a comprehensive design solution to it. In this way, this study also seeks to uncover a path of action for the design that allows solving complex issues integrally.

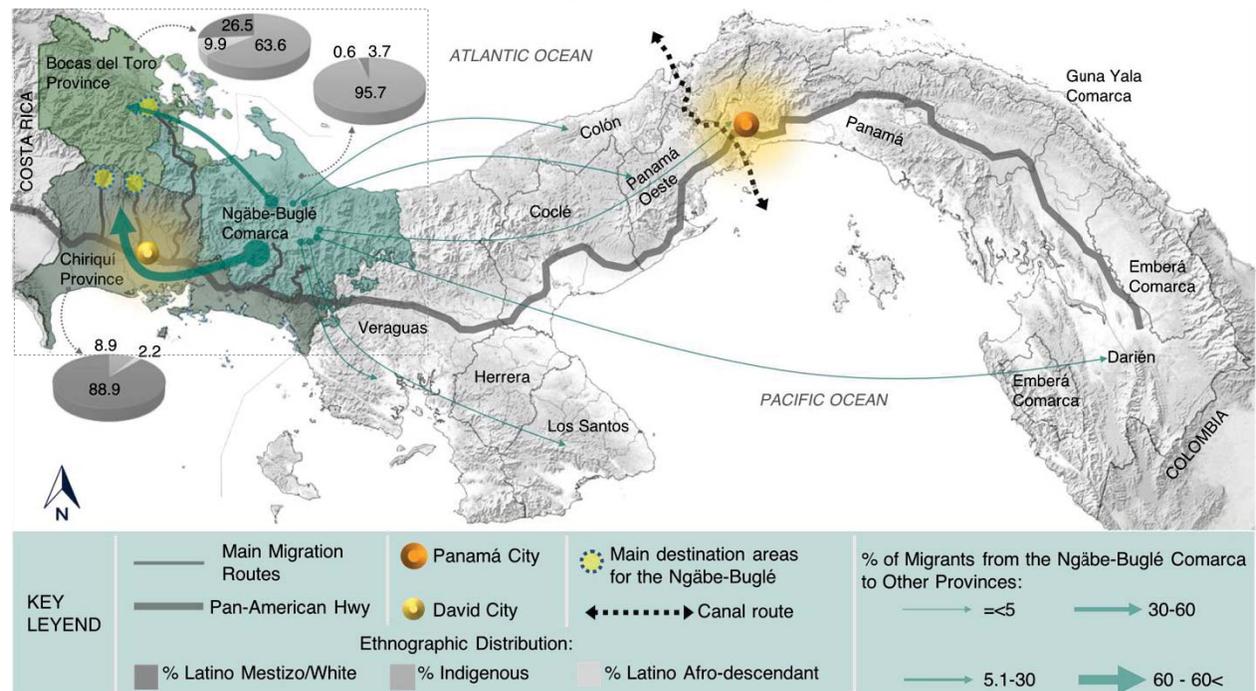


Figure 1. Map of Panama, highlighting the western region, and the Ngäbe-Buglé internal migration patterns (2017). Diagram by the author

2.1 Study rationale and aims:

Panamanian capitalism, with the vast predominance of the tertiary sector over the others (Castells, 1977; Hornbeck, 2012; Manduley, 1980), imposes environmental, economic and social burdens on the countryside provinces which largely depend on other sectors of production. This study focuses on western Panama – an agricultural region at risk, due to free trade market rules, the extraction of native resources for sale, and the rapid change of environmental conditions triggered by severe human manipulations of the landscape. Using Think Pad analysis method and interviews described in section 3 this study reveals a chain of events generated by the severe impacts of capitalism in the social dynamics of western Panama. By doing so, this study uncovers the harsh reality that the Ngäbe-Buglé people face and addresses the migratory problems of this group—the most vulnerable group to the effects of capitalism in this region. Therefore, the question raised is how to provide an equitable solution for the social, environmental and economic problems amongst Ngäbe-Buglé indigenous and Latinos in western Panama?

Aims: The overall goal of this study is to address social equity between Latinos and the Ngäbe-Buglé communities in western Panama and to propose a comprehensive solution to it. In doing, so, there are three research aims.

1. To expose social, environmental, and economic threats caused by capitalism in western Panama.
2. To unveil social consequences of capitalist practices on western Panama.
3. To propose a comprehensive design solution that can solve local social, economic and environmental problems of global importance.

2.2 Context area of study description:



Figure 2. Differences of the landscape characteristics in the West region of Panama - Comarca Ngäbe-Buglé (2013, 2012). Photos by the author

Ethnographic Description: Western Panama is divided in the provinces of Bocas del Toro, Chiriquí and the Ngäbe-Buglé Comarca (indigenous autonomous territory). This region includes the following ethnicities: Latino-Mestizo/ White, Latino-Afro, and Indigenous Ngäbes, Buglés and Brii. They are distributed as shown in Figure 1.

Location description: The landscape of western Panama is dominated by a mountain range that runs along the country (see Figures 2 and 4). In the lowest part of the mountain chain, the broken valleys extend toward the coasts at the north and south facing the Atlantic and Pacific oceans. The region has a tropical climate with intense rains and has many rivers within 14 watersheds. The area is suitable for a variety of crops and livestock production and is attractive for the hydroelectric market. The agricultural production capability varies; for example, in Chiriquí and part of Bocas del Toro, there are optimum soils for crop production but in the rocky Ngäbe-Buglé area most of the soil is non-arable with severe limitations that impede their use for commercial production (ANAM, 2010).

Political systems: In this region of Panama there are two governmental systems, 1) Latino system of government (Bocas del Toro and Chiriquí) and 2) Indigenous Comarcal System, presided by the General Ngäbe-Buglé Congress (Ngäbe-Buglé region). In the Comarca both of the systems work together with the supremacy of the Indigenous Comarcal System over the traditions and decisions in that territory (TE, 2010). This is an important characteristic of the region that must be considered in the implementation of policies and execution of projects since indigenous people reject any imposition that threaten their autonomy.

2.3 The importance of this study:

The potential importance of this study relies on three main aspects:

1. It is imperative to raise awareness about the consequences of capitalist practices in western Panama as well as the inequities that the Ngäbe-Buglé families face during their annual migration.
2. It is important to share ThinkPad analysis method, which will be introduced in section 3, as a tool that can be so valuable in early stages of research to consider the social, political, environmental and economic aspects of a problem in different levels of impact.
3. It is useful and valuable to exemplify the results of using such tools that allow designers to examine social, environmental, political and economic aspects of the problems at different scales.

3 METHOD

This study used mixed research methods. Research was divided into the following steps: 1) area of study identification, 2) Think Pad analysis, 3) gap identification, 4) telephone interviews with people from the area, 5) graphic analysis of vulnerabilities and selection of specific area of intervention, and 6) design proposal to address the problem.

3.1 Area of study identification:

Literature and statistical records from INEC (National Institute of Census and Statistics) were analyzed to find possible impacts of capitalism over the countryside of Panama.

3.2 Think Pad Analysis:

The western region of Panama was analyzed through Think Pad to discover hidden issues related to the capital practices in the region and their connections to social issues. Think Pad is an experimental tool developed at Iowa State University by Marwan Ghandour (Architect and Professor) in 2016 for a capstone project of the Master of Design in Sustainable Environments. This is a method of analysis through representation defined for its creator as a “process for “mapping” (not to be confused with map making), is an analytical method to include geographic/spatial representation, charting, diagramming and narrative.” Think Pad consists of a matrix with four different scales and three separate elements or realms.

The different levels and realms of Think Pad are based on theories of “The Production of Space” (Lefebvre, 1991) where Lefebvre states that the space is dynamic and generates as incorporates social actions and interactions. Lefebvre developed a theory that states that the dynamic of the space can be understand through a triad: 1) Spatial practice defined as perceived space (Material realm of Think Pad), 2) Representations of space that he defines as conceived space (Political realm of Think Pad) and, 3) Representational defined as Lived space (Symbolic realm of Think Pad). (Lefebvre, 1991). At the same time, he explains that these dynamics interacts at different scales, these scales are defined in ThinkPad as: Individual, Communal, Systemic and Planetary level.

Think Pad as a tool offers users the opportunity to explore a problem and evaluate findings in different realms and levels. In the current study, Think Pad allowed for a broad analysis of the **environmental, economic** and **social** situations of western Panama in multiple realms (material, political, and symbolic) and levels (planetary, systemic, communal and individual). In the current study each topic analyzed through Think Pad was graphically represented to condense complex data. Table 1 illustrates the criteria for each scale, realm and the analyzed topics in for this design proposal.

Table 1. Think Pad Analysis for the west region of Panama.

| <i>ThinkPad Analysis Criteria for Western Panama</i> | | | | |
|--|---|---|---|---|
| Level | <i>Material</i> | <i>Political</i> | <i>Symbolic</i> | |
| Individual | <ul style="list-style-type: none"> •Housing typology •Crop production •Settlement patterns •Livestock, poultry •Access to services •Means of transport | <ul style="list-style-type: none"> •Land ownership policies •Local authorities •Trading | <ul style="list-style-type: none"> •Symbols of wealth •Beliefs related to environment •Harvesting season •Sense of ownership •Gender role •Religion | <i>Local scale, where people develop their daily activities and relations. This is at small village and family level.</i> |
| Communal | <ul style="list-style-type: none"> •Land cover •Dams for energy •Agriculture •Labor force •Migration patterns •Products exchange •Transportation | <ul style="list-style-type: none"> •Administrative divisions •Regional governmental organization •Exchange rules | <ul style="list-style-type: none"> •Symbols of wealth •Environmental world views •Festivals and Recreation •Icons of the region •Sense Connectivity | <i>Regional scale, where sets of communities interact. This is at level of the West Region.</i> |
| Systemic | <ul style="list-style-type: none"> •Hydroelectric production •Crop Production •Land Cover •Intermigration Patterns •Products exchange | <ul style="list-style-type: none"> •Government system •Energy policies •Market policies | <ul style="list-style-type: none"> •Symbols of wealth, and poverty •Language •Ethnographic distribution •Ethnic proud | <i>Country scale, where an entire society develops their activities. This is at level of Panama.</i> |
| Planetary | <ul style="list-style-type: none"> •Goods exchange •Volume of importation and exportation •The Panama Canal as good | <ul style="list-style-type: none"> •Free trade agreements •Indigenous protection Laws •Green energy laws | <ul style="list-style-type: none"> •Panama as World convergence point •Hob of international exchange •Panama as a Canal •Panama Canal as icon of engineering | <i>Global scale, where Panama as country interacts with the world through relations and activities.</i> |

Material: Perceived Space, Physical aspect. Is the realm where things are perceived through senses. Example: Fauna, Flora, Movement of people, animals or manufactured products.

Political: Conceived Space, Mental aspect. Is the realm where things are legislated and rules are established. Example: Power hierarchies, Political organization like families, religions, institutions.

Symbolic: Lived Space, Social aspect. Is the realm where beliefs take place personally or collectively. Example: Religion, Magic, Personal convictions and norms, is a constantly transformed by experiences.

3.3 Gaps identification:

After studying all the topics presented in Think Pad for each province in the west region, issues related to the Ngäbe-Buglé migratory patterns and their relation to the Latino community where identified as issues of most concern to be further investigated.

3.4 Interviews:

Telephone interviews where held with four people from the region to find reliable information about issues related to the temporary migration of the indigenous peoples traveling to the Latino region of Chiriquí.

Participants: The participants included one adult indigenous Ngäbe-Buglé person (who will be referred to as NB) and three non-indigenous social workers in the field of health care (who will be referred to as L1, L2 and L3). The non-Indigenous social workers possess a vast experience working with the Ngäbe-Buglé ethnicity and are knowledgeable about health, social conditions, and environmental conditions, both inside and outside the Comarca.

Procedure: The interviewees were asked to describe issues related to the experience of the Ngäbe-Buglé community when traveling during the annual migrations.

- The indigenous person, NB, was asked to: 1) describe the living conditions of the average indigenous person inside the Comarca, 2) describe the traveling conditions of the indigenous families during their journey to Chiriquí, 3) identify what members of the family were more vulnerable to the risks they faced in each stage of the journey, and 4) describe common experiences that the indigenous people face when interacting with the Latino population.
- The three non-Indigenous social workers, L1, L2 and L3, were asked to: 1) describe common conditions of migrating indigenous people who arrive at health centers during the migration, 2) identify, according to their criteria, which members of the indigenous families were more vulnerable to the challenges of the travel and why, and 3) describe the general living conditions of the indigenous people when they get to farm fields in Chiriquí.

3.5 Graphic analysis of vulnerabilities:

A graphic representation of the traveling conditions, risks and vulnerabilities that indigenous people face in each stage of their annual migration was developed based on interviews to identify crucial areas of concern. The first phase of the migration was identified as the most critical (see Figure 4).

3.6 Design proposal:

A creative program of design was developed to respond to the social, environmental and economic issues that indigenous people face in the first stage of the journey taking in account 1) the physical proposal, 2) a program proposal and 3) the system organization.

4 RESULTS AND PROPOSAL:

4.1 Area of Study Identification.

The west region of Panama was selected as focus area of study. This region was selected based on the social, economic and environmental impacts found in the data statistics from INEC and other studies that reveal high levels of poverty, high rate of depopulation, elevated amount of hydroelectric constructions and serious impacts on agriculture (Cansari & Gausset, 2013; Flores, 2017; INEC, 2015; SNE, 2016; UNDP, 2015).

4.2 Think Pad Analysis and Consequences of capitalism in western Panama:

The topics analyzed through Think Pad revealed a chain of events produced by capitalist practices that permeated all levels and realms. Panamanian capitalism generates intertwined environmental and economic problems which cause social conflicts in the labor migration of this region. The analysis of this chain of events is explained through three main aspects as follows (see Figure 3):

Environmental burdens triggered by capitalist economy of extraction of native resources: The involvement of the west region in the international energy trade market causes environmental disturbances largely due to an excessive amount of hydroelectric projects (Flores, 2017) following the emergence of policies for clean energy production aimed for export (SNE, 2016). Added to that, in 2017, the National Authority of Public Services, announced 31 new concessions for hydroelectric generation in the region (ASEP, 2017). As a consequence, up to 98% of the flow of rivers is used for hydroelectric generation, producing dried up rivers, erosion, sedimentation and impacting the fauna, flora and agriculture (CATIE, 2014; Flores, 2017).

Economic burdens triggered by capitalism: The excessive extraction of native resources indirectly affects the agricultural production of the region, allowing rivers only 2% of the water available for irrigation and other basic needs (CATIE, 2014; Flores, 2017). This lack of water puts the agricultural

production at an extreme risk, provoking uncertainty in the main source of income of the people of the western region. The most affected is the province of Chiriquí, known as the “Panama Bread Basket”, which generates the major percentage of agriculture of the country (CATIE, 2014). But capitalism adds another economic burden to the region through a violent agricultural market that struggles to compete with international imports under unfair conditions of the free trade market.

Social burdens triggered by capitalism: The unstable situation of agriculture in Chiriquí results in population decline. People from Chiriquí travel to Panama City searching for better economic opportunities (UNDP, 2015), thus weakening the agricultural labor force of the province. This fact, added



Figure 3. Graphic showing the chain of events happening in the west region of Panama founded through the Think Pad analysis. (2017) Diagram by the author

to the need of this province to be competitive in the unfair agricultural market, generates the necessity of a cheap labor force to maintain its competitive edge. Latino farmers find that the Ngäbe-Buglé indigenous people are willing to accept the lowest wages (Olguín Martínez, 2006). The deplorable conditions that the Ngäbe-Buglé face in their territory force them to migrate from their lands and accept the crumbs that Chiriquí Latino province offer to them. (see Figures 1,3 and 4)

4.3 Gap identification:

Ninety-eight percent of the Ngäbe-Buglé people live in poverty (UNDP, 2015). To escape poverty and the lack of job opportunities inside their own territory, families from the Ngäbe-Buglé community look for temporary jobs outside their land. Olguín Martínez explains the problems faced by the Indigenous community in the west region of Panama as follows:

“The lack of opportunities for income generation within their communities has forced indigenous peoples to emigrate..., moving from a family-oriented economy - within the primary agricultural sector - to a proletarianization, selling their labor force in the worst working conditions ...” (Olguín Martínez, 2006, p.16 – passage translated by the author).

Forty-eight percent of the Ngäbes and thirty-eight percent of the Buglés indigenous people that share the Comarca (indigenous autonomous territory), face the challenges of temporary migration every year. Around the 60% of the migrants go to the high-lands of the Chiriquí province searching for paid labor, particularly in the coffee harvest season that lasts from September to December (BID, et al, 2005; Olguín Martínez, 2006) (see Figures 1 and 4). To get to Chiriquí the Ngäbe-Buglé people need to travel the long and dangerous road that links their community to the Pan-American Highway which takes them to the farm fields in the Latino province of Chiriquí. The migration becomes a problem due to the risks that families go through during this journey.

In the following section, this study uncovers the dangers, risks and vulnerabilities of the Ngäbe-Buglé indigenous people along the journey.

4.4 Interview results:

Four main dangers were revealed through the interviews, including: 1) Conditions within the Comarca and the risks entailed by their crossing, 2) Ethnic confrontation with the Latino community, 3) Interfacing with a capitalist economy, and 4) Conditions in the Chiriquí's farm fields.

1. Long walks on roads and pathways in deplorable conditions, inside the Comarca: A small portion of the access routes to the Comarca are paved, most of them are in poor condition and get very muddy during the winter. Other paths are walking trails to remote mountainous areas.

In an interview, NB stated: "It can take to some of these families up to a week to reach the main road". NB remarked, that during their journey, the families who have nobody to host them along the road are faced with no shelter to sleep under during the night, and they face the risk of being attacked by snakes and other animals. L1, who works with the Ngäbe-Buglé people, said: "Some of the women who make this journey are pregnant and risk losing their babies due to the excessive physical effort, lack of shelter, lack of proper sleep, and bad road conditions". NB expressed that this journey also involves crossing rivers, which put children and adults at risk of drowning during the flood season. Some indigenous people can afford transportation in some part of the route, nevertheless NB said: "fifteen to twenty people are fitted in a wagon of a truck that is not secure, and because of the poor road's state, accidents become another risk to families that travel". L1 concluded that: "children and women are the most likely to suffer from heat strokes, fainting, dehydration and respiratory infections because their exposure to extreme conditions of heat or rain." (see Figure 4)

2. Confrontation of racial discrimination when facing Latino society: When indigenous migrants reach the first big towns, Tolé or San Félix, near to the Pan-American highway to take public transportation, they confront the Latino community for the first time. From this point until the farm fields, Latinos dominate the territory. Indigenous people will be mistreated in the buses of public transportation and Latinos will refer to them as "Cholo(a)" pejoratively NB affirmed – in this context, this qualifier can mean ignorant, low quality or uncivilized people. Some Latinos deceive indigenous people offering them underpaid jobs for domestic labors or the riskiest and undesirable jobs, equally underpaid. The women become particularly vulnerable, at risk of abuse by their employers, when they get exposed to the Latino context, NB mentioned. (see Figure 4)

3. Facing a capitalist economic system different from theirs: The traditional Ngäbe-Buglé economy, unlike capitalism, is based on subsistence and shared distribution of resources instead of individual accumulation. Torres de Araúz states that agricultural production is the base of the Ngäbe-Buglé economy; "it ranges from the subsistence scale to the location of small surpluses in neighboring non-indigenous peoples" (Torres de Araúz, 1999, p. 272 – passage translated by the author). As Ngäbe-Buglé people mainly grow crops and hunt for consumption and not for profit, managing money is unfamiliar to most of them. However, Ngäbe-Buglé's economic experience changes when they start depending on Latinos' goods and market-based economy (Torres de Araúz, 1999). One of the risks to which they are exposed along this travel, is the presence of "cantinas" (Bars) in the Latino region. Bars are uncommon inside the Comarca. L1 and NB stated that once they are exposed bars, many of them, being inexperienced with money, "spend all their money on alcohol". To NB, the men, as heads of families are the most vulnerable to this problem. Consequently, during the travel they are prone to wasting their money for public transportation: "complete families get stuck in David – a Latino city – until they find help to recover the money to continue traveling", NB expressed. (see Figure 4)

4. Precarious living conditions in the agricultural fields where indigenous people go to work: L3, who works with indigenous people in Chiriquí, declared that the first challenge faced by indigenous people in the new place is the cold climate for which they are unready. This makes them prone to respiratory infections, especially children. L1 clarified that some of the farms provide them with better living conditions, like access to potable water and secure infrastructure to live in. Although, according to L1, "not all the families have the same luck." Most of them are exposed to terrible conditions of overcrowding in unhealthy environments in on-farm housing. This generates other problems like sexual and physical abuse among themselves. Frequent sexual abuse and promiscuity fosters the spread of diseases among workers. Finally, according to L2, another problem indigenous families face is the exposure to dangerous chemicals in the agricultural fields, without proper safety controls. (see Figure 4)

As has been demonstrated, the interviewees declared that during the journey, indigenous people face many dangers on risky routes and in environments that can put the lives of migrants at risk. As an added burden, when they finally get out from the Comarca, a series of challenges waits for them in an unknown (to indigenous peoples) territory dominated by a Latino population that hires them exploitatively, and only as a cheap labor force. Therefore, awareness of their problems needs to be raised and action must be taken to develop their home economy and improve their migratory conditions.

4.5 Graphic analysis of vulnerabilities and selection of a specific area of intervention

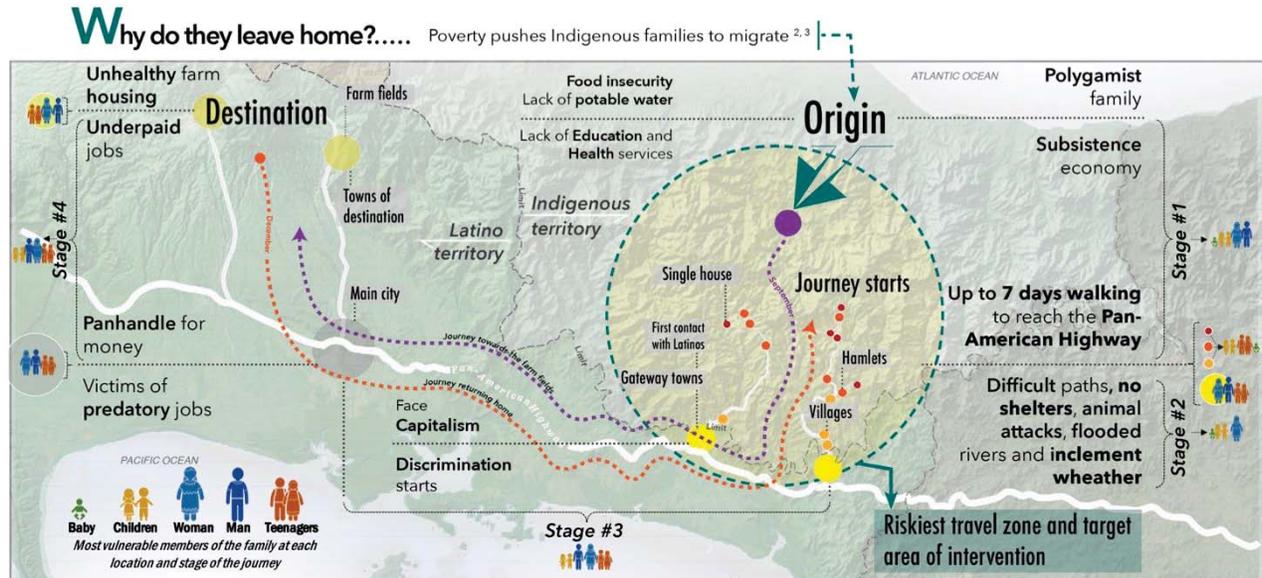


Figure 4. Ngäbe-Buglé migration patterns and area of intervention (2017). Diagram by the author

The above declarations reveal the social inequities that the Ngäbe-Buglé families bear along their annual journey. Hence, it is important to improve their economic well-being and their travel condition inside their territory—before they face the aforementioned injustices in foreign areas. It is critical to intervene in the Ngäbe-Buglé migratory situation before they reach the province of Chiriquí—dominated by Latinos—where indigenous people have almost no control over the adversities they face. Thus, the first and most dangerous segment of their travel, is the best target to intervene in the betterment of their living and travel conditions—this is where they have governance, ownership, and decision power (see Figures 1 and 4).

This study proposes a physical and systematic intervention along the primary roads and paths commonly used to migrate, which link the Comarca to San Félix and Tolé. These are towns located at the border of the Latino and indigenous territory. They provide access to the Pan-American Highway and are the first place where indigenous migrants leaving their homeland face discrimination and a capitalist economic system. Hence, these towns are essential to develop initiatives inside the Comarca.

4.6 Design proposal:

Description of the Ngäbe-Buglé Eco-Cultural Trail (NBET) program: This intervention focuses on the first section of the migratory travel, located in the indigenous Ngäbe-Buglé Comarca. Based on the needs and the physical characteristics of the region, this study proposes The Ngäbe-Buglé Eco-Cultural Trail to foster social equity among indigenous people. Specific problems like poor economy, dangerous travel conditions and lack of education about money management were targeted as opportunities for developing solutions. Hence, based on these needs and the social, political, and geographical characteristics of the region, a comprehensive Eco-Cultural Trail program is designed along with a physical prototype to support the program. The following design objectives were developed based on the results of the research:

- To provide shelter and better traveling conditions for the Ngäbe-Buglé people in their annual migrations.
- To share the value of the region and the importance of this ethnicity among Latinos of the region, foreigners and national tourists.
- To provide a buffer for their traditions and ownership of their territory.
- To promote the economic development of the area under practices that consider their customs such as their care for the environment.
- To encourage the reinvestment of resources in the region.

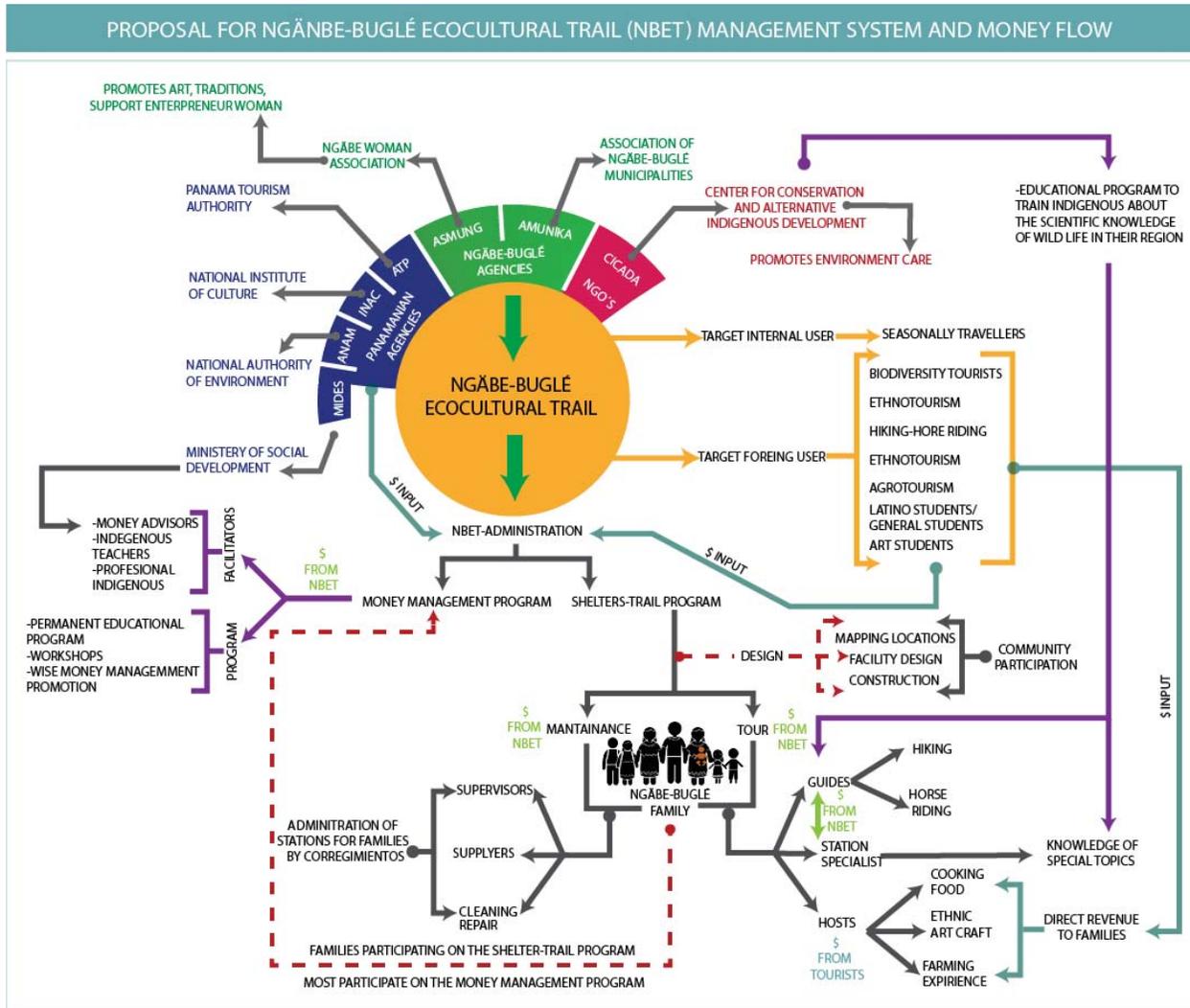


Figure 5. Eco-Cultural Trail System: components and money flow. Diagram by the author

Components of the NBET program: The Eco-Cultural Trail program proposal has three main components: the trail, an eco-cultural program of tourism, and a program for wise money management. They are described below.

The trail: This is a trail with stations that will serve as shelters for Ngäbe-Buglé families that travel inside the Comarca territory. Stations will also work as tourists rest stops and scenic viewing points. These stations aim to improve the traveling conditions for the Ngäbe-Buglé families in their annual migrations and foster positive interactions between foreigners and the Ngäbe-Buglé community. (see shelters-trail program in Figure 5)

An eco-cultural program of tourism: This part of the program will promote the active involvement, participation, management and ownership of the Ngäbe-Buglé families in the improvement of the economic situation of the region. The program aims to begin with support of NGOs and governmental agencies related to culture, environment and tourism but is projected to be self-sustaining. Thus, the program avoids unstable financing from foreign agencies. This touristic component aims to provide a source of income to the indigenous people and promote their ethnic traditions, care for the environment and empower the community. The program targets specific users in the fields of Indigenous-tourism, Eco-tourism, Ethno-tourism, Biodiversity-tourism, Mountain-tourism and other noninvasive types of tourism. (see target internal user, target foreign user, guides, station specialists and hosts in Figure 5)

A program for wise money management: This is an educational component of the program that will be available for the Ngäbe-Buglé community, particularly for the participants in the Eco-Cultural Trail program. This is to ensure the good management of the income they will receive and to provide to the Ngäbe-Buglé families autonomy and control over the betterment of their living conditions and development of the region. (see money management program in Figure 5)

Systematic organization: As a system, this trail will have four different components that will work as shown in Figure 5:

- Indigenous agencies in charge of the direction and general management of the Eco-Cultural trail program.
- Indigenous families involved as active participants and promoters of the Program.
- NGOs focused on environmental protection and indigenous support.
- Governmental agencies in the fields of social development, environment, culture and tourism, as well as economic and governmental Panamanian support of the program.

Novel Elements of this Proposal:

Double Purpose of One Intervention: The intervention maximizes the benefits of existing routes in the indigenous territory, generating an opportunity for eco-cultural tourism. A series of stations aims to accomplish the purpose to offer shelter for Ngäbe-Buglé families in their journey along these dangerous routes. The shelters also play a role as scenic viewing points and rest stations for tourists, thus, allowing the promotion of the value of Ngäbe-Buglé indigenous people among foreigners.

Indigenous Ownership: The project is based on Ngäbe-Buglé indigenous ownership and participation starting with the design process, through the construction, maintenance, and management of the eco-cultural trail. This project is proposing the involvement of the indigenous, not as passive recipients but as actors in every step of the plan, providing them also with training in money management practices to ensure the good administration of the resources they will get from the services they offer.

5 DISCUSSION

The process presented above uses a multilevel analysis approach (Think Pad) to find problems and shine light on possible solutions to the social inequities in western Panama. Why is it valuable to explore design solutions based on a multilevel analysis approach like the Think Pad method?

In using this method:

1. The nested character of the problem of the region was brought into the light providing a way not to overlook the problems at different scales.
2. The links between the problems were identified.
3. The graphic nature of the method gave clarity to understand how any solution may work.
4. It begins to illuminate at which scale or realm the solution most operate.
5. It allows to objectively examine a problem in a dispassionate way.

There have been many attempts and initiatives to solve the poor conditions in the Ngäbe-Buglé Comarca and it is beyond the scope of this paper to name them all. Future research is needed to comprehensively document them. But from the scope of this study it is clear that interventions become unworthy when solutions 1) are not founded in a comprehensive understanding of the problems and the context, and 2) do not consider how problems are linked to political and economic currents. An example of that is the series of economic aid programs to fight poverty that the Panamanian government has implemented. These should represent a significant benefit for the Ngäbe-Buglé community—that is the poorest in the country (UNDP, 2015). The issue is that these are social programs of financial support through Conditional Cash Transfers. Hence, these monetary solutions do not respond to Ngäbe-Buglé problems since these paternalistic approaches overlook money management education. Such programs do not consider that the indigenous population in Panama have a different conception of money than the

Latino population (Torres de Araúz, 1999). Thus, making these investments is unworthy and not improving the indigenous' living conditions.

In other cases, the initiatives are never implemented or they are discontinued during the process. This is the case of national and international agencies that have considered eco touristic development and the enhancement of local entrepreneurship, education, women's empowerment, food sovereignty and sustainable management of resources, among others. Many of these proposals are left to the Comarca authority's consideration and are never implemented (Jaén, 2008; Mesa Nacional de Desarrollo, 2013). In 2007, an exceptional program was implemented in Costa Rica, which annually receives around 15,000 Ngäbe-Buglé migrants in the coffee harvest season. This program trained Ngäbe-Buglé leaders to teach healthy practices in their communities, achieving high indigenous participation and the empowerment of the population – under the leadership of their own people. Alas, this program depended on the World Bank funding that was temporary.

What are the key factors that other initiatives failed to solve problems in western Panama and what makes this proposal a promising solution?

Many of the previous proposals are focused on one layer of the whole picture, undermining in this way a series of factors that directly impact any performance of the projects. The multilevel analysis approach provided a deep and broader exploration of the Ngäbe-Buglé migratory problems, thus allowing a thorough design proposal such as the Ngäbe-Buglé Eco-Cultural Trail Program. This design proposal:

1. Targets issues at the individual level, like the shelters for the safety of the families during migration.
2. Empowers self-respect of the community through money management programs and cultural exchange.
3. Targets problems at a communal and systemic level like the improvement of the economy of the Ngäbe-Buglé Comarca and promotes care for the environment.
4. Is self-sustained to avoid situations like the Costa Rica example for constant foreign input.
5. It was achieved after understanding how a program like this can fit in global culture driven by capitalism and how it can provide buffers against the invasion of destructive capitalist practices to the indigenous territory.

The last point that must be emphasized is that the Ngäbe-Buglé Eco-Cultural Trail Program raises questions and concerns about the positive or negative impacts of the touristic component of this proposal for the Ngäbe-Buglé community. The Think Pad analysis shines light on this crucial topic. Through the Think Pad analysis, topics like indigenous identity and autonomous governance cannot be overlooked. This analysis of the symbolic realm and political systems of this population shows the importance of providing solutions that promote self-respect and empowerment among the Ngäbe-Buglé community, rather than imposing "solutions" that disturb local livelihoods.

This is significant because many studies have shown the nefarious consequences of touristic practices among indigenous populations that, aiming to improve the economy of the region, have ended in the destruction and displacement of the indigenous populations (Barretto, 2005; Burne & Maris, 1996; Cañada, 2011; Pereiro, 2012, 2016). Nevertheless, studies have also shown that when empowered indigenous groups take ownership of development projects, even when those have a touristic component, tourism may become the source that "revitalizes social organization of Indigenous communities, provides them with new sources of economic and social prosperity, and opens up their communities to the world eager for contact with unique cultural identities" (Pereiro, 2016, p.1129). This is the case of the indigenous people in the Guna Yala Comarca, a coastal fringe with a series of small islands located in eastern Panama and bordered by the Atlantic Ocean. There, the indigenous people developed beach tourism that is a model for sustainable indigenous tourism. The Gunas created an autonomous management system by the Statute of Guna Tourism. This regulates taxes from tourists and cruise ships anchored in their docks, and also provides protection to the economy in their territory. They have developed small traditional Guna Hotels, and the "agents for these types of accommodation are Guna families, companies, or communities, where the majority of agents boast a university education" (Pereiro, 2016, p. 1132). The income provided by the manufacturing of their traditional hand crafts also "ensure the university education" for "some of their children" (Pereiro, 2016, p. 1132)

Thus, based on the understanding of the political, symbolic and economic practices of the region and the examples of projects rooted on indigenous people ownership, this proposal was able to bring an

approach that suggests the value of the indigenous self-governance by giving them total ownership and true participation in every component of the Eco-cultural Trail Program.

6 CONCLUSION

The “Ngäbe-Buglé Eco-cultural Trail Program” emerged in the face of evidence of the economic and social disparities between the capital city of Panama and the countryside. These disparities are consequences of the strong capitalist approach of Panama. This study started with the purpose of uncovering the biggest problems that capitalism imposes over the interior of Panama. This allowed for the identification of opportunities for comprehensive design solutions. Western Panama was targeted as an area of concern in the interior of the country. Consequently, the material, political, and symbolic aspects of the region were analyzed at global, systemic, communal, and individual levels. This study generated a wide range of intertwined problems that revealed the migratory challenges of the indigenous Ngäbe-Buglé community. Major issues of concern have been largely overlooked in previous development programs, thus showing an opportunity for a comprehensive design solution proposal.

Table 2. Agencies and Programs at different Levels and Realms.

| <i>Involvement of Agencies at different Levels and Spheres of the Ngäbe-Buglé Eco-cultural Trail Program</i> | | | |
|--|--|---|---|
| <i>Level</i> | <i>Material</i> | <i>Political</i> | <i>Symbolic</i> |
| <i>Individual</i> | <ul style="list-style-type: none"> • Money Management Program • Shelters-Trial Program | <ul style="list-style-type: none"> • Money Management Program • Shelters-Trial Program • Local Congress • Local Authorities | <ul style="list-style-type: none"> • Shelters-Trial Program • Money Management Program • ASMUNG |
| <i>Communal</i> | <ul style="list-style-type: none"> • NBET Direction • ASMUNG • MIDES | <ul style="list-style-type: none"> • NBET Direction • CICADA • AMUNIKA • Regional Congress | <ul style="list-style-type: none"> • NBET Direction • ASMUNG • CICADA • INAC • Regional Congress |
| <i>Systemic</i> | <ul style="list-style-type: none"> • MIDES • ANAM • ATP | <ul style="list-style-type: none"> • ATP • MIDES • ANAM • INAC • CICADA • General Congress | <ul style="list-style-type: none"> • INAC • CICADA |
| <i>Planetary</i> | <ul style="list-style-type: none"> • ATP | <ul style="list-style-type: none"> • CICADA | <ul style="list-style-type: none"> • CICADA |

Under the light of a multilevel analysis — the suggested research proposal is rooted in the promotion of indigenous people empowerment, ownership, and active participation in the betterment of their living conditions. Overall this study responds to the issues of equity in western Panama through research-based design. The multilevel analysis based on Think Pad method has shown that when research-based design considers political, economic, environmental, and social issues in different layers, it enables a single design to address many different problems. Think Pad also allows users to tie the proposal back to every layer of study to corroborate that the proposal is targeting the problems through the involvement of agencies and solution approaches at every level and realm. (see Table1, Table 2 and Figure 5)

Through this study analysis it has been found that the two greatest failures of precedent solutions for Ngäbe-Buglé indigenous problems have been, on one side, the superficial and paternalistic monetary approaches that worsen their situation, and on the other hand, the lack of awareness of their rejection of foreign proposals that do not consider their active involvement in every stage of the plan. Therefore, the biggest challenge to this proposal is that the Ngäbe-Buglé indigenous people take ownership of it. If this is achieved, the Eco-Cultural Trail Program, as a whole, could provide the indigenous people a sense of self-respect and could empower them to affirm their customs and to revitalize their traditions. It could also reinforce the value of an empowered community that is well organized and politically autonomous, with control over their land, and with total dominion over the management of the income generated through tourism.

Finally, it should be noted that since this study has been primarily focused on solving the migratory problems inside the Comarca Ngäbe-Buglé to prevent a chain of events that derive from leaving their home territory. The rest of the journey is yet to be studied.

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