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Yahya Haage, Gabriel

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Research Article

Creating a Stakeholder Table, Identifying Hidden Stakeholders, and Exploring Relational Interventions for the Bayano Region of Panama

Gabriel Yahya Haage

McGill University, Natural Resource Sciences Department, Neotropical Concentration, Economics for the Anthropocene, Quebec, Canada

Corresponding author: gabriel.yahyahaage@mail.mcgill.ca

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Abstract: The Bayano region, in Panama, has been linked to many different stakeholders who were or are influenced by the Bayano dam, which was completed in 1976 and flooded a large area. Stakeholder tables are a good way of exploring the views of stakeholders and their relationships. They can also help in identifying hidden stakeholders. Hidden stakeholders refer to stakeholders who use or are impacted by regions or events, but are generally ignored. A primary goal of this research is to allow a better understanding of the region. In this study, several sources, including discussions with community members and workshop results, were used to develop a stakeholder table for the Bayano region. Stakeholders include displaced Guna and Embera Indigenous communities. In order to identify hidden stakeholders, I applied the table to relevant court cases and agreements, with hidden stakeholders being those who were not addressed in these documents. Hidden stakeholders include Indigenous individuals who raise cattle or are involved in tree felling, along with tourism industries. Using some follow-up workshops to gauge views on potential interventions, along with a relational values approach, which focuses on relationships with components such as nature, I highlight sustainable projects and methods that can target multiple hidden stakeholders at the same time. As such, another goal was to illustrate potential, sustainable projects that would include many hidden stakeholders. In the end, this research helps understand the stakeholders in the Bayano region and the results can also help other researchers involved in the region and beyond.

Keywords: Bayano dam; hidden stakeholders; Indigenous; relational values approach; stakeholder table

1. Introduction

Historically, the Bayano dam, in Panama, has had links to many stakeholders who are/were influenced by this development project. Past works dealing with the region have included different stakeholders, from Indigenous individuals to government employees [1,2]. One method for scholars and non-scholars to understand stakeholders is through a stakeholder table. A stakeholder table can help place stakeholders and their needs in a simple, understandable manner. A stakeholder table is defined as a useful method to "aggregate information on the different stakeholders" [3]. Both the name of a stakeholder group and their positions are included, giving an easily accessible resource. Relationships between

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stakeholders can be clearly seen through these tables and, by understanding the stakeholders, "hidden stakeholders" and their views can be identified. Regarding hidden stakeholders, these are groups that rely on certain resources but "whose participation in public stakeholder decisions is not normally considered" [3]. Several stakeholder tables have been created that act as templates to the one developed in this study. For instance, tables have been built for hypothetical conservation efforts for a dam project [3], as well as vehicle use [4].

The Bayano region is the site of interest for this study. The Bayano region has been affected by a dam development project, completed in 1976, which flooded a region of the tropical forest and led to the relocation of Indigenous Guna, Embera, and non-Indigenous Campesinos [2]. The negative repercussions, such as land tenure disputes and ecological devastation, are still linked with this development project [5,6]. Relevant academic work has also been conducted in another Panamanian hydroelectric project, Chan-75, including creating a stakeholder list [7]. However, a comprehensive stakeholder table for a Panamanian dam has not been fully developed. Developing a stakeholder table, and using it to find hidden stakeholders, is a worthy endeavor in this region, particularly as there are conflicts between stakeholders (see [2,6]). An understanding of stakeholder groups and their positions can help frame these conflicts, as shown by other stakeholder tables (see [3]).

The application of a stakeholder table to relevant court cases, legal documents, and agreements, (here referred generically as "legal documents") is novel to this study, which is interesting as such documents often discuss and mediate between stakeholders. These current efforts are an elaboration of other research that used content analysis to understand stakeholders in such "legal documents" (see [8,9]). Legal documents can also cause a shift in power dynamics for the stakeholders considered, through their declarations and judgments. Furthermore, they can help elucidate the relationships among different stakeholders, including between the goals of the stakeholders and the relationships between stakeholders and the legal documents. As such, a relational values perspective is of use in understanding these relationships. Relational values go beyond the intrinsic/instrumental dichotomy to consider relationships [10,11]. In a relational values perspective, the relationships themselves are seen as important, rather than means to an end, which is particularly instructive when Indigenous communities are involved (see [12]) . Relational values generally refer to the "preferences, principles, and virtues associated with relationships both interpersonal and as articulated by policies and social norms" [13]. These are usually framed as relationships needed to develop and live a "Good Life" or "Eudaimonia" [14,15]. The Good Life is one of fulfilment and one which has a profound meaning [13]. Pragmatically, the section in a stakeholder table stating the views/positions of a stakeholder can be considered a component of their Good Life. Furthermore, based on the results of the follow-up workshops done for this study, I consider the relationships between stakeholders and thus illustrate sustainable and synergistic projects that are fulfilling and consider the needs of as many hidden stakeholders as possible.

The primary goal of this research was to better understand the Bayano region and the positions of different stakeholders. As discussed, I achieved this by developing a comprehensive stakeholder table, which includes the views of each stakeholder and also groups stakeholders into meaningful categories. As discussed more fully below, I used sources such as workshops and content analysis. In addition, to further understand the region, as discussed above, I identified hidden stakeholders by applying the stakeholder table to key legal documents. Finally, I illustrate synergistic and sustainable projects that include various Bayano hidden stakeholders. These are based, in part, on three follow-up workshops. These workshops explore how a Bayano dam funder could aid the region.

The research can also have wider contributions to the field. As with other stakeholder tables (see [3]), the one I developed for Bayano can help frame issues in other regions, including other Panamanian dams. Furthermore, the follow-up workshops can be used to gauge what certain stakeholders, specifically those involved in ecology and/or sustainability and/or environmentalism, feel can and should be the reparations from development project funders.

1.1. Detailed Information on the Study Site (Bayano Region)

The study site is the Bayano watershed (River Basin 148 in the list of Central American river basins), which has a surface area of around 5000 km^2 [16]. This watershed, which will be referred to more generally as the Bayano region, ends in the Darien region in the east and terminates in the Chepo District in the west [17]. The region has been studied before, including the monitoring of forest cover changes [18] and the study of Indigenous groups [5,6,19].

Ecologically, the region consists of a humid tropical forest. Increases in modern agriculture, deforestation and cattle raising have all decreased its extent [16,20]. The Bayano dam reservoir, also called Bayano lake, was created in 1976 and is the region's greatest environmental change [2]. It is linked to the aforementioned issues [5]. It has also led to increases in insect and water-borne diseases [2].

The flooding led to the relocation of several non-Indigenous (Campesinos) and Indigenous communities [2]. The Bayano watershed is home to the Indigenous Embera and Guna [2]. The Guna communities have two areas considered comarcas (reserves), namely Guna Yala and Guna Madungandi [16]. A comarca is a section of land for which the Indigenous communities within it are legally allowed to determine how their resources should be used [5]. They can also, at least theoretically, apply their own governance and maintain their internally chosen political systems [5].

Only a small portion of Guna Yala is found in the Bayano watershed. However, the Guna Madungandi Comarca falls squarely within this watershed [5]. The Guna Madungandi Comarca was established in the 1930s [5]. There have been some legal challenges regarding this designation but the gov-

ernment has generally recognized its land tenure status [21].

The Embera are more recent arrivals in the region. The first Embera family moved to the Bayano region in the 1950s [20]. This was followed by other Embera families, who began moving into the Bayano region in the 1950s and 1960s. Unlike the Guna, who established several village-level communities, the Embera have traditionally lived in small extended family household units [2,20]. The largest settlement before the dam was Majecito, which was developed in 1970 and was the result of the coming together of a few Embera families, under a charismatic leader [2,20]. There are no recognized reserves for the Bayano Embera [2].

The planning and construction of the Bayano dam spanned from 1969 to 1976. The relocation of the communities in the region, including the Guna and Embera, took place from 1973 to 1975 [5]. The Bayano dam reservoir flooded 80% of the Guna Madungandi reserve [21]. The Guna were relocated to other parts of their reserve and were promised that their reserve would be redemarcated as soon as possible, and that the government would ensure they would be protected from invaders into their land [5]. It took decades before the redemarcation of the reserve took place, occurring in 1996 [5]. However, conflicts with some non-Indigenous invaders continued [5].

In advance of the flooding, the Bayano Embera were mostly resettled to the towns of Ipeti Embera and Piriati Embera [5]. This was a great social shift as Embera do not traditionally reside in village-level settlements [2]. Several Embera families subsequently moved away from these villages, to settle elsewhere [2]. One reason for this move was to be closer to their agricultural lands [2]. Unlike the Bayano Guna, the Embera, not having a reserve in Bayano, had a weaker position when arguing for their land tenure rights [2]. As one example, they mostly had to deal with the Bayano Corporation, with only limited access to the government of Panama [2]. Piriati Embera and Ipeti Embera eventually received some land tenure status, namely as Tierra Collectivas or Collective Lands. Piriati Embera received this status in 2014 and Ipeti Embera received it in 2015 [22]. For other Embera groups in the Bayano region, like the Union Embera and the Maje Embera communities, the regions they inhabit have not yet been given any meaningful land tenure recognition [22].

2. Material and Methods

2.1. Outline of Steps

This study went through a series of iterative steps:

1. I developed a stakeholder table for the Bayano region in Panama. The sources, discussed in detail below, included 14 workshops with participants involved in ecology, environmentalism and/or sustainability.
2. Once developed, I applied the stakeholder table to relevant legal documents linked to the region, to find hidden stakeholders. Hidden stakeholders are those not discussed in the legal documents.
3. I conducted three follow-up workshops, focusing on potential reparations by funders, to develop illustrative examples of sustainable and synergistic projects that include many of the hidden stakeholders. I took a relational values perspective, in which the relationships between stakeholder groups are front and center. A similar process was previously performed in regards to water poverty, Children's Rights, and the Bayano region (see [6]).

2.2. Brief Overview of Sources

In this study, I created a stakeholder table for the Bayano region, based, in part, on past documents discussing the Bayano dam and region, testimonials from Indigenous individuals in the Guna Yala reserve, field notes from other researchers with individuals affected by the Bayano dam, feedback from inter-coders who read documents related to the Bayano dam (the inter-coding was done primarily for a distinct, but related project [unpublished]), the input from participants in Sustainable Development Goals (SDG) and Human-Wildlife Conflicts (HWC) workshops, a workshop I conducted with the Maje Embera, previously published in a report based on the region, and, finally, casual conversations with key informants. The sources are described more fully below.

2.3. Setting up Sources Through Snowball Sampling

Past work has been done regarding methods for finding stakeholders and how they can be combined to find stakeholders that are ignored or overlooked [23]. For instance, using the local knowledge of experts can be a starting point for a more inclusive "snowball sampling" method of determining stakeholders, which is done by asking identified stakeholders to identify other "people and organizations that they consider to have a stake in the issue" [23]. Furthermore, this can be supplemented with a "key informant method" in which "stakeholder nominations come from well-connected members of the domain, who may not have a stake in the issue themselves" [23].

I used a snowball sampling method as often as possible for this study. For instance, a key informant in the Maje Embera community, the chief's brother, was asked to identify key individuals to participate in a workshop with his community. The results of this workshop, consisting of ten participants, were published as part of a report on water poverty [6]. A particularly helpful input was what the workshop participants felt was necessary for their community to thrive [6].

Further information was gathered from 14 workshops (147 participants) on the Sustainable Development Goals and Human-Wildlife Conflicts. These workshops were also established using a snowball sampling methodology, where individuals involved in ecology, environmentalism and/or sustainability, generally recruited through discipline and interest-based listservs, would be asked to identify other individuals with similar expertise. These participants may not all have a stake in the Bayano region, but they are involved and have expertise in relevant fields. As such, they could fit in the "key

informant method" discussed regarding this type of sampling (see [23]).

2.4. Sources

A deeper dive into the sources will be helpful in understanding the complexity and interrelations that occur in the Bayano region.

Source 1: A key source were a series of workshops, namely 14 on the Sustainable Development Goals (SDGs) and 14 on Human-Wildlife Conflicts (HWCs). I ran these workshops during 2020 to 2021 and they had a total of 147 participants for each type of workshop. I ran the two workshops back-to-back in a roughly two-hour session. I conducted the workshops virtually. Questions which were discussed in these workshops were used to shape the stakeholder table. A relevant question for the HWC workshop asked which type of stakeholder should be involved in reducing Human-Wildlife Conflicts. While this question was not asked specifically for the Bayano region, the results are relevant when considering the region, particularly as the Bayano region stakeholders are impacted by and have impacts on wildlife. For instance, deforestation in the region threatens the wildlife, as expressed by both academics [2] and local individuals (see [6]). A relevant question for the SDG workshop asked, based on past research [24,25], what keywords worked for each SDG. These offered several stakeholders, directly and indirectly.

Source 2: In ten workshops (101 participants), I presented a hydrologically-based case study and participants were asked which ecosystem services (ES) could be espoused to protect the region. It was made clear that ES is only one way to address such issues, but it was the one used for this case study. Hydrological conflicts are front and center in the case of the Bayano region, not only in the dam itself, but also the fact that a region in Bayano was named a hydrological reserve, making achieving land tenure rights difficult for the Indigenous communities in that region [26]. I conducted the ten workshops in 2020 to 2021, as a subset of the 14 workshops discussed in Source 1.

Source 3: In addition to the above, I read through documents related to the Bayano dam and noted stakeholders when they were discussed. I found the 302 documents by searching several databases (PubMed, Ebesco Host, Factiva, Web of Science, ProQuest, ECOLEX, FAOLEX, Gale Newsvault, Google Newspaper, Hispanic American Periodicals Index (HAPI), JSTOR, Redalyc, Scopus, Wiley Online Library, and the World Bank document database), for the search terms "Bayano AND dam," "Bayano AND presa" and "Bayano AND represa." Beyond the databases, if a document mentioned another that seemed relevant, I, whenever possible, tracked it down and considered it.

Source 4: I gave a set of the documents from the databases (220 out of 302) to other thematic coders. I first briefed these seven individuals on the Bayano region and its history. Among their final submissions were a list of stakeholders in the documents and any themes that they felt were missing from the documents. The use of inter-coders can help avoid bias in content analysis (see [27]).

Source 5: I also participated in casual discussions with the chief of the Maje Embera and his brother in 2017 and 2018. I did not take notes during these causal discussions, but I wrote down stakeholders that were brought up after the discussions. Topics of discussion encompassed the conflicts with Campesinos, the younger generation of Indigenous community members, and the need for people to recover their Indigenous ancestry.

Source 6: Since further widespread interviewing of Bayano region communities was not possible, mainly due to isolation and time constraints, I brought in other sources to understand the situation. For instance, I used the field notes of other researchers in the Bayano region (see [1]). These researchers interviewed key individuals with a stake in the region (see [1]). Also, as mentioned above, a workshop of ten Maje Embera, conducted by me in 2017, and published elsewhere [6], was consulted.

Source 7: Similar to the above, I also considered the testimonials from individuals in the Guna Yala reserve, as found in an edited volume (see [28]). Many of these came from individuals who were key to their communities and understood the issues of the region (see [28]).

2.5. Creating the Stakeholder Table

The methodology was generally straightforward. First, I took a sample of 50 documents from the documents collected from databases, a common process in thematic analysis (see [29,30]). I did this to get an initial understanding of the stakeholders involved. This then helped guide the search for stakeholders when reading through all the sources of information, including the workshop results and field notes. When a relevant stakeholder was mentioned, I noted it. I then grouped them together into illustrative categories (see Table 1). Some overlap between categories was unavoidable, as stakeholder relations are quite complex. The working stakeholder table was subsequently checked by an individual familiar with writings related to the Bayano region, who had also acted as an inter-coder for a related project [unpublished]. The same individual was asked, based on the documents they read, to list the key stakeholders based on level of power and influence during the dam construction period.

Once completed, I applied the stakeholder table to available key legal documents linked to the Bayano region. These range from accords between the Panamanian government and Bayano communities, to legal decisions of the Inter-American Commission on Human Rights, to cases in American courts linked to relevant regional resources. The full list of documents, and a short description, is found in Table 2. I chose these as they are "official" documents meant to address stakeholder interests and manage disputes. When a specific document could not be found, I used summaries of the main articles, found in other works. I labelled the stakeholders not considered in the documents as hidden stakeholders. The use of content analysis to explore stakeholders in similar legal documents has been implemented in past research (see [8,9]), although the use of a comprehensive stakeholder table in such a process is novel.

Table 1. The Bayano Region Stakeholder Table.

		Positions/Views
Guna	Guna generally	Getting their land and rights recognized
	Guna collective organizations	Working for Guna groups throughout Panama
	Guna younger generation	More acceptance of outside overharvesting methods and agriculture
	Guna older generation	Maintain older harvesting and growing methods
	Guna Madungandi	Maintain their independence, get protection from invaders, maintain the reserve
	Guna cattle raising and deforestation	Indigenous moving away from traditional subsistence methods (can be more common in younger generation)
	Guna displaced	Get their land protected from invaders
Embera	Embera generally	Get land tenure and culture rights recognized
	Piriati and Ipeti Embera	Get more expansive official rights to their land and get invaders resettled
	Other Bayano Embera e.g. Maje Embera	Get their land rights recognized
	Embera younger generation	Greater acceptance of overharvesting methods and modern agriculture
	Embera older generation	Maintain older harvesting and growing methods
	Embera in eastern Panama (comarcas)	Protect their comarcas in the east of Panama
	Embera collective Bayano organizations	Working with other groups to achieve their land tenure and culture protection goals
	Embera displaced (collective lands and unrecognized lands)	Get land tenure recognized and protected
	Indigenous raising cattle and deforestation	Indigenous moving away from traditional subsistence methods (can be more common in younger generation)
Other Panamanian communities	Other Panamanians in the west of the nation, including Zonians	Maintaining their rights and connections to other countries
	Campesinos	Getting their land tenure recognized for where they settled
	Religious/Spiritual groups	Offering spiritual care and living a spiritual life
Corporations	Large cattle raising	Making a viable business through cattle raising
	Financial firms/money lenders	Making worthwhile investments
	Hydroelectric firms	Function effectively in offering electricity to parts of Panama
	Other energy firms	Function effectively in offering electricity to parts of Panama
	Construction firms	Making money in construction, hopefully an expansion of construction projects
	Tourism by Indigenous communities	Making money for the community and perhaps maintain their culture
	Fisheries	Making a profit through fishing, including in the Bayano lake (mostly for tilapia)
	Lumber companies	Making money through tree felling
Government	Panamanian government generally	Maintaining advances in development while not causing issues with citizen groups
	Government officials	Representing the government and being a go between with local groups
	Health system (available hospitals)	Offering health care to communities
	Education system	Offering quality education to communities
	Other nations	Interest in the development of Panama, especially the Trans-Atlantic highway and the Panama Canal Zone
	Emergency services	Offering aid when emergencies occur
	Bayano corporation/AES	Tasked with developing the region and making it profitable
Science and nature	Species welfare groups/ Sierra Club/conservation groups	Protecting species and the environment
	Epidemiologists	Understanding and preventing disease in the region
	Ecologists/biologists	Understanding and protecting the ecosystems in the region
	Anthropologists	Understanding the customs, life-ways and needs of the community
	Other scientists	Playing diverse roles, Working towards greater knowledge
	The ecosystem (spiritual)	A complex natural system important to the spirituality of a group
	The ecosystem (scientific)	A complex natural system worth protecting
	Individual animals	Sentient beings deserving a reduction of suffering
	Individual species	Conserving species of importance culturally or to an ecosystem
	Land and nature	Components of secular and spiritual importance worth protecting
Courts	National	Resolving national legal disputes
	International	Advocating and declaring when internationally recognized rights have been violated
Law organizations	National	Determining the rights of Panamanians
	International	Determining the rights from an international standing
	Lawyers	Working to uphold the law
Other forms of law	Customary laws	Protecting the life-ways of the Indigenous groups

Table 2. Court cases, legal documents, and agreements considered.

Sierra Club v. Coleman (405 F. Supp. 53 (D.D.C. 1975))	Injunction on the extension of the Trans-American highway.
Sierra Club v. Coleman (421 F. Supp. 63 (D.D.C. 1976))	Court case upholding the injunction.
Sierra Club v. Adams (578 F.2d 389 (D.C. Cir.1978))	Court case removing the injunction.
Kuna Indigenous People of Madungandi and Embera Indigenous People of Bayano and their Members, Panama (2012 and 2014) (Report No. 125/12 Case 12.354, Merits and Final Judgment)	Inter-American Commission of Human Rights court legal document (IACHR).
Panamanian Law No. 72 (2008)	Establishes a way of tenuring Indigenous communities outside of reserves.
Panamanian Law No. 24 (1996)	Establishes the modern Madungandi Reserve.
Agreements of Majecito (1975), Farallon (1976), Fuerte Cimarron (1977), and Espriella (1980)	These agreements with Indigenous groups are quoted in IACHR documents.
Several relevant sections in the American Convention of Human Rights (1979)	The relevant sections asre based on those referenced in the IACHR court documents.

The stakeholder table includes animals, nature, the Indigenous communities, stakeholders linked to the resources, and others. Stakeholders also have links to other stakeholders in Bayano. As such, relationships are key to understand the situation, especially when the communities are strongly linked to nature, as with Indigenous groups. This gives a good overview and helps understand the region.

As discussed in detail below, in order to find synergistic and sustainable links between hidden stakeholders, I conducted three follow-up workshops, with 44 participants. This and a relational values approach aided in developing related ways of targeting multiple hidden stakeholders.

3. Results and Follow-up Workshops

Based on the above, I determined the hidden stakeholders to be:

1. The older versus younger generations of Guna and Embera communities (although the Inter-American Commission on Human Rights court case did discuss that traditions are passed on through the generations).
2. Indigenous community-members that participate in cattle raising and deforestation. This is strongly linked with the first hidden stakeholder group.
3. Individuals in western Panama, and specifically the Zonians (individuals living in the Panama Canal Zone).
4. Tourism industries.
5. Individual animals.
6. Financial institutions like the World Bank. While there were mentions of the Panamanian government supplying money, and looking at external sources, the external financial institutions, like the World Bank, were not explicitly mentioned by most sources. An Inter-American Commission on Human Rights document mentions the term World Bank in passing, but did not go into any detail regarding it. As a key stakeholder, the lack of discussion can place it in the hidden stakeholder category.

3.1. Follow-up Workshops

Once I identified hidden stakeholders, three follow-up workshops (44 participants) were conducted with individuals involved in the field of ecology, environmentalism and/or sustainability. They were collected from the 147 participants of the previous set of 14 workshops. Timing and interest were the main determinants of who was available to take part in these follow-up workshops. They were a first step to creating an understanding of the relationships between hidden stakeholders and to illustrate synergistic and sustainable projects with these stakeholders. As funders, particularly the World Bank, had a strong influence on the Bayano dam, including in national politics [2], the follow-up workshops were framed as the efforts the funder could make to offer reparations. I also saw this approach as key due to the results of an inter-coder, who considered documents related to Bayano throughout its history, and was tasked with classifying the stakeholders they identified from most to least influential during the Bayano construction period. They chose the construction companies in the first position, followed by the financial institutions. Interestingly, financial institutions like the World Bank could also be considered hidden stakeholders.

The three follow-up workshops sought to gauge perceptions on the current responsibility of funding institutions, in particular the World Bank, in cases like the Bayano dam. I presented participants with the case study of the Bayano region, including a mention of the role of financial institutions in their funding of the project. I asked participants,

through polling, who should be held accountable presently for the issues that the Bayano dam, completed in 1976, has caused.

I also asked participants what was the top choice for how the financial institutions could aid the region of Bayano. As individuals with involvement in relevant fields, their responses can act as a gauge of the attractiveness of these ideas. The options given were based on the results from the workshop with the Maje Embera community (see [6]). The choices were: Payment to Indigenous leaders, infrastructure projects, afforestation and reforestation projects, ecotourism projects, explicitly advocating for Indigenous land tenure rights, and, finally, that they should not be involved at all. I polled participants two more times, to allow them to give their second and third choices.

3.2. Follow-up Workshops Results

For the first follow-up workshop (13 participants), 38% felt the financial institutions should be held accountable. For the second workshop (13 participants), 62% felt the financial institutions should be held accountable. For the third workshop (18 participants), 50% felt financial institutions should be held accountable for past development projects. The results show that there is a variable belief that the financial institutions involved with the construction of the Bayano dam should be held accountable in the present, ranging from roughly 38% to 62%. Even at the low range, there is a notable number of individuals who feel there should be a level of accountability. This is key in trying to implement ways of connecting hidden stakeholders, using the financial institutions as a leverage point.

In workshop 2, only 12 participants were available for further polling. The top choice for workshops 1 and 3 was "payment to Indigenous leaders." These were 54% and 56% respectively. The top choice for workshop 2 was to "explicitly advocat[e] for land tenure" (42%). The participants were also asked for their second and third choices, determined through two additional polls, one for their second choice and one for their third choice. For workshop 3, only 17 participants were available to respond to the second and third choice polling. The second and third choices for workshop 1 were "explicitly advocating for land tenure" (38%) and "afforestation and reforestation projects" (31%) respectively. The second and third choices for workshop 2 were a tie (33%) for the second choice ("payment to Indigenous leaders" and "afforestation and reforestation projects") and, for the third choice, participants chose "afforestation and reforestation projects" (42%). The second and third choices for workshop 3 were, respectively, "explicitly advocating for land tenure" (47%) and "supporting infrastructure projects" (47%). For the sum across the three workshops, the top choice was "payment to Indigenous leaders" (47%). The second choice was "explicitly advocating for land tenure rights" (33%). The third choice was a tie between "afforestation and reforestation projects" (33%) and "supporting infrastructure projects" (33%).

4. Discussion

The main goal of this research was to better understand the Bayano region. I sought this by developing a comprehensive stakeholder table, in which the stakeholders and their views/positions can be accessibly presented. From a relational values perspective, the latter can be seen as a component of a stakeholder's Good Life. Furthermore, I used a novel method to find the hidden stakeholders in the Bayano region. The perspective of relational values is helpful here, as hidden stakeholders can have not only different relationships to society and nature, but also to each other. The values they give to the natural world and society can vary, say from the World Bank to Indigenous cattle raisers, as can their relationships to each other.

A further goal, namely the illustration of key synergistic and sustainable projects that can include several hidden stakeholders, is based on the follow-up workshops and past research on water poverty in Bayano [6]. First, however, to properly frame such projects, a brief exploration of each hidden stakeholder is key [6]. In several cases, the history of the Bayano region demonstrates that these are important stakeholders to consider.

4.1. Stakeholder: The Older vs Younger Generations, along with the Indigenous who Perform Cattle Raising and Tree Felling

As discussed in detail elsewhere, the Indigenous groups in Panama put importance in passing their cultural lifeways to the future generation [5,31,32]. This is key, as changes in the region run the risk of reducing their ways of life, as discussed elsewhere [5]. As argued in some of the testimonials of older Guna in Guna Yala, the younger generation often does not follow the lifeways of the Guna, both in how they make a living and in ways of thought [31,33]. An important past work on the Bayano region communities also discusses how there was tension between those Indigenous individuals who hold traditional lifeways, and those who do not [2]. For instance, that deep analysis of the communities affected by the Bayano dam discusses how some Indigenous individuals worked in tree felling and the tensions this caused with other Indigenous individuals [2]. Similarly, research on the "Mesas de Concertación" also discuss how some Indigenous individuals in Bayano communities are involved with cattle raising, with the detail put in that they are doing this out of financial necessity [1]. Perhaps the most extreme example of outsider influence was in a Guna community, in which a syncretism of Guna lifeways and Christianity led to a very materialistic mentality (see [34]). As is clear from these examples, Indigenous lifeways are not fixed. Furthermore, tensions can exist between older and younger generations, as well as Indigenous individuals subsisting from the professions more common to the non-Indigenous Campesinos. There is some power of members of the community to police these variations, as discussed by Wali [2] but there cannot be total control of the ways of

life of all individuals in a community, particularly when individuals are the legal owners of a parcel of land. Certainly, it is importance to not consider Indigenous communities as being necessarily "unchangeable" or "frozen in time," a topic discussed in past literature [35]. All cultures change, including Indigenous cultures. However, the total extinction of a culture can be at stake and the tensions between older and younger generations, as well as other pressures, put this as a distinct possibility. This could have strong regional effects, as the traditional ways of life of the Indigenous communities of the Bayano region have had less impact on the forest ecosystem than those of outsiders. In fact, this was articulated by the Panamanian government before the relocation (see [2]). As such, a beneficial bio-cultural relationship with nature could be lost. From a relational values perspective, the relationships between one group and the natural world is changing for some Indigenous individuals. Explicit attempts to protect ways of life can include setting a curriculum in education which can incorporate certain key topics, so that the younger generation can be exposed to vital components of the lifeways. The loss of culture through standard education is one of the reasons given by Guna advocates as to why the younger generation is drifting from traditional ways of life [33]. One method to avoid moving to more impactful ways of life has already been applied in a segment of the Bayano region, namely paying landowners for afforestation and reforestation. This REDD+ project in an Embera community was done with support from the Smithsonian Tropical Research Institute (STRI) [36]. As discussed by proponents, such methods can be key ways in which other nations can offset their carbon by paying for afforestation and/or reforestation [37]. Trees which have both environmental and financial value, such as fruit trees, can be part of the program (see [36]). This "proof of concept" project for sustainable interventions in the Bayano region was considered a success [36].

4.2. Stakeholder: Zonians and Other Panamanians Elsewhere

Panamanians in other regions in Panama fit as a hidden stakeholder that must be addressed. They both directly, such as petitioning the government, and indirectly, such as through urban growth, push for greater energy production. In fact, as discussed elsewhere, the Bayano hydroelectric dam produced energy for mostly other parts of Panama, including Panama City [2]. However, the detrimental impact generally falls on those in the Bayano region. As has been discussed, even in the context of dams, it is important to consider these social and geographical inequalities [38,39]. One of the key reasons the Panamanian government set out to build the Bayano dam was as part of an attempt to achieve more energy independence [2]. The needs of Panamanians in cities was put above Indigenous needs, particularly as the fact that the dam was going to be built was a given, and the Indigenous communities could argue about compensation but not whether the dam would be built at all [5].

4.3. Stakeholder: Tourism Industries

Although the region was quite difficult to penetrate in the past, some tourism was taking place even before the Bayano dam opened up the region to more outsiders [40]. These were sometimes lead by guides who also captured and sold wildlife [40]. Modern tourism in the region has become more popular, with the Bayano Adventures enterprise being among the most elaborate, as it offers many activities, including a visit to a Bayano Embera community [41]. Also, several communities in Bayano have or are hoping to create tourism industries for their community [Personal communication, 2018]. Several issues have been discussed concerning Indigenous groups and tourism. As discussed by others, some have criticized Indigenous tourism as they can make a caricature of the Indigenous, namely that what is shown to the visitors is an unchanging snapshot of Indigenous life [42,43]. As mentioned above, Indigenous culture changes like any other and this can give the impression that it hasn't. As discussed in the literature, Indigenous communities can find themselves playing "the role of the unchanged, primitive native" [42]. Others have argued that tourism can be good for Indigenous communities as it can help expose their ways of life not only to outsiders but to their younger generation as well [43]. Another criticism of Indigenous-based tourism is that the money does not reach the Indigenous, rather they are put to menial tasks while capitalist-minded individuals from elsewhere reap the benefits [44]. To make a positive impact for the Indigenous of Panama, the Indigenous communities must, themselves, conceive of and run the tourism endeavors.

4.4. Stakeholder: Individual Animals

This has been a key stakeholder since the dam's construction. For instance, a common subject of news articles during construction involved the Noah 2 project [45–49]. This project, led by the ISPA (International Society for the Protection of Animals), rescued animals stranded in trees and islets due to the rising of the Bayano reservoir waters. Indigenous guides and helpers were often participants in such efforts [46–48]. Even in modern times, individual animals, or small communities of animals, can be of importance to the Indigenous communities. For instance, one of the conversations with a key informant led to my being shown a tree of spiritual significance to the community, along with the small group of bats that make it their home [Personal communication, 2017]. If this were lost, due to environmental destruction, this Bayano community would lose one of their touchstones in the region. The value of individual animals can be distinct from that of species, sometimes being in conflict. For instance, the Noah 2 project was criticized because the rescued animals, relocated to permanently dry land, could have a negative impact on the species there, although some disputed this [50]. Relatedly, a researcher describes how an Embera individual shot a member of a threatened species in the region [51]. This was done

to save their dog, reasoning that, without their dog, they and their family might not survive [51]. As such, individual animals can play a key role for both the Indigenous and non-Indigenous.

In the literature, a case for giving individual animals certain rights has been made, even in the legal context (see [52,53]). This can be based on characteristics of the animal, like cognition (see [52]). Such views are often tied to the value of a species (see [52]). In some fields of conservation, such as conservation welfare and compassionate conservation, the rights of the individual animal are considered when developing strategies and action plans [54]. However, seeing individual animals as stakeholders is still a minor position in society. Some argue that the fact animals have interests and preferences, including regarding suffering, means that they should be considered stakeholders [55]. Some have discussed how trans-species psychology and participatory action research could lead to such a state [56]. Several realms in social discourse, including entertainment media, have been discussed as potential targets in the shift to seeing animals as stakeholders [57]. Arguments have also been made regarding animals in other industries, like tourism [58]. Considering the case of the Bayano region discussed above, the inclusion of individual animals seems warranted.

4.5. Stakeholder: Non-governmental Financial Institutions

The Inter-American Commission on Human Rights court document discussed the past and present funds going to the Bayano region, and the documents associated with the American courts discuss the payment of the construction of the Pan-American Highway [5,59]. Finally, the country of Colombia similarly was a player in funding development through the highway [59]. However, non-governmental organizations are generally absent in the legal documents tied to the Bayano dam, which makes the situation more complex but can also be enlightening. The World Bank would be a clear player when it comes to the Bayano dam. As discussed above, the Inter-American Commission on Human Rights legal documents mention the World Bank in passing, but there is nothing substantial. As discussed, the additional thematic coder placed financial institutions high on the list of institutions with influence on the dam construction. The World Bank encouraged the politics of Panama regarding the dam, including making the energy sector a part of the Panamanian government, thus having greater assurances that it would be economically viable, as the Panamanian government would see to it that the industry would not fail [2]. Despite their general view of Free Trade, it is interesting that it only felt comfortable investing once the state expanded its power [2]. The investment in the Bayano dam construction has been subsequently seen as a bad way to invest in dams, particularly as it relates to relocation [60]. The results of the polls in the three follow-up workshops show there is substantial support, among workshop participants, that the financial institutions involved in the Bayano dam construction should help the communities even now. As the World Bank's contract has already been fulfilled, it may be difficult to argue they still have a necessary stake in helping the Bayano region, as discussed in a similar case [61]. Analogously, the Inter-American Commission on Human Rights court decision made it clear the court had no jurisdiction in events happening prior to the signing of the Inter-American Human Rights treaty [5]. A dissenting decision, however, argued that this was not the case, as current issues are strongly linked to past decisions by the government of Panama [5]. Furthermore, regarding the Maya Achi displacement due to a Guatemalan dam, the Inter-American Development Bank and the World Bank have offered some help, including expert opinion on developing financial plans and feasibility studies to aid, among other aspects, the development of much needed infrastructure [62]. As such, an argument could be made that the World Bank should pay reparations for the issues caused by the Bayano dam.

When considering hidden stakeholders, it can be useful to consider how they are or can be interrelated. A key goal of this research is to illustrate potential synergistic and sustainable solutions that target multiple hidden stakeholders. A similar approach was used in a water poverty analysis of the Bayano region, considering children as the key stakeholders [6]. From a relational value perspective, each of these groups hold variable relationships with the natural world and society (see [10,63]. Relational values are meant to be an alternative way of seeing nature beyond instrumental and intrinsic values, although they can both be expressed in the relationships [11]. Instead of considering them individually, one could look for solutions that can help ameliorate or reinforce relationships. Furthermore, relational values could be expanded to consider the relationships between other institutions, particularly when dealing with Indigenous communities, as these combine the biological with the cultural [64].

The results of the three follow-up workshop polls discuss how a funder like the World Bank could help the communities even now. It is argued that the Indigenous communities should be aided, particularly through direct payments to Indigenous leaders and through explicitly advocating for land tenure rights. Both these methods give more autonomy to Indigenous communities. After all, in regards to Indigenous communities, advances in "political (e.g. governance structures), legal (e.g. authority status of non-human kin) and economic (e.g. locally-based economies) [realms]" can be part of creating more autonomy and agency [65]. The discussion in that case revolved around Indigenous food sovereignty, but can be applied more generally. Of course, the afforestation and reforestation projects, as well as infrastructure such as schools, can also aid Indigenous communities. In fact, in the recent workshop with the Maje Embera community used as one source in this study, access to education and health were considered two things needed for the "community to thrive" [6]. In terms of afforestation and reforestation, as mentioned above, a past

project aided by the Smithsonian Tropical Research Institute (STRI), has helped an Indigenous community in the Bayano region [36].

As such, synergistic and sustainable methods to ameliorate the relationships between stakeholders and between stakeholders and society/nature can be sought, by using financial institutions as a leverage point. As an example, the financial institutions could invest money in reforestation and afforestation projects, which could then be used for ecotourism by the community. These projects could encourage the younger generation to become involved in ecotourism and forest protection, particularly if the projects occur where they live. Tourism institutions can be detrimental to the local individuals, particularly if the financial advantages don't go to locals [44]. However, a situation is possible where locals benefit and younger generations can learn about their ancestry, as has been argued is the case for some communities in the Chagres region of Panama [43]. Even protecting individual or small populations of animals can become part of the ecotourism efforts.

In a related example, having institutions like the World Bank explicitly advocate for land tenure rights, combined with offering money to the Indigenous leaders, who may know where best to use the money regarding fighting for those rights, such as legal fees, could be used to support a more robust ecotourism effort. As such, the different elements, from animal and wildlife protection, to land tenure efforts, to ecotourism, to protecting specific life ways, can interact to create a general thriving of the region, both in terms of the ecosystem and a potential Good Life for its inhabitants. The latter would target many of the views/positions of several groups in the stakeholder table. These are but a couple of, related, illustrative examples of such synergistic and sustainable projects.

5. Conclusion

In conclusion, the goals of this research were primarily to understand the region and the positions of stakeholders involved, which I sought through the stakeholder table and the identification of hidden stakeholders. For the latter, I used a novel method tied to legal documents. Another goal was to illustrate synergistic and sustainable projects for the region that included several hidden stakeholders. The three follow-up workshops, focusing on the reparations of funders, helped develop these examples. A key aspect was to consider the relationships stakeholders can have.

Future research could use the stakeholder table as a basis for developing others elsewhere. This could be both within Panama or beyond. It could even extend beyond dams. The novel approach to detecting hidden stakeholders could also easily be applied elsewhere. Further narrowing or widening of the types of legal documents considered could be a next step, even for Bayano. The follow-up workshop results could also be useful more generally, as it can act as a gauge for the view of certain stakeholders, namely those involved in ecology, environmentalism and/or sustainability, in regards to reparations from funders.

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