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CULTURE AND CLIMATE CHANGE:  
MOLDING PERCEPTIONS THROUGH COSTA RICAN FOLKLORE

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## **ABSTRACT**

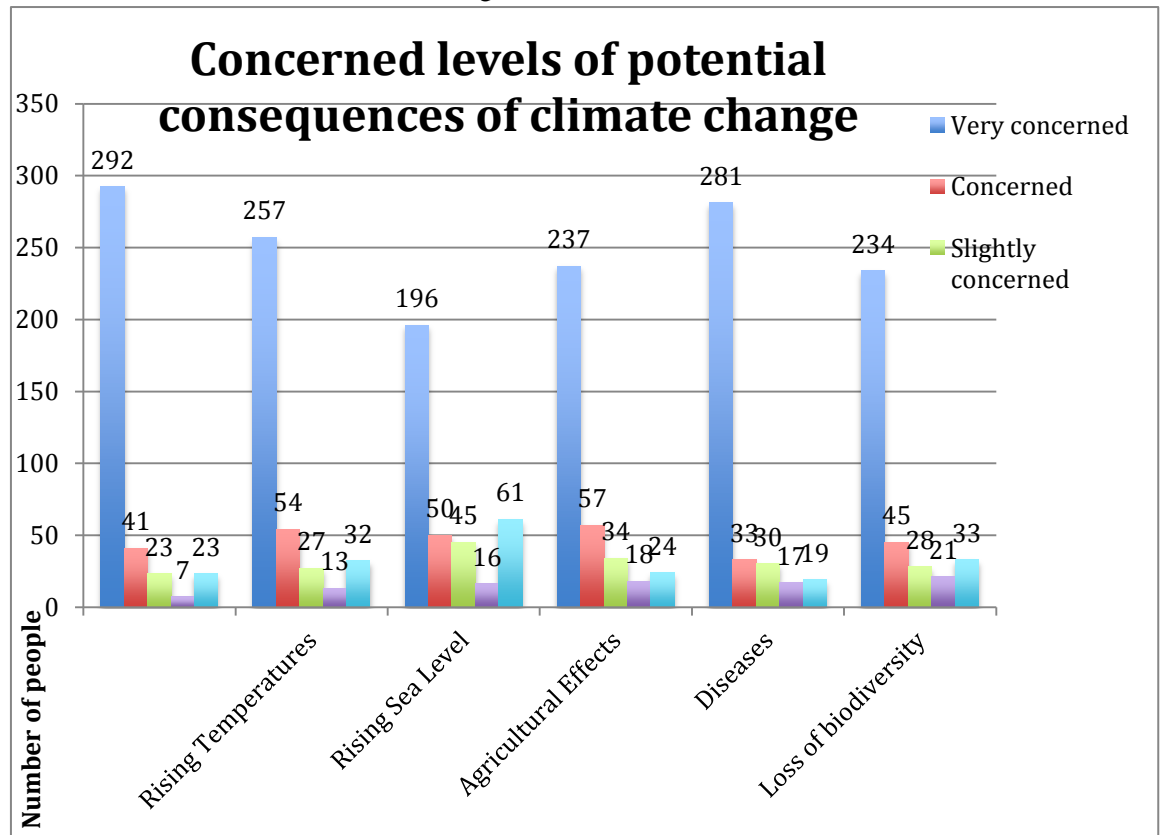
As a developing, prosperous country in Latin America, Costa Rica is particularly vulnerable to the impacts of climate change. This vulnerability is due in part to geographical location and a lack of formal education to deal with these issues. In order to gain greater insight into the opinions of the local people of Costa Rica, I conducted surveys pertaining to various climate change topics. They aimed to uncover the most common views and level of understanding of the topic in the country, as well as community ties to cultural capital, such as folklore. These surveys were conducted in the cities of Santa Cruz, Santa Teresita, and Colonia Guyabo. I found that there was a general understanding of current effects, but a lack in understanding of the future implications. The first-hand opinions and perceptions of these people on the situation in Costa Rica are the most valuable resources for mitigating climate change in the area. Through studying the ways in which folklore informs Costa Rican's perceptions of climate change, we can better understand how to implement mitigation efforts that will be supported by the people of the country.

## TABLE OF CONTENTS

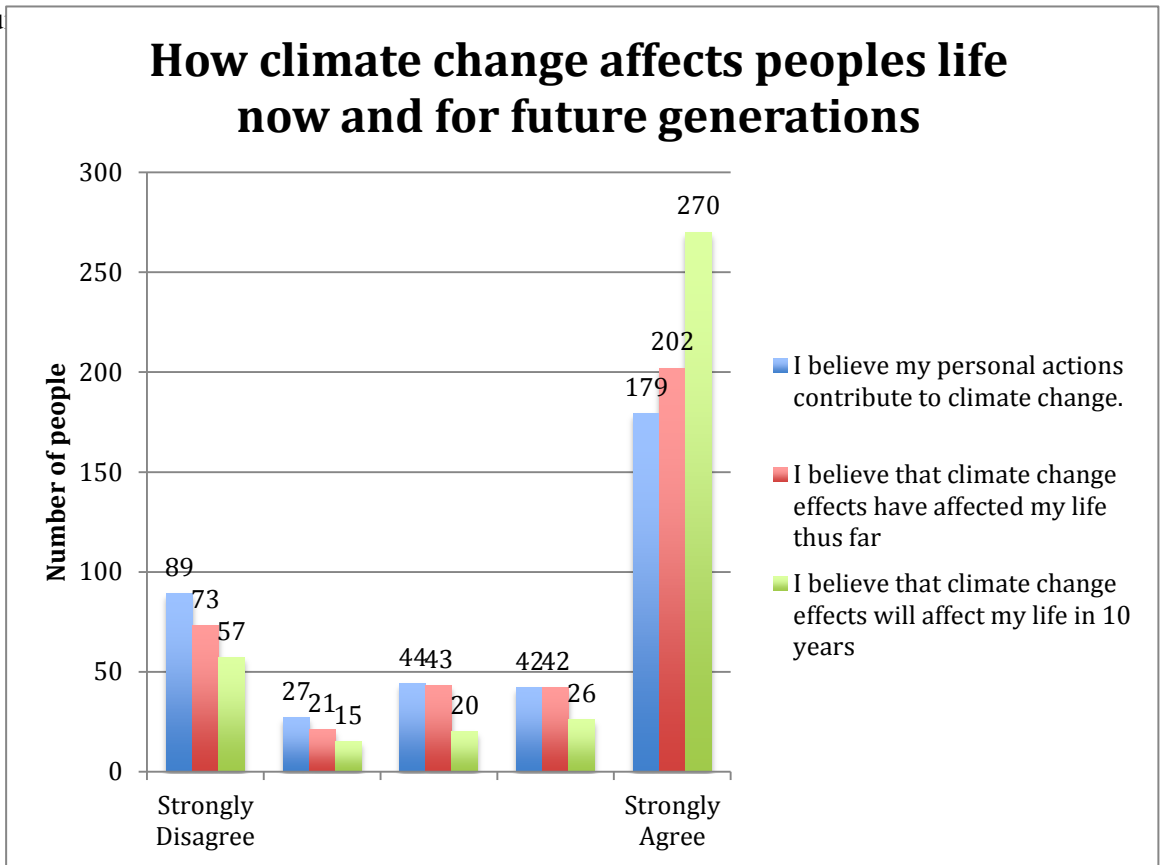
List of Figures .....	iii
List of Tables .....	iv
Acknowledgements.....	vi
Chapter 1 Climate Change in Developing Countries.....	1
Chapter 2 Costa Rican Culture .....	7
Chapter 3 Community Relationship to Protected Areas: The Role of Human Capital.....	12
Chapter 4 Folklore and Climate Change: Cultural Capital In Costa Rica .....	23
Bibliography .....	27

## LIST OF FIGURES

Figure 1. Levels of Concern of Climate Change, Costa Rica



Figure



### LIST OF TABLES

Table 1. The relationship between the perceived level of performance by the Association level of perceived relationship with Guayabo National Monument

		Low Performance	High Performance	X <sup>2</sup>	p-value
<b>Santa Cruz</b>	<b>Weak</b>	<b>1 (5%)</b>	<b>11 (55%)</b>	<b>0.093</b>	<b>0.7609</b>
	<b>Strong</b>	<b>1 (5%)</b>	<b>7(35%)</b>		
<b>Santa Teresita</b>	<b>Weak</b>	<b>2 (15.38%)</b>	<b>1 (7.69%)</b>	<b>0.660</b>	<b>0.4164</b>
	<b>Strong</b>	<b>4 (30.77%)</b>	<b>6 (46.15%)</b>		
<b>Colonia Guayabo</b>	<b>Weak</b>	<b>2 (25%)</b>	<b>1 (12.5%)</b>	<b>0.533</b>	<b>0.4652</b>
	<b>Strong</b>	<b>2 (25%)</b>	<b>3 (37.5%)</b>		

Table 2. Correlations between relationship of park and perception of Association of Development

	Spearman Rho	p-value
<b>Santa Cruz</b>	<b>-0.0680</b>	<b>0.7756</b>
<b>Santa Teresita</b>	<b>0.2254</b>	<b>0.4591</b>
<b>Colonia Guayabo</b>	<b>0.2582</b>	<b>0.5370</b>

## **Acknowledgements**

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## **PREFACE**

In the spring of 2013 I was provided with the fantastic opportunity to study abroad with the School For Field Studies Center for Sustainable Development, located in Atenas, Costa Rica. I found my experience abroad to be intellectually, culturally, and personally enriching. The research that I conducted while I was abroad forms the basis of my thesis. During my time in Costa Rica I was able to investigate a myriad of topics including tropical ecology, natural resource management, and sustainable development. In studying the affects of global climate change at the Center for Sustainable Development, I began to wonder how people's perceptions of climate change are formed. What informs people's perceptions of these changes in climate and of possible mitigation efforts? With this question in mind, I decided to further investigate the country in which I was immersed. In order to do this, I knew that I had to explore the ways in which the citizens of Costa Rica identify as a people. I had to investigate the traditions articulated through their literature and the ways their culture is maintained through their beliefs and practices. This, I believed, could be done through an understanding of Costa Rican folklore.

I chose to explore the ways in which folklore impacts Costa Rican's perceptions of climate change through conducting oral interviews in the Guanacaste province of Costa Rica. In conducting these interviews, I collected data concerning people's knowledge of climate change, common cultural practices, and their involvement in community organizations. I conducted my interviews in Spanish, but as a foreigner and



as a woman, I understood the barriers that would be set forth by those interviewed. Nevertheless, I was able to gain a better understanding of the role that folklore plays in Costa Rican culture.

Through my research, I hope to show the dynamic ways in which literature, culture, and science are intertwined. This project has solidified my desire to bridge the gap in knowledge between scientific researchers and the public, as I continue to examine the ways in which my interdisciplinary background can be further applied to explore the connections between literature and environmental concerns. My experience has taught me more about what I wish to pursue in academia, as I find ways I can incorporate the multifaceted power of literature to connect, transcend, and impact the world in creative ways.

## Chapter 1

### Climate Change in Developing Countries

Extreme droughts, severe flooding, and damaging cyclones—these are all impacts of a rapidly increasing global temperature that affect people everywhere. The rate at which the earth is currently warming is unprecedented due to anthropogenic influence. Since the Industrial Revolution, the global temperature has increased by 0.8 degrees Celsius, and is projected to rise at a rate of 0.2 degrees Celsius every decade (EPA 2013). These changes will have significant societal impacts in all parts of the world, but pose a particular threat to developing countries. As a rapidly developing country in Latin America, Costa Rica faces many severe consequences of climate change. Temperatures have increased by about 0.9° C throughout Costa Rica since 1960. According to a report presented to the 2012 UN Climate Summit in Doha, Qatar, Costa Rica has experienced “44 extreme weather events in the last 20 years” (Rogers 2012). These events include changes in rain patterns, increases in severe storms, and heat waves. Undoubtedly environmentally damaging, these events also have other societal implications surrounding health, economy, and social structures. Due to its geographic landscape and present poverty rates, Costa Rica will suffer a great deal of infrastructural damages if it continues on the path of negligent environmental stewardship. Because of this, it is important to understand more about the viewpoints of the country’s people. I conducted interviews in three cities (Santa Cruz, Santa Teresita, and Colonia Guayabo), which provided insight into people’s perceptions of climate change and its consequences. By collecting this data,

we will better understand how to mitigate these impending damages to Costa Rica to benefit the people. In order to reduce climate risks, it is necessary to understand the current situation and plan for the future.

Using data that a group of students from October 2012 gathered pertaining to climate change, we were able to reach a combined effort of 409 surveys. I analyzed the trends in the survey responses, focusing on a specific set of survey questions. My set of survey questions pertained to the causes and consequences of climate change. The questions inquired about belief in personal actions affecting climate change, noted effects of climate change in the past, the possible effects of future climate change, the biggest contributor to global warming, and concerns regarding certain consequences of climate change. Deforestation and agriculture were included because they were seen as the biggest contributors to climate change. Extreme weather patterns were included because they were found to be the consequences of highest concern.

We researched various climate change issues pertaining specifically to Costa Rica to form our own understanding of the previous survey. Then, based on the observed trends and most common responses, our group created a survey of six questions aimed at generating evidence supporting these trends. We administered a total of sixty surveys. The surveys were randomly given to individuals of varying ages, professions, and genders in order to gain multiple perspectives.

We collected our data on three separate days. On March 16, 2013, surveys were collected in the city of Santa Cruz between the hours of 11:30am and 1:30pm. Surveys were also collected in the city of Santa Teresita between the hours of 4:00pm and 6:00pm on March 16. On March 17, 2013, surveys were collected in the city of Colonia Guayabo

between the hours of 11:00am and 1:00pm, and again on March 18, 2013 between the hours of 1:30pm and 2:30pm.

The people surveyed were of various professions, including fruit vendors, artisans, salesmen, and students. Our survey questions were based on the findings of the previous study. The interviews showed that the general Costa Rican population has an understanding of the consequences associated with climate change. Although not equally articulate, there was an overall consensus that the environment is currently impacted by the rapid increase in temperature. When questioned about present impacts of global warming, fifteen out of twenty of those surveyed commented on changes in wind, rain patterns, and droughts. The people were not clear as to what future impacts they believed might result due to climate change. However, concerns surrounding the amount of pollution, rate of deforestation, and increase in disease were all mentioned. A cell phone store clerk stated, "The droughts have already impacted the growth of trees because there is no rain, and without water, there is no life." Agriculture was a predominant concern for those surveyed because Costa Ricans depend heavily on crop yields. One farmer who observed these changes stated, "I don't know how it has affected others, but it has affected the amount of crops I am able to produce." Of twenty surveys conducted, ten noted climate change has caused a decrease in crop yields. When asked about future damages, people were generally concerned about an increase in disease. Many focused on respiratory illness due to pollution. Twenty-five percent of the surveys directly linked illness with climate change. Though there was an overall understanding of current climate change, the gravity of future impacts was not realized. The importance of

understanding how to mitigate future changes will benefit the livelihood of the Costa Rican population.

Undoubtedly adequate knowledge of current climate patterns and future challenges should be acquired through a formal education. Most of the people interviewed who were informed on climate change had received on a high school diploma in school. Currently, 94% percent of the Costa Rican population is literate, but there are significant deficits in the educational system (IFAD 2011). Though there is an understanding of climate change regionally, the general population is considerably undereducated in current global climate change issues. One professor from Rivas commented that the increase in extreme weather conditions would not only affect her community but also have major global effects. This greater understanding of future implications of climate change could be a result of a higher level of education.

Despite these educational deficits, the general public was informed on the impacts of climate change not from what he or she learned in a classroom, but from what has been experienced on a daily basis. Historically, agriculture has been the most crucial sector within the Costa Rican economy. According to the World Bank, one-third of formal employment in Costa Rica is in agriculture (World Bank 2012). A significant amount of land in Costa Rica has been devoted to agriculture (44 percent of total land area), and this area is expanding (*WDI* 2005). Due to the significance of agriculture for many livelihoods, many are concerned with potential consequences of climate change. The most common concerns were related to decrease in crop yields and increased droughts, which could lead to a possible decrease in food security. One farmer stated “These changes have stopped crops from growing.” He has observed that changes in crop cycle

over the years have resulted from changing weather patterns. Many were also concerned with possible changes in annual food yields. One woman, when asked about foreseeable impacts of the future, stated, "...God only knows the future of agriculture in Costa Rica."

Costa Rica ranks as the third most vulnerable country in the world in relation to climate change (Hameling 2013). Human actions, such as deforestation, can lead to an increased rate of climate change. Costa Rica's current focus on increased urbanization will very much hinder attempts to reverse deforestation rates. Farming contributes sixty-three percent of methane emissions, one of the leading greenhouse gasses that cause climate change (Country Note 2008). One man surveyed made note of this rapid loss in forests. "Trees should be growing all over this area, but pavement has replaced the trees." This sentiment was echoed in every city where we conducted surveys.

Another common theme of surveyed individuals regarded the effects of human health as a result of climate change. Many focused on potential respiratory illnesses, especially pertaining to young and elderly patients. Their concern is supported by many health studies concerning respiratory illness and climate change (NRC 2010). An increase in respiratory illnesses will subsequently result in an increase in demand for medical attention (EPA 2012). A general concern for health shows there is some concern regarding climate change, and a desire to eliminate future impacts. The results of this study give more insight into Costa Rican's perspective on current causes and future consequences of climate change.

Undoubtedly, climate change is a global issue. However, it has much more serious repercussions for developing countries. Costa Rica's geographic location and present infrastructural conditions place it at high vulnerability in terms of climate change

risk management. By interviewing people in various towns, we were able to analyze the common perceptions concerning the consequences of climate change. The interviews show that the majority of Costa Ricans have a basic understanding of the present damages associated with global warming. The first-hand accounts we gathered communicated changes that people have witnessed and their perceptions on future impacts. Though most of the people interviewed could articulate some consequences of a changing climate, most lacked the knowledge to express their views concerning possible future impacts. The people have a limited understanding the gravity of their situation. The views expressed in these surveys are vital in order to effectively take action to mitigate the risks of climate change.

## **Chapter 2**

### **Costa Rican Culture**

In general, Costa Rican culture is defined by a strong sense of duty to one's family, the Catholic Church, and community. Because Costa Rica was a Spanish colony until 1821, Europeans significantly influenced the ways in which Costa Ricans began to identify themselves as a people (Pacheco 145). With a strong indigenous influence from the Guanacaste region, Costa Ricans tried to cling to their original roots. As Jamaicans and other West Indians moved from the Caribbean to Atlantic coast of Costa Rica, they introduced a new cultural identity that introduced different forms of cultural expression. Situated in Central America, Costa Ricans have also been influenced by their Latin American neighbors. Today, the people of Costa Rica share a diverse history that recognizes African, European, and Indigenous heritage. This unique blending of ethnicities has resulted in a Costa Rican culture that is rich and diverse. But because the country shares a unique blending of people from various backgrounds, forming a unified Costa Rican identity has proven to be a difficult task.

Costa Rican culture manifests itself through national customs and traditions. Though lacking a strong national identity, Costa Ricans still have a cultural awareness that binds them as a people. Their strong sense of duty to family, their adherence to a machismo system, and their religious events celebrating Catholic Saints is very similar to that of other Latin American nations. Yet, unlike their neighbors, Costa Ricans appear to



be contradictory in their beliefs and practices. This is especially true when considering the ways in which Costa Ricans interact with the Catholic Church. Though the power of the Catholic Church is written into their national constitution as the official religion, and 70% of Costa Ricans identify as Roman Catholics, there is an overwhelming push to secularize the nation. In a recent pole conducted in April 2013, only 23% of Costa Ricans support keeping Catholicism as the official religion (*Tico Times*). This attitude concerning religions reflects the divide Costa Ricans feel between their identity that is rooted in their history and their desire to embody a new identity that asserts their independence and diversity as a people. As the country continues to shift from an economy based on agriculture to one based on service industries, Costa Ricans continue to strive to obtain a national identity that negotiates between their past and present conditions. The question of identity remains a complicated issue for the present day Costa Rican who works to reconcile conflicting notions of self in order to finally possess an identity that is unified, yet multifaceted.

In order to understand the contradictions and the complications that go into forming the Costa Rican identity, one must turn towards the traditions, the beliefs, and the customs that these people proclaim to be theirs. It is necessary to understand how these traditions have formed, why they are important, and how they manifest themselves in the culture today. In order to understand the culture of Costa Rica, one must turn toward their literature because it is literature that offers insight into how nation chooses to be represented, as they highlight the very beliefs that make them a people.

Costa Rican literary is complex and diverse, reflecting the people who make up this nation. Their literary history reflects their early identification with Spain and their

subsequent desire to break free from these original European ties. The literature focuses around the “cafetales of the Meseta Central,” or the coffee plantations of the Central Valley. The Central Valley is where approximately two-thirds of Costa Rica’s population resides, and much of Costa Rican literature reflects the values of the farmer and his relationship to agriculture. Early writers of the 1890s, such as Ricardo Fernández Guardia with his collection of short stories entitled *Tico Tales*, and Joaquín García Monge with his short stories, “The Landmark,” “Country Daughters,” and “Abnegation,” formed the basis of the authentic national type (Pacheco 146). These writers significantly contributed to the costumbrista movement, a literary movement related to both Romanticism and realism, and a common practice for writers throughout Latin America. García Monge and Fernández Guardia emphasized the customs of the Costa Rican by expressing simple folklore themes. These themes highlighted the importance of the Costa Rican’s relationship to the land, while romanticizing rural life. Yet, these stories, striving for originality, were imitations of French and Spanish writers. Historically, coffee plantations formed the livelihood for over two-thirds of the population. Only recently has Costa Rica moved toward a service economy centered around tourism. Therefore, Costa Rican literature of the nineteenth century and early twentieth century is very focused on the customs surrounding their agricultural traditions, but still works within a framework of European themes and style (Pacheco 146). Costa Ricans struggled to establish their own traditions and articulate themselves with originality and confidence. It was not until the 1940s that the literature of the Atlantic coast was integrated into the national frame, bringing with it an understanding of the diverse make up of Costa Rica. Since, then, fiction writers such as Joaquín Gutiérrez Mangel have blended the Caribbean customs of the

Atlantic coast with the common themes associated with the Mesta Central literature in an attempt to form a national, authentic identity.

Despite the many attempts made by authors to articulate the traditions and beliefs that make them a people, Costa Rican literature is scarce, leaving many questions unanswered. In his article, "The Costa Rican In His Own Literature," León Pacheco argues that a strong national identity is not present within the Costa Rican literary Canon. He writes, "If it is true that the creators of our native literature turned their eyes toward the past and tried to probe the diffuse soul of rural man in his customs, language, superstitions, and religious spirit, it is also true that they had no tradition" (Pacheco 149). Though tradition is not always outwardly expressed throughout Costa Rican literary works, it does not mean that it is not present in the ways that people live their everyday lives and proudly proclaim themselves to be a Costa Rican, or a Tico(a). Perhaps, it is necessary to look at the folklore both in the literature and in the practices of the people as they strive to make a living. Perhaps, literature offers us a tool in which we can interpret the ways in which folklore informs people on daily basis, though it has not yet been documented within its literary themes. Costa Rican folklore is rich and very much influential in the ways that people interact with their environments and with each other. Though there is a struggle to mold together all of the different aspects of their diverse history, and there is a lack of documentation, the influence of folklore still manifests itself in the Costa Rican lifestyle. Through examining folklore and the traditions people participate in on a daily basis, one may see how all of Costa Rica's history is blended together today stretching from the beliefs originating from the coffee plantations to the influences of the Caribbean. Deeply held traditions are very much present in Costa Rican

society, though further documentation within its literature is still necessary.

## Chapter 3

### **Community Relationships with Protected Areas: The Importance of Human Capital**

What makes a community successful? Many factors contribute to the overall progress of a community. All forms of human capital (human capital is used to refer to the implications surrounding the economic impacts involving an individual and their community) play an integral role in the formation of a community that can be categorized as successful. Several studies conclude that human capital is one of the main drivers of economic growth. The types of human capital can be linked to positive governance and political stability, thus fostering a supportive environment for progress (Klomp & Haan 2012). Human capital can be defined as the collective skills, knowledge, or other intangible assets of individuals that can be used to create economic value for both individuals and communities. It plays a specific role when analyzing a community's relationship with the environment (Strickland-Munro et al. 2010). But perhaps a community cannot develop each aspect of its human capital effectively. Given this case, is each factor equally as important to the community's overall relationship to its culture and environment? Because a community's relationship with its capitals is so dynamic and sensitive, each aspect plays a unique role in the process of community development. The mobilization of political and social capital, for example, has the potential for realizing positive community development due to their internal and external significance (Dale 2010).

Community development is viewed as “a creative social process to empower people to exercise their intelligence and collective wisdom” (Kennedy 1996). Though community development is very much tied to the socio-economic characterizations of a community, it is even more important when looking at a community’s relationship with a protected area. Strengthening a community’s relationship with a nearby protected area provides a mutually beneficial interaction, in which individuals prosper, as well as the conserved area. This, in turn, leads to the progress of a community and supports the protection of biodiversity, aiding in a healthy exchange between humans and the environment (Chandra & Idrisova 2011).

Social capital is the organized voice of the community and can be measured by civic infrastructure derived through activities such as community organizing, citizen participation, and community-based decision making (Martín-López 2012), while cultural capital refers to the reproduction of the structure of power relationships between classes, by contributing to the reproduction of the structure of distribution of cultural capital among these classes (Lamont & Lareau 1988). However, what ties social capital and cultural capital together is the capacity to define clearly one’s interests, and to develop a strategy to achieve those interests (Butcher & Clarke 2012). This defines political capital. Political capital aids in the communication between internal and external organizations. Community groups use political empowerment to make independent and entrepreneurial decisions or to independently set the terms of negotiation for development. Though it is common to look at the various impacts of human capital on community relationships, it is important to remember that political capital stems from this overarching influence. How important is the role of political capital in the organization and facilitation of an effective

relationship between the people of a community and a protected area?

Previous research shows that the success of a protected area, and therefore, a surrounding community, is influenced by political capital. Adams and Hutton state, “The conservation of nature come with it societal implications, many of which are political” (2007). This theme is echoed throughout previous research endeavors that focus on community development and relationships to protected areas. One case study in Peru suggests that political factors play an integral step in securing benefits to the local community. Strategic alliances between the state and local communities were incorporated as a necessary component of protected area management for the recognition of communal and indigenous rights and for the reinforcement of traditional local power in order to conserve biodiversity for the benefit of local communities (Sarkar & Montoya 2010). In another case study centered in China, the lack of political participation, and unclear administrative authority led to the disorganization and dysfunction of a nature reserve system (Zhou & Grumbine 2010). The presence of the participation, organization, and leadership of political groups supports an environment that fosters positive community growth. The relationship between people and nature, is highly political, embracing issues of rights and access to land and resources, the role of the state, and the power of scientific and other understandings of nature (Deutsch et al 2002). Inherently complex, political capital inevitably cannot stand alone, rather it works simultaneously and in conjunction with various socio-economic factors (social capital and cultural capital), forming a multifaceted aspect of community development (Fortin et al 199).

Other studies suggest social capital is the main reason for a communities’ success, or lack there of, with a protected area (Schelhas et al. 2004). And some argue that the

“mobilization of social capital alone is necessary for realizing sustainable community development” (Strickland-Monroe and Moore 2012). When discussing feedbacks between conservation and socio-ecological systems others suggest undesirable social outcomes yield undesirable environmental effects and desirable social outcomes yielded desirable environmental effects (Miller et al. 2012).

The objective of portion of the study was is to examine the role that culture plays in the relationship a community has with a nearby protected area. I hypothesize that a stronger foundation in political capital will result in a stronger relationship with the nearby, protected area. This allows me to further analyze the ways in which Costa Ricans feel connected to their community and their willingness to adapt sustainable methods that will mitigate future effects of climate change. By analyzing the present relationships of community organizations and their external relationships in communities near Guayabo National Monument in Costa Rica (a national monument in the Central Volcanic Conservation Area in the Cartago Province of Costa Rica that covers the largest archaeological site in the country) a better understanding of successful community development can be achieved.

In order to test my hypothesis, interviews were conducted to the community members of Santa Cruz, Santa Teresita, and Colonia Guayabo, Costa Rica. The participants were given a one hour-long, 63 questions, oral interview that included three question types. Some were ranked on a semantic differential scale (a type of a rating scale designed to measure the connotative meaning of objects, events, and concepts), others used a dichotomous scale (a question that offers two possible responses), and some were an open-ended response. Questions ranked on a semantic differential scale were also



recorded inversely, as to diminish common method bias. Answers were recoded in the dataset on with a 1-5 scale so that responses corresponded with higher or lower numerical values, depending on the question. The survey was created during the Fall of 2011 by Dr. Sergio Molina, with the assistance of two interns of the School for Field Studies and Mauricio Arias, who is an official at the Central Volcanic Range Conservation Area (ACCVC). Its design was aided by Gutierrez and Siles (2008), Cepeda Gomez (2008), and ACCVC/UNA-IDESP (2011). The data was collected using a stratified sample procedure with a systematic random sampling for households. Snowball sampling (a non-probability sampling technique where existing study subjects recruit future subjects from among their acquaintances) was also incorporated, as to include insights from community leaders. The procedure supports the nature of the study, as the input of some community leaders was theoretically sensible.

The interviews were administered throughout the course of one week during the hours of 8 AM and 4 PM. Two individuals conducted the interviews at the given household, where the information was then recorded. The survey followed ethical guidelines (i.e. participants were informed of the confidentiality and anonymity of the given interview and were informed that if for any reason they did not wish to answer, the interview could be terminated at any time upon request). The participants were also given contact information for further follow-up.

One hundred twenty interviews among all three commutates were conducted and this information was further used in my data analysis. In order to focus on the political capital and the role of the communities' relationships with Guayabo National Monument, I analyzed the data for the following questions: How would you rate the caliber of work

done by the Association of Development? How would you characterize your community's relationship with Guayabo National Monument? I analyzed the data collected from these questions in all three communities in order to gain a comprehensive view of political capital perceptions and the perceived relationship with the protected area.

The data that was recorded was further analyzed using JMP Pro 10. The program was used in order to show the relationship between political capital and the community's relationship with the Guayabo National Monument. The relationship was analyzed using data obtained from asking the people their perceptions of how high they rate the performance of work done by the Association of Development (high-low) and how much they feel that Guayabo National Park is part of their community (weak-strong). The data was recoded and a Pearson Chi Square Test was used to test for independence. And a Contingency Table was calculated for each community (Table 1) in order to test the hypothesis of no association between the stated criteria. This test shows how likely it is that an observed distribution is due to chance.

For Santa Cruz, most people rated the Association of Development as high and the community's relationship to Guayabo National Monument as weak. The statistical analysis conveyed this information (Pearson  $X^2 = 0.093$ ,  $df = 1$ ,  $p\text{-value} = 0.7609$ ). Santa Teresita showed no significant relationship, as well (Pearson  $X^2 = 0.660$ ,  $df = 1$ ,  $p\text{-value} = 0.4164$ ). Colonia Guayabo also showed no significant relationship (Pearson  $X^2 = 0.533$ ,  $df = 1$ ,  $p\text{-value} = 0.4652$ ). A Spearman Rho test was also used in order to discover if a correlation was present. This test was also completed for the data obtained from each of the 3 communities. Santa Cruz showed a Spearman Rho value of 0.2582. For Santa

Teresita the Spearman Rho value was 0.2254, and for Colonia Guayabo, it was 0.0680.

Because all of these values were between 0.2 and 0.39, this shows a weak relationship.

**Table 1.** The relationship between the perceived level of performance by the Association level of perceived relationship with Guayabo National Monument

	<b>Low Performance</b>	<b>High Performance</b>	<b>X<sup>2</sup></b>	<b>p-value</b>
Santa Cruz			0.093	0.7609
Weak	1 (5%)	11 (55%)		
Strong	1 (5%)	7(35%)		

Santa				0.660	0.4164
Teresita	Weak	2 (15.38%)	1 (7.69%)		
	Strong	4 (30.77%)	6 (46.15%)		
Colonia				0.533	0.4652
Guayabo	Weak	2 (25%)	1 (12.5%)		
	Strong	2 (25%)	3 (37.5%)		

**Table 2.** Correlations between relationship of park and perception of Association of Development

	<b>Spearman</b>	<b>p-value</b>
<b>Rho</b>		
Santa Cruz	-0.0680	0.7756
Santa Teresita	0.2254	0.4591
ColoniaGuaya	0.2582	0.5370

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The statistical analysis shows that there is no significant relationship between the community's perception of the Association of Development and its relationship to Guayabo National Monument. The contingency analysis results do not show support for the original hypothesis. These tests only take into account one indicator of political

capital within the survey (Association of Development), but a third test (T-Test) was also completed incorporating all seven indicators of political capital, still yielding no significant relationships. In this case the sum was taken for all of the political indicators. This test assesses whether the indicators are statistically different. It analyzes the variation in the data. All of the data analysis showed there was no significant relationship. Therefore, because there is a not a significant relationship, or no correlation, between political capital and the community's relationship with the protected area, my hypothesis is not supported. The null hypothesis could not be rejected. Because of this, it is necessary to further examine the importance of political capital in a community's development and what other factors may play a role, leading to the rejection of my original hypothesis.

“The strength of political capital stems from the success of social capital” (Zmerli 2010). Because of this, in order to fully analyze the political capital and its influence, the social capital must also be analyzed. Social capital includes community organizations, leadership, and tranquility levels, while political capital involves the connections between local organizations and external ones. It is possible that if people are not aware of or well educated in the community organizations that exist in their community (social capital), they will not be able to give a very accurate perception of how these organizations interact externally (political capital). Because the data was based on the opinions of community members, there is possible error in how these organizations are perceived and how they actually function. This, in turn, will affect the accuracy of the data collected, and, therefore, deter the possibility of accurate correlations. In order to fully understand the relationship of political capital working within a community, it is necessary to do

research concerning the organizations themselves and to examine their intended role and their actual function, rather than just their perceived function. This process, or triangulation, can skew the data collected. Basing the data on perceived function allows for bias and could lead to inaccurate results.

This survey assumes that people have a basic understanding of the Association of Development—what it does, how it functions, and who is involved. This, however, may not be the case. There is a possibility that people could misinterpret the question or not fully understand what is being asked, leading to more inaccuracy in the data. The same is also true of Guayabo National Monument. The information collected assumes that people understand its purpose and any external relationships that are associated with the protected area. Again, this may not be the case. Assuming that the public is informed can lead to data that does not accurately describe the current situation of the given community. It is also possible that people act with in accordance to their self-interest, maintaining specific biases throughout the conducted survey. What each individual finds important concerning political organizations plays a role in how these organizations are further perceived. Self-interest predominates in a given society and has the potential to affect economic stability. This, therefore, affects the community's development and capitals (Schelhas et al. 2012). Previous studies show that civic engagement, and how people rate the importance of a political entity will affect the overall internal and external relationships of the community. It is necessary understand this relationship of the people and organizations in order aid in community progress (Miller 2011).

The relationship a community has with a protected area is culturally, socially, economically, and politically significant. When considering the role of human capital, it

is important to realize the interdependent relationships of each of its aspects and how without one, the other is inevitably affected (Scheer 2012). In the case of Guayabo National Monument, the surrounding communities may have had a relatively strong cultural capital foundation, yet the strength of social and political capitals were lacking, which contributed to the weak relationship observed.

Though the original hypothesis that with stronger political capital foundations, a stronger community relationship with the park will result, was not supported through this study, these findings do show that social and political capital play an integral part in the overall community development and success of a protected area. Also, these findings suggest that social and political capital do not work independently, but rather in cooperation with each other, affecting the various realms of a community's development. Previous research supports the interdependence of these two aspects of human capital. "There are complex micro-macro linkages between social capital and enhanced social and political well-being, and the concept of political capital as a likely product of social capital that links civil society participants to the political system" (Booth and Richards 2012).

The leadership and organization of political entities and their role in conservation is an area of study that must be further developed. As our world continues to deplete its natural resources, conservation will play an ever-increasing role in the future of sustainability and the preservation of biodiversity. This study acts as a foundation for further research focused on community relationships and how human capital contributes to its overall success. Though no direct correlations were found in this study, it is clear that "societies work best, and have always worked best, where citizens trust their fellow

citizens, work cooperatively with them for common goals, and thus share a civic culture”

(Booth and Richards 2012).



## Chapter 4

### **Folklore and Climate Change: Cultural Capital in Costa Rica**

In order to understand the ways in which climate change impacts can be further mitigated, we must examine how the cultural beliefs affect Costa Rican's perceptions of climate change. In the interviews I conducted in Santa Teresita, Santa Cruz, and Colonia Guyabo, I not only considered the roles of political capital in implementing mitigation strategies, but I also considered the ways in which cultural capital, the social assets that promote social mobility beyond economic means, have played a role in each community. Because cultural capital is influenced by the belief systems of the people, it is important to understand the ways in which they are informed. In my interviews, I asked individuals about the cultural capital in their communities, allowing me to further analyze the ways in which tradition and history influence the practices of Costa Ricans. I asked each individual how they personally feel about the community in which they live and if there are certain aspects of the community that they particularly identify with. In these open ended responses, most people expressed an appreciation for family and the tranquility of the community. One woman stated, "I am happy that my children are here. The town is very calm and the people are like family" (survey 2). This statement expresses the emphasis placed on community and a supportive environment. The woman's words represent a connectedness to others and also recognition of cultural unity. Individuals were also asked to identify typical dishes they cook in their houses and the ingredients required for each. The most common answer was gallo pinto (rice and beans), a

recognized national dish.

The fact that people listed a dish containing rice and beans as the primary ingredient has environmental implications. Because people identified rice and beans as staples in their diets, the mitigation efforts involving the protection of these crops (rice and beans) would likely be supported by the Costa Rican people. The dish does not only hold a nutritious value, but also economic value, as it is inexpensive and readily available. However, with increasing changes in climate, the crops needed to make gallo pinto will likely be affected by the increases in temperature and changes in rainfall. Because the production of rice alone requires great amounts of water, increased drought will have a significant effect on the amount of rice that is able to be produced. Today, the production of rice has already decreased, and organizations such as Costa Rica's Rice Corporation (CONARROZ) have turned toward government funding as a means of support in trying to raise crop yields. In a 2009 executive summary by the USDA Foreign Agricultural Service stated the importance of rice production in Costa Rica. "CONARROZ is trying to increase rice production through the application of a plan which includes technical and financial assistance to producers. Rice is a very important component in the diet of the Costa Rican population. Although local production increased in the 2007/2008 crop year, it is expected to decline during 2008/2009" (USDA Foreign Agriculture Service). A decline in the production of these crops can significantly impact health conditions, as a once abundant food supply quickly diminishes.

However, it is not enough to only recognize the negative effects that climate change would place on rice yields when considering the importance of gallo pinto. In order to fully understand the function of gallo pinto, we must consider the cultural value

placed on this dish that has become nationally recognized. We must ask ourselves what does gallo pinto symbolize, and how is this tied to Costa Rican identity? In order to answer these questions, we must look toward folklore, and how it influences the traditions, and therefore the identity of the Costa Rican people.

Through examining Costa Rican foodways, specifically gallo pinto, we can further analyze the ways in which tradition, culture, and history all intersect. Examining gallo pinto through this lens offers further insight into why a cultural emphasis has been placed on gallo pinto. In exploring Costa Rican literary themes, it may be difficult to identify a cohesive national identity among Costa Rican writers. Costa Rican writers have worked without avail to reconcile their diverse, and at times conflicting national history. Yet, based on folklore and tradition, gallo pinto has become a point of intersection of this blended history and, in a sense, has become a physical symbol of national identity. The origins of gallo pinto remain unknown, but a legend surrounding this food, describes it as coming from Afro-Costa Rican culture. The legend tells of Don Barnabe, a member of the elite class who provides food to guests in honor of Saint Sebastian. When he runs out of chicken, his guests are forced to eat rice and beans, thus coining the name gallo pinto (painted chicken). In her article, "Gallo Pinto: Tradition, Memory, and Identity in Costa Rican Foodways," Theresa Preston-Werner explores the implications of this common legend and the Afro-Costa Rican role in preparing meals. She argues that most likely, Don Barnabe, an individual of high rank, had Afro-Costa Rican cooks who would have been responsible for the introduction of gallo pinto, emphasizing the origins of the dish were likely on the Caribbean coast. "I found no evidence that it began as a northern foodway. Instead, the transfer of the United Fruit Company from the Caribbean to the

south provides a likely conduit for the dissemination of pinto” (Preston-Werner 122). The origins of gallo pinto remain rooted in legend, allowing us to further understand Costa Ricans’ connection to folklore. Because legend locates this dish on the Atlantic Coast with the Afro-Costa Rican, it is an example how Costa Rica’s diverse history is represented through a nationally recognized food. The legend associated with gallo pinto recognizes this food as having a national importance, and therefore, connects it to a national Costa Rican identity. Gallo pinto represents Costa Rica’s blended history and how these varying cultural identities have come together in a national food that is recognized throughout the country.

Through examining the cultural capital in Santa Teresita, Santa Cruz, and Colonia Guayabo, I was able to explore the ways in which the Costa Ricans are connected to their communities, and therefore represent themselves as a people. My interviews provided insight into the traditions and cultural practices Costa Ricans participate in on a daily basis. These interviews expressed Costa Ricans’ cultural values, and therefore also articulate the ways that their communities would be affected by climate change. It is also important to consider the reasons why and how the cultural values are in place. Understanding the impact of folklore is one source which helps shed light on Costa Ricans represent themselves as a people. As we understand the ways in which folklore influences the ways in which Costa Ricans identify as a people, we can start to make better informed decisions on how to implement mitigation efforts that will be supported by the people of that country.

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