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Rural participation in environmental decision- making

A case study of Rosário da Limeira, Minas Gerais, Brazil

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ABSTRACT

In Rosário da Limeira, Brazil, the environmental decisions of local government and rural landowners have a marked impact on preservation of the small portion of the Atlantic Rainforest that remains. Yet the level of participation by rural citizens in individual, collective, and public decisions regarding agricultural production and resource preservation has been a concern to those interested in conserving both forested land and agricultural productivity in the area. This report discusses the findings of a study conducted over a three-week period in May and June of 2015. Based on primary fieldwork and the literature surrounding participation and rural livelihoods, this report discusses the dynamic meanings of “participation” in development through recent history, addresses how environmental decisions are perceived among residents, and gives a contextual overview of the area in and around Rosário da Limeira. It explores the available spaces, opportunities, and groups for citizens to participate in environmental decision-making in the municipality, as well as the existing barriers to participation that local residents experience. Lastly, the report offers several recommendations to encourage and improve communication, education, and locations for participation in environmental decision-making in the site of study, in order to help align the interests of various stakeholders.

RESUMO

Em Rosário da Limeira, Minas Gerais, Brasil, as decisões ambientais do governo local e dos proprietários rurais do município têm um impacto notável na preservação da pequena porção de Mata Atlântica remanescente. Além disso, o nível da participação dos cidadãos rurais em decisões individuais, coletivas, e públicas em relação a produção agrícola e a preservação dos recursos naturais tem sido uma preocupação para aqueles que prezam pela conservação da floresta, tais como os interessados na produtividade agrícola na região. Este relatório discute os achados de um estudo conduzido num período de três semanas entre Maio e Junho de 2015. Baseado em pesquisas de campo e em literatura sobre a participação popular e os meios de subsistência rurais, este relatório discute os vários significados da "participação" nos processos de desenvolvimento através da história recente, relata como as decisões ambientais são percebidas pelos que residem no município, e fornece um resumo do contexto de Rosário da Limeira e de sua área de entorno. Este relatório explora os espaços disponíveis, oportunidades, e grupos em que os cidadãos possam participar na tomada de decisões ambientais no município, bem como as barreiras existentes à participação através das experiências dos residentes locais. Por fim, o relatório oferece várias recomendações para estimular e melhorar a comunicação, educação, e espaços para a participação popular no local do estudo, para ajudar a alinhar as prioridades das partes interessadas nas tomadas de decisões ambientais.

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Executive Summary

This study, conducted by American University on behalf of Friends of Iracambi NGO, investigates the trends, opportunities, and barriers to community participation in environmental decision-making in Rosário da Limeira. The report provides an overview of the many iterations of participation, from political engagement to market access, paying particular attention to who participates, how they participate, and why. Based on a series of interviews conducted in Rosário da Limeira, this report is divided into three main categories of findings: community, government, and environment.

The first series of findings reveal the community attitudes and structures that can facilitate or inhibit participation within Rosário da Limeira. Despite the perception that available associations for participation, organization, and communication are non-accessible or poorly functioning, there is an apparent desire for opportunities to engage and a willingness to participate in more decision-making processes. For female community members, a solid foundation for advancement in economic and political decision-making processes does exist. Our interviews revealed paradoxical views of government, in which rural citizens held decidedly negative views of the broad conceptions of the local and national government, but often spoke about government services that have benefited them, such as educational opportunities, farm loans, and retirement benefits. Government officials seemed generally sympathetic to rural concerns, but face financial and logistic barriers to making substantial change. In the face of rapidly changing environmental factors, citizens expressed a spirit of environmental conservation and demonstrated interest in protecting their natural resources. National-level agricultural and economic policies, however, have incentivized rural farming practices that do not necessarily accommodate the needs or wants of rural farmers. The municipal government, between national government on top and community below, sits in the middle of the decision-making hierarchy in Rosário da Limeira. Overall, there was an atmosphere of cooperation and community goodwill that could be fostered to encourage participation and mobilization, specifically around environmental issues. The lessening population of the area has reduced not only the physical capacity to gather around environmental issues, but also the perceptions of the community's ability to create change. Although the community perceives a lack of cohesion around many issues, there still exist structures and institutions within the community that facilitate community gathering. The church, Iracambi, and the government are seen by the community as spaces and opportunities for participatory decision-making around environmental issues. Together, these findings provide the foundation for this report's recommended short-term and long-term actions.

Introduction

At a macro level, globalization has facilitated a shift in both production and consumption patterns in most countries around the world. Brazil has been particularly influenced by this trend, as a country whose economy was largely built on agriculture. With immense profit earned from natural resources since its colonization, any shift in the Brazil's economy with respect to agriculture tends to disproportionately impact the most vulnerable populations like rural farmers, who historically have been the backbone of the Brazilian economy. The factors of the market affect not only the economy, but also migration, familial division of labor, and environmental decision-making within rural contexts. Combined with a dwindling rural population and lessened interaction amongst neighbors, participation and engagement of rural citizens has subsequently diminished. Historically, participation within Brazilian society has been a significant mode of effecting change, yet without this same level of participation in rural settings, agrarian communities are becoming less empowered to defend their livelihoods. This study will investigate various facets and iterations of rural participation with respect to the environmental decision-making.

The research group consists of 11 masters' degree students of various academic disciplines from American University. The team focuses on a wide array of issues, including international development, international communication, environmental science, global environmental politics, global health, and business. Leading our team is Dr. Eve Bratman, a respected professor of International Development at American University.

This research has been conducted through a partnership with Friends of Iracambi NGO in Rosário da Limeira, Minas Gerais, Brazil. Founded in 1999, Iracambi promotes local and international awareness in Brazil's Atlantic Forest by managing natural resources, educating for sustainability, and researching ecosystems and how human populations impact them (About Us, 2015). In the past, Iracambi has helped to facilitate local participation in environmental issues through educational workshops, community organizing, and leading by example; however, the rapidly changing social, political, and economic trends of the area have incited Iracambi to reinvestigate its understanding of and role in community participation.

This study has been geared towards the investigation of community participation in environmental decision making in Rosário da Limeira. The two primary research questions are: 1) What can be done to increase participation in environmental decision-making? and 2) What forms of participation are more relevant?

Redefining participation on participants' terms

Throughout the history of its usage, the word "participation" has come to encompass a range of meanings and serve a variety of purposes in different contexts. Within this research project, participation is primarily conceived as political engagement in environmental decision-making within government bodies and structures. Due to the unique historic relationships between governments and communities in the Brazilian context, however, this channel of participation must not be analyzed in isolation. This report expands upon this original conception of political participation to include the many methods and fora for citizens to participate and engage. It will approach the concept of participation with a nuanced analysis of the composition, type, and goal of citizen engagement in Rosário da Limeira.

The analysis of participation must first address what kinds of participation are desired, who participates in them, and how they participate (Cohen and Uphoff, 2011). In the mid-1980s,

“participation” emerged as a buzzword within development due to the industry’s systematic failures related to non-engagement (Leal, 2011). The original goal of participation was the transformation of the cultural, political, and economic structures that perpetuate poverty and marginalization (Leal, 2011, p. 71). This was envisioned to be achieved through collective unity and action through the process of conscientization (Freire, 1970). Since its original conception, however, “participation” has come to have much different theoretical and practical applications. A survey of literature has revealed the most prevalent types of participation to be political participation, economic participation, and project-oriented participation.

Although its current meaning holds a much more comprehensive scope, the traditional concept of participation referred to the collective pursuit of social change through political channels (Mosse, 2011). This refers to engagement through central ministries, local agencies, and government institutions at large. Today, though, there is a "crisis in governance" that has driven many citizens away from these spheres of political participation (Gaventa, 2011, p. 253). It has been argued that the concept of participation has now been politically sanitized, shifting its focus to institutional rather than social change (Leal, 2011). Emerging neoliberal conceptions of participation and citizenship have been categorized by individual incorporation into the global market, as opposed to sociopolitical-based participatory citizenship. While the political participatory framework focuses on the pursuit of egalitarian social relations and active engagement through political struggle, the neoliberal frame focuses on an individualistic understanding of citizenship through individual rights as a consumer and producer. This shift from political to economic frameworks of participation can (and, in many cases, does) change expectations of public responsibilities to individual moral responsibilities (Dagnino, 2011, p. 424). This new frame of neoliberal participation has brought decentralized actors to the forefront of civic engagement, which has also allowed for a growing emphasis on participation at the project level.

The theory of participation, at least in the context of development, has predominantly referred to the transfer of power from patron to client at the project level. While the historic trend has been top-down prescriptive planning for development by organizations, participatory approaches aim to achieve more effective and sustainable programming through community involvement at various stages of the project cycle. This approach has emerged with the growing sense that relying upon outsider knowledge was “much of the problem, and that local people, and their knowledge, are the basis of the solution” (Chambers and Guijt, 2011, p. 109). Participation has in fact arisen as the “master metaphor” to frame project design in development (Mosse, 2011, p. 183). At the operational level, participation has generally referred to community meetings, Participatory Rural Appraisals (PRAs), and iterative work plans. Each iteration of participation has worked to gain a comprehensive scope of engagement, but there remain significant exclusionary trends.

While it seems intuitive that demographically participatory development would be all-inclusive, this has not always been the case in practice. Despite its best efforts, participatory development has, at times, further promoted exclusion and inequality within communities, especially when turning the focus to women. There are numerous reasons for this exclusion of women; however, the most important are the ideological, structural, and logistical underpinnings of failed participatory development projects (Cornwall, 2011). In some cases, women’s participation has been seen as more of a generous allowance rather than a structural and permanent change in decision-making processes (Cornwall, 2011). In order to increase the power of lesser-heard voices, the establishment of a gender-progressive non-governmental organization has been suggested (Cornwall, 2011, p. 206). With the establishment of such organizations, it is believed

that women will have the opportunity to challenge their historic exclusion from the decision-making processes. It is important to note that while these issues may address the power structures between men and women, they may not necessarily address the power structures that exist between all traditionally underrepresented groups. One final area to mention in terms of structure and participation is the logistics in terms of time and place. Many integral groups, including women and youth, will not be able to participate if the times that PRAs or other participatory activities conflict with their responsibilities or schedules. In addition, they will also not participate if they are not comfortable with the location that the activity is taking place (Cornwall, 2011). To successfully address gender issues within development requires the addressing of ideological and structural flaws of some basic assumptions within the development industry. Aside from the theoretical implications of participation, the framework must also include perspectives of who participates and on what terms. It is of utmost importance that the framework of participation take strides towards representing the voices of all community members and ensure their comfort and availability for dynamic participation.

Just as participation has manifested in different forms by different individuals, it has also been utilized to achieve a varied spectrum of goals. From equal representation of all demographics through comprehensive engagement, to social change through political activism, to economic incorporation into markets and appropriate programming through iterative program planning, participation has encompassed a range of interests, but these processes have not always been organically initiated.

Despite the many successes in “handing over the stick” of development through participatory approaches (Chambers and Guijt, 2011), there has been an ultimate questioning of whether imposed participation is genuinely participatory, or just a new manifestation of the historic patron-client approach to development (Mosse, 2011). On the global scale, participation has broadly been encouraged through top-down structures, resulting in disingenuous and tokenistic participation, rather than the systematic change it was originally conceived to produce (Mosse, 2011). This definition of citizenship has entailed institutional change to reduce marginalization and poverty, rather than advocating for change in a society itself (Leal, 2011). In response to the perceived inadequacy of traditional methods of participation, there has been a shift to alternative methods of engagement that require “a fundamental rethinking about the ways in which citizens’ voices are articulated and represented in the political process, and a reconceptualization of the meanings of participation and citizenship in relationship to local governance” (Gaventa, 2011, p. 256). In Brazil, the protests against the traditional structures of engagement have demonstrated the popular discontent with the status quo of participation (Maia and Rocha, 2014). Brazil’s prioritization of neoliberal participation defined by access to the market as a consumer and producer (Dagnino, 2011) has particularly contributed to the pattern of non-participatory rural governance intended to advance rural populations without gaining local perspectives of wants and needs. From state-driven coffee production (Watson and Achinelli, 2008) to current national commitments to resource extraction, rural voices have often been left unheard in the formulation of national priorities and plans for the land they inhabit.

In the context of this theoretical framework, this study has been guided by the perceptions and priorities expressed by community members within Rosário da Limeira. The report’s findings have been primarily driven by community experiences with and perceptions of methods of participation, rather than being confined to a specific theoretical lens. As the following section will investigate, the experience of participation has varied greatly depending upon local contexts and structures.

Case study: Rural participation in environmental decision-making in Rosário da Limeira

Political and economic context of rural agriculture in Brazil

Based on its large population, resource wealth, and burgeoning market, Brazil is classified as an “emerging country” by the World Bank. With an its increased role within the global economy, Brazil is rapidly becoming a country exposed to shifting social patterns facilitated through liberalized trade and expanded markets—a system that has not only dramatically grown the country's economy, but also perpetuated and exacerbated already existing social inequalities. From the Black Brotherhood during times of slavery to the recent protests against increasing social inequalities (Maia and Rocha, 2014), social movements and organizations in Brazil have become a normalized mechanism for the social advancement and increased recognition of otherwise less visible groups in Brazil.¹

Similar to most countries in the western hemisphere, Brazil is built on a legacy of exploitative agriculture. The original labor used for intense agricultural production was slave based. In the 16th Century, the transatlantic slave trade forcibly brought millions of Africans to Brazil as a labor force to support a growing economy dedicated to the production and trade of sugar cane, coffee, dairy, and, eventually, soy. Since its colonial inception to current day, with differing supplies of labor, Brazil continues to be an agricultural mecca that supports a population of more than 200 million. Currently, Brazil is one of the world's largest coffee producers and exporters, both due to the historical legacy of coffee and colonization as well as large agricultural reform that occurred throughout the 1960s to 1980s.

During this era, agricultural reforms began to shape and transform the production of coffee within Brazil; the reform reduced the taxes on agricultural exports, minimized restrictions on export quotas, decreased state involvement, and increased research and development programs, extension programs, and rural development initiatives (Watson and Achinelli, 2008). In reaction to the rising global prices of coffee, the Brazilian national government began to support the growth of coffee through “fiscal and financial incentives” to rural farmers (Watson and Achinelli, 2008). Small-scale farmers were led to maximize yield based on government instruction, mainly through agricultural extension agency outreach and development policy (Watson and Achinelli, 2008). The methods taught to rural farmers encouraged monocropping and emphasized quantity over quality in production. This ultimately allowed Brazilian coffee production to skyrocket, while simultaneously making small-scale farmers all the more vulnerable to market fluctuations.

When the market shifted and coffee prices dropped in the 1980's, many small-scale farmers that focused solely on coffee production were severely impacted (Watson and Achinelli, 2008 and Miguel, personal communication, June 2, 2015). With little crop diversification or alternative sources of income generation, farmers had little resilience to changes in the market. Aside from lack of alternatives for income generation, farmers were continually degrading their land through monocropping and forest clearing to expand both pasture and farmland. With large amounts of coffee crops, increased soil erosion, and degradation, many farmers were not - and still are not - able to recover from the economic crisis.

Over the past three decades, the rise and fall of coffee prices globally and influxes within the market have caused severe economic depressions in small, marginalized municipalities, particularly in the agricultural state of Minas Gerais. The focus of this research will be on the small municipality of Rosário da Limeira.

Rosário da Limeira: Introducing the site of study

Rosário da Limeira is a small coffee-producing municipality in the state of Minas Gerais. Coffee thrives in this region due to its optimal temperature, heavy rainfall, and distinctive dry season (Watson and Achinelli, 2008). Of the total income in Minas Gerais, 74% is linked to coffee production, which demonstrates how integral coffee is to this rural economy (Watson and Achinelli, 2008). Historically, Rosário da Limeira was originally a part of Muriaé. On December 21, 1995, Rosário da Limeira became its own municipality (IBGE, 2013). The process to become a municipality was very organic and community-driven (LeBreton, 2010). Constituents were eager to have a larger stake within the local economy and to achieve more direct political representation. By becoming an independent municipality, Rosário da Limeira qualified for federal funding for improved access to health and education, as well as other opportunities related to increased infrastructure and resources (LeBreton, 2010).

Situated in the Atlantic Rainforest, degradation of soil (and of the environment more broadly) is a substantial concern in Rosário da Limeira. As previously mentioned, monocropping of coffee and deforestation for pasture and farmland have exacerbated environmental degradation within Rosário da Limeira. In light of the historical and current environmental degradation, Rosário da Limeira and surrounding municipalities came together in the late 90's to delegate environmental protection areas (EPAs).

The EPAs were implemented due to social movements and community organizing within the municipality of Rosário da Limeira. The resulting state law states that the buffer zone of the EPAs must not be mined or disturbed under any circumstance. For the remainder of this report, the EPA of concern is the state park of Serra do Brigadeiro. Despite these legal protections, however, there is no automatic enforcement mechanism for the buffer zone unless its management plan specifically states so. Iracambi is in the process of revising its management plan to include this protection. Along with buffer zones for the EPAs, state law requires that 20% of privately owned land remain preserved as forest, and indigenous tree species may not be cut. Although these laws are recognized by both federal and state authorities, loopholes still allow some environmentally harmful development activities to occur.

Rosário da Limeira is a municipality built primarily on familial agricultural production, in which rural society is markedly characterized by agricultural involvement. Ninety percent of residents in Rosário da Limeira rely on agriculture and agricultural services for their income (Watson and Achinelli, 2008). Rural social dynamics in Brazil have been argued to be dictated by the power dynamics of patriarchy (Prado, 1995). As a society, Rosário da Limeira manifested this trend in many ways, perhaps most notably in its historic and current gender dynamics.

A woman's role in Rosário da Limeira has been traditionally related to the normal work associated with the household: cooking, cleaning, and taking care of the children. While women often had a role in assisting with agricultural production and other productive tasks, operational and financial decision-making power lied solely within the hands of the men of the household (LeBreton, 2010). Older daughters within the family were often held back from school to assist with childcare, as well as housework. Due to the many expectations and responsibilities of women within Rosário da Limeira, the opportunities for women's advancement within society have historically been lacking. Today, however, things have begun to change in the region. Women are beginning to pursue alternative methods of income generation, slowly entering the workforce outside of the household and off the farm. These changes are detailed below, and point to the potential for increasing women's participation in community decision-making.

Currently, still recovering from the crash of coffee prices and soil mismanagement, citizens of Rosário da Limeira are facing another large environmental issue—the potential of mining activities taking over their land. Previous attempts by mining companies to operate in the region have been thwarted by citizen-led processes of petitioning and participation in public hearings. This is discussed further in the environment section below. Such historical examples of local participation in decision-making processes indicate the potential for the community to again come together, to delineate their goals, and create plans of action to move toward those goals.

Methodology

This study is framed by the literature surrounding participation and based upon ethnographic research. The aim of the project was to collect qualitative data on environmental decision-making, community participation and who participates, as well as political structures within rural areas of Rosário da Limeira. Data collection occurred during a three-week research trip to Brazil, which consisted of five days in Rio de Janeiro, two days in Belo Horizonte, and two weeks at Iracambi. Research methods included archival research, participatory observation, site visits, semi-structured interviews, and public hearings.

Background research was conducted at Fundação Getulio Vargas, where the research team participated in a lecture series on Brazilian economy, government, history and culture. Following these talks, the team moved to its primary research site at Iracambi, where the institution's founder and director, Robin Le Breton, provided a brief history of participation and environmental legislation in the area. Key community members were chosen as interviewees through a snowball sampling method. Interviewees were selected to encompass a breadth of demographic and experiential qualities, including age, gender, farming practices and experience, levels of participation within the community, and years spent living in the area. Each interview lasted approximately 2 hours, and was conducted in Portuguese using a translator. In total, 13 interviews were conducted with 21 individuals. Interviewees included subsistence farmers, coffee farmers, horticulturalists, small business owners, and local politicians. Aside from public figures, interviewees' names have been changed throughout the report to protect their anonymity.

Site visits in Rosário da Limeira included various scales of farms and reforested areas, government offices, and public hearings. Our on-site research was supplemented by a visit to Belo Horizonte as a case study in participatory budgeting, as well as novel approaches to food systems. Belo Horizonte's Secretariat of Agriculture and Environment and Secretariat of International Relations presented detailed accounts of the city's food system, climate adaptation plan, and participatory budgeting mechanisms. Meetings were followed by site visits to a community garden and a school whose construction were funded via participatory budgeting. These experiences informed the research team's contextual understanding of the Brazilian potential for success in participatory models.

Research biases

A number of research biases must be acknowledged before moving on to the report's findings. It is our hope that future research can take further strides to address these potential research biases. The first and most important bias to acknowledge is that this study was conducted by a group of environmentally-focused students, pursuing the specific investigation of

environmental concerns. Therefore, the questions asked during the interviews were geared towards the environmental problems of the community, and were thus potentially restrictive of other community concerns. In addition, the demographic characteristics of the authors in comparison to the interviewees should be taken into account. Specifically, the team consisted of ten females and one male, ranging from 22-35 years of age. This unique composition of the group may have influenced the willingness of interviewees to disclose information.

Language and culture were two significant barriers faced by the authors. Only two members of the team other than the academic advisor spoke Portuguese. The group's reliance upon translation may have contributed to cross-linguistic misunderstanding. The most notable challenge was with the word "community." There was a great variety in the way interviewees defined community, which led to inconsistencies in definition within interaction and analysis. For some, community was the closest neighbors to their household, usually comprised of four to five houses; for others, it referred to a much larger group. To encourage uniformity in understanding, the authors changed the wording of questions to use "municipality" when speaking of the whole population of Rosário da Limeira. In addition to language, the research team had limited experience with or knowledge of Brazilian culture before arrival. Although Brazilian culture, race relations, and social movements merit substantial investigation, the research team participated in an intensive lecture series at the Fundação Getúlio Vargas to understand the basic foundations of Brazilian history, society, and culture upon their arrival to Brazil. Despite the relative lack of experience with Brazilian culture, the research team made all efforts to be culturally sensitive during interviews and community interactions.

Time constraints brought another bias into the research, as it substantially limited the data sample size available. The authors spent only ten full days in Iracambi, with seven days dedicated to interviews. In addition, the short timeframe inhibited the authors from capitalizing on opportunities to interview other stakeholders within the community, beyond those identified by Iracambi. The authors received multiple invitations to speak with other members of the community, but time did not allow us to meet with these individuals. The data sample was primarily composed of community members over the age of 35. In the future, a larger sampling of the youth could provide further insight into their community engagement. Despite these potential biases, this report lays the foundation for further research on participatory environmental decision-making within Rosário da Limeira.

Research Findings

Based on the themes that emerged in conversations with interviewees, this report will focus on three main categories of findings: community, government, and environment. The first series of findings reveal the community attitudes and structures that can facilitate or inhibit participation within Rosário da Limeira. The government section provides an overview of the problems and opportunities within preexisting government channels of engagement. The final section addresses the environmental priorities and concerns identified by interviewees. Together, these findings provide the foundation for this report's recommended actions.

Community dynamics and opportunities

Defining and identifying community

“Community” can define any number of social structures in which a group of people relate and identify with one another. The shared identity of a community can encourage participation, increase safety nets, and encourage capacity building. Within the Municipality of Rosário da Limeira, this section focuses on the smaller community directly surrounding Iracambi, known as Graminha. Despite the clear definition of community with which the research was originally approached, it became almost immediately apparent that the term meant a variety of things depending on the interviewee and context. Regardless of the multiple definitions, it was observed that the community of Graminha has shrunk considerably and left a fragmented group of farmers and laborers. One interviewee stated that there used to be more than 40 families in her community but now there are only 10 (Ana, personal communication, June 4, 2015).

In relation to community identity, we found that there is often a lack of commonality and trust among neighbors in the region. The lack of trust between neighbors is a good example of the fragmentation of community identity and challenges to developing more engaged community participation. For example, some farmers are hesitant to share their tools with their neighbors, but will often share less valuable items (Miguel, personal communication, June 2, 2015). The exception to this observation is Paula, who spoke of sharing childcare and food with her immediate neighbors, but the discrepancy may be attributed to the fact that she had a wider definition of community that stretched beyond her immediate neighbors and encompassed the entirety of Graminha (Personal communication, June 3, 2015). Despite these drawbacks, however, there are possibilities for improved participation through the increased utilization of existing community spaces and structures.

Existing spaces and opportunities for participation

The common consensus across rural interviewees was that available associations for participation and organization are either not accessible or are poorly functioning. The associations that did exist in the past have mostly been dismantled, while others that still operate were considered ineffective (and therefore a waste of time and membership fees) by community members who may have otherwise chosen to participate. Claudia, for example, mentioned that she was a part of a Piece Workers’ Association; however, through discussions with other local artisans we discovered that not everyone feels that this association has the capacity to meet their needs (personal communication, June 1, 2015 and June 3, 2015). In the past, Miguel had been a member of a local workers’ association, which was composed of about 30 farmers. He had joined hoping that this partnership between farmers would be fruitful, but in the end there was mismanagement of funds. Ultimately, his investment had few results, so he no longer participates with this group (Personal communication, June 3, 2015).ⁱⁱ

Iracambi Research Center, in contrast to less successful groups, has functioned in the eyes of the interviewees as a highly successful forum for organizing through environmental education. Many of the interviewees expressed that they enjoyed workshops and school programs that they had attended in the past at Iracambi. Rodrigo, for example, stated that when he was young, he participated in Iracambi youth groups, which inspired his interest in agriculture and environmental issues (Personal communication, June 3, 2015). Julianna also gained her interest in environmental issues and community participation through her interactions with Iracambi. When she was younger she attended workshops at the research center, and was able to meet people from all over the world with whom she shared similar interests (Personal communication, June 2, 2015). There are still some programs at Iracambi for school children, but according to one interviewee they are not as frequent or as well advertised as in the past (Personal communication, June 2, 2015). Regardless,

it is apparent that community members look to Iracambi as a resource and as a potential space for coming together and discussing environmental concerns. Additionally, Iracambi has facilitated involvement of local community members with the Serra do Brigadeiro State Park. One interviewee was able to gain the experience working on the park's Environmental Council due to her connection with Iracambi, and through rides provided by Iracambi's founder (Ana, personal communication, June 4, 2015).

Another important space for the community to gather is the local Franciscan church. All individuals interviewed noted that they were somehow involved with the church. Many felt that church meetings and Bible groups were two of the few available forums for discussion among community members. The leaders within the Franciscan church are highly regarded throughout the community, and many of our interviewees were familiar with Frei João and his parish. Frei João and his brothers prescribe to Liberation Theology, which is the belief that civic engagement in politics and the environment is a moral obligation within their faith. Others noted that they had community Bible studies that rotated between households once or twice a week (Ana, personal communication, June 4, 2015). Women in Rosário da Limeira were especially receptive of the church's role in community organization and mobilization. As will be discussed in the following section, women's participation must be approached with a broad lens in Rosário da Limeira.

Women's roles in the community

Within the context of community we have found that the role of women is integral to the success of rural development. In almost all of our interviews we found that women engage in the local economy through in formal work and entrepreneurship. One excellent example of women's growing involvement in economic participation is the establishment of Claudia's piece making business. Through her shop, she provides employment for three women within her community, including her daughter. In the future, Claudia hopes that she will be able to turn the shop over to her daughter and, as she explained during the interview, pursue her life's dream of assisting others within her community (Personal communication, June 1, 2015). Ultimately, she hopes that the shop will be able to employ up to 10 women (Personal communication, June 1, 2015). Not all women, however, have found success in their economic endeavors. For instance, Julianna confessed that her passion is her artisan work, but there is no financial or governmental support for her to pursue this full time (Personal communication, June 2, 2015).

It is important to note that the position of the women as entrepreneurs and community representatives would not have been possible without the support of their husbands. This common theme of support, expressed throughout all interviews with female community members, emphasizes the important role that men play in women's economic and political advancement. While husbands were generally supportive of their wives, Claudia in particular highlighted that traditional conceptions of the role of women still exist. She stated that some neighbors were jealous when she opened her business and tried to undermine her confidence by telling her that she would never succeed (Personal communication, June 1, 2015). Despite these challenges, a solid foundation for the continued advancement of women in economic and political decision-making processes does exist.

Challenges and opportunities for building community

The biggest barrier that the community of Graminha is facing today is the problem of a dwindling population, which has had a huge impact on participation. The land is not currently

providing for rural farmers the way that it once did, not only because the land is degrading, but also because the price of many crops (especially coffee and rice) makes it difficult to find work (Claudia, personal communication, June 1, 2015 and Rodrigo, personal communication, June 3, 2015). The younger generations are finding themselves disinterested in farming the land, and despite taking pleasure in the nature of the rural areas, they desire the education and job opportunities found elsewhere (Bebel, personal communication, June 11, 2015).

Many young people have expressed interest in owning their own businesses. Bebel, for example, hopes to get a Masters in Agriculture with the goal of owning her own agrobusiness in the nearby municipality of Ervália to grow and export *açaí* (Personal communication, June 10, 2015). Some of our older interviewees expressed similar hopes of entrepreneurship for their children. For example, one of Claudia's motivations for starting her piece making business was to eventually open a shop in her daughter's name (Personal communication, June 1, 2015). Her daughter, Ivete, has shown desire for this entrepreneurial opportunity and has taken initiatives to be educated in accounting and business management (Personal communication, June 1, 2015). Youth in the community showed interest in opportunities and workshops on topics that interest them, hinting that the current community- and government-sponsored training opportunities do not meet their interests. This discrepancy between desired trainings and those that are available may help to explain the relative lack of participation in current workshops (R. LeBreton, personal communication, May 31, 2014).

Communication is another commonly noted barrier of community organization and participation. The fact that information is spread primarily by word of mouth between the small communities that make up Rosário da Limeira is an issue that needs to be addressed. There used to be a community radio station in Belisario that reached Rosário da Limeira. This radio station was looked upon with great success until its sponsorship was lost and it went off air (Rosa, personal communication, June 2, 2015). It seems that radio may be an opportunity to broaden communication, and an initiative is underway to revive the community radio station. This would be in line with stated desires of interviewees to increase communication in the region. Youth interviewees have also expressed interests in alternative communication styles such as journalism and theater (Personal communication, June 10, 2015). Rosa, one of the original announcers, started working with the radio around age 23, making this an example of how radio specifically can be a useful tool for empowering youth in the community as it did for her (Personal communication, June 2, 2015).

Another major opportunity for the fostering of community identity within the Rosário da Limeira is engagement with the local Franciscans, who have expressed a desire to work with people and promote responsible environmental management practices (Frei João, personal communication, June 1, 2015). The local Franciscans, as briefly discussed above, have a preexisting platform for meetings, with masses and prayer meetings reaching the entire municipality. Their interest in the environment and conviction that social participation at the municipal level is a religious duty indicate they would be ideal conduits to increasing participation (Frei João, personal communication, June 1, 2015). All interviewees were either directly involved in the church, or identified God as being a major factor in their personal success. Increased use of religious gatherings as a place for hosting meetings and providing information regarding community events and important news could be instrumental in fostering participation.

Even with a small population, there is an apparent desire for opportunities and a willingness to participate in more decision-making processes. An example of this is Paula, who expressed a willingness to lead and take the initiative to develop groups and increase participation (Personal

communication, June 3, 2015). In order to foster a community environment that promotes leadership and a desire to stay local, it will be important to identify the leaders – including youth with potential to develop into future leaders – both in and outside of politics.

Relationships between rural populations and government

Our interviews generally revealed paradoxical views of government. Several people made blanket statements about how the government rarely helps them, and needs to do more to assist rural populations. On the other hand, the same people often spoke about government services that have benefited them, such as educational opportunities, farm loans, and retirement benefits. Government officials generally seemed sympathetic to rural concerns, but have a hard time acquiring funding for projects that would benefit rural communities.

Rural perception of governmental bodies

Local opinions of national politics were predominantly negative. A local religious leader pointed out that the highest offices of Brazilian politics are dominated by two main political parties: the Brazilian Social Movement Party (PSDB) and the Worker's Party (MDB or PT), which arose from workers' unions (Frei João, personal communication, June 1, 2015). He reports that the PT used to be more poor-oriented and pro-popular governance, but that today it is more distant from the people due to political needs to ally with other interest groups. He says that as a result, the PT now ends up serving the rich and powerful. Another interviewee, a local rural resident who was formerly a member of the local environmental council, said that she does not care for the government very much, and that everything has gotten worse under current president Dilma Roussef (Ana, personal communication, June 4, 2015).

At the local level, there appears to be relatively more faith in the ability of the municipal government to impact the lives of interviewees. Analysis of interview notes showed that mention of the municipal Mayor or "mayor's office" was made by interviewees more frequently than references to national government. Local views on municipal political entities appeared more mixed than those toward the president. The same interviewee that expressed dissatisfaction with the current president said the local government was "so-so," but also added that the current mayor is a "good man" (Ana, personal communication, June 4, 2014). General perceptions of the current mayor, however, appear to be colored by residents' views of the former mayor. Some active local youth ranging from age 17 to 20 articulated that although everyone hated the former mayor, the current mayor is also bad, but the vice mayor is good (Bebel, personal communication, June 10, 2015).

Residents appear to expect a great deal from the municipal government and mayor's office. The responsibility of the local government was noted in regards to fixing the roads, providing 'basic' services (which, the interviewee explained, are so numerous they are difficult to clarify), caring for the local environment, and in generally "making sure that the land and the people are taken care of" (Paula, personal communication, June 3, 2015).

In terms of participation in political decision-making, all of the women interviewed expressed interest in being involved. Ana, who previously served on the Environmental Council, expressed interest in attending similar meetings again, stating that "I like meetings" (Personal communication, June 6, 2015). Paula also expressed interest in participation, even as a community leader, asserting that she would "really like to go fight!" (Personal communication, June 4, 2015).

However, Paula recognizes that assuming the role of a leader would require the support and good will of her neighbors.

Rural use of government programs and services

Despite many negative expressions about all levels of government, several of the interviewees also made mention of governmental services they have taken advantage of. One coffee farmer, who is now receiving government-provided retirement benefits, reminisced that the Agricultural Extension Service taught him everything he knows about farming (Miguel, personal communication, June 2, 2015). Two neighboring local farmers expressed gratitude for a publicly provided horticulture education and training program that they participated in about four years ago. As a result of this training, they have implemented crop diversification in their agricultural production and experienced steadily rising incomes (Rodrigo, personal communication, June 3, 2015). Despite having benefited from those services, one of the farmers added that there is no government support for purchasing tools for the farm.

Governmental shortcomings and rural activism

One of the most significant limitations to positive relations between the government and rural populations is a lack of access to reliable channels of communication. Some interviewees noted that they do not know who is responsible for legislating issues that affect them. Others added that the mayor's office is relatively accessible, but that their suggestions rarely result in tangible changes. Often, their requests are met with sympathy, but they are told that funding to address their concerns simply does not exist. Paula explained that she has even tried to make friends with council members in order to gain greater access to government officials, but says that this hasn't helped (Paula, personal communication, June 3, 2015). On the other hand, Secretary of Agriculture Valdeli Silva claimed that when the government does plan programs or other interventions to assist rural populations, people choose not to participate. In response, he concluded that government support may not be the best way to help farmers (V. Silva, personal communication, June 5, 2015).

The communication gap between government and constituents is illustrated by the case of Rural Environmental Cadaster (*Cadastro Ambiental Rural*, or CAR) land registration processes. Landowners are required by federal law to register their property and significant natural resources, but nationally, only a small percentage of the population has done so. This is partly due to the fact that there are few consequences for noncompliance. More important to our discussion of rural livelihoods is the fact that it costs around R400 (around 130 US dollars) to have a professional perform the assessment. Paying less can lead to serious omissions that can prevent landowners from accessing significant tax breaks (V. Silva, public hearing, June 11, 2015). Currently, there are 12 professionals helping people in Rosário da Limeira with CAR registration, but they are often incentivized by the Anglo American mining company to incorrectly list private land as public so that it cannot be protected when the company applies for mining licenses (V. Silva, public hearing, June 11, 2015). Valdeli asserted that the government's role is to assist any landowners who do not wish to sell or lease their land to private actors.

Our research suggests that corruption is also a growing problem in local government. Paula indicated that she has checked online to view budget information, and the amount actually spent within the community does not equate to the amount allotted to Rosário da Limeira by the federal government (Paula, personal communication, June 3, 2015). Additionally, there was a general sentiment that government benefits to which people are entitled require a great deal of paperwork

to access. Unions and other organizations have helped members navigate some such bureaucratic processes, although membership fees and a perceived lack of other benefits deterred several of our interviewees from continuing to participate in unions.

The role of the Catholic Church in local politics

As mentioned above, the church is an important site for socializing and information sharing in Rosário da Limeira. Interviews with leaders of the local Franciscan Catholic Church indicated that they also have an active role in local political and social issues. Frei João noted that religion and government have overlapped throughout history, and continue to do so (Frei João, personal communication, June 11, 2015). He added that although the government and church are both very autonomous, they tend to meddle with one another.

The priest and multiple layperson interviewees discussed their desire to work toward ideals aligning with Liberation Theology, explaining that the concerns of religion and politics are inherently linked. Franciscan ideology, particularly in the local church, holds that part of Christian's duty is to exhibit charity through caring for the environment and advocating for social equity via political channels. Given that the current Pope comes from a background of Liberation Theology, the interviewees asserted that movement within the Catholic Church overall aligns with their local goals. Specifically in Rosário da Limeira, several church leaders participate in two political groups that meet regularly: Faith & Politics and Youth & Environment. The Faith & Politics committee aims to reclaim respect for popular opinions, asserting that since the PT is not doing so, the church should fill the existing need for organizing popular movements.

Community activism toward environmental sustainability

According to an initial interview with Robin LeBreton, there has been a striking lack of participation in environmental decision-making in this region. Our research investigated environmental priorities among rural citizens who rely on natural resources like springs and streams for drinking water and irrigation. Despite many citizens' close tie to the land, there have been fluctuating levels of participation surrounding environmental issues. The community has previously mobilized around mining issues and otherwise engaged in environmental affairs through environmental education workshops and reforestation efforts. Participation in environmental decision-making is especially timely due to the current threats of climate change, mining, soil degradation, water pollution, rural flight, and deforestation.

Conversations with local people have revealed three central themes. First, we found that the rural community in Rosário da Limeira cares about the environment and wants to practice conservation. Second, there has been some community mobilization around environmental issues in the past. Third, different sets of actors have different (and sometimes incompatible) sets of approaches and priorities to environmental sustainability and economic development.

Rural citizens' support of environmental conservation

Community members of Rosário da Limeira identified many environmental problems that merit specific attention. According to Frei João, one of the biggest problems facing global society is throwing away both things and people; he expressed that malicious consumerism (the problem of excessive "waste and consumption") is also an imminent threat (Personal communication, June 1, 2015). Other perspectives, such as that of coffee farmer Miguel, focused on the sustainability of

their livelihoods and were primarily concerned with land degradation as a major challenge (Personal communication, June 2, 2015). The use of agro-chemicals was also identified as one of the serious threats to the environment.

The rural citizens of Rosário da Limeira have a general sense of environmental responsibility and showed interest in protecting and caring for their natural resources. Many interviewees expressed love for the environment and their lands, and were proud of their farms. Many farmers expressed a desire to conserve their environment so that their children would be able to enjoy it and live the same lifestyles that they do. Julianna, for example, teaches her children by example and hopes that they will share her views on stewardship (Personal communication, June 2, 2015). Similarly, Paula is not sure if her children will aspire for the same lifestyle, but hopes they will, and does everything she can to foster their love for the rural lifestyle (Personal communication, June 3, 2015).

Many people also had a general idea about the differences between sustainable and detrimental environmental practices. For example, the farmers knew that using agrottoxins and pesticides like Roundup is detrimental to the soil and affects the long-term productivity of their land. However, some still use chemicals to control specific plant diseases. Rodrigo, a local horticulturalist, informed us that tomato blight was a persistent and fast-spreading disease which requires him to apply agro-chemicals to control it or risk losing his crop (Personal communication, June 3, 2015). In other cases, farmers tried not to use the agrottoxins and took precautions not to spray them near the banks of streams of water to prevent contamination (Personal communication, June 2, 2015). The interviewees also seemed to care about the forest cover, viewing natural resources not only as essential contributors to their livelihoods and income, but also to their health and quality of life. This respect for the natural environment has played a role in encouraging reforestation, or at least maintaining the federally-mandated 20% forest cover on their lands.ⁱⁱⁱ Farmers like Miguel were also found to utilize the fallen branches of Eucalyptus and coffee scraps for firewood in order to comply with laws against deforestation in Brazil (Personal communication, June 2, 2015).

Although the adult community members of Rosário da Limeira demonstrated substantial knowledge of their environment, the youth interviewed were also very aware of environmental issues. When asked about the rural exodus, they felt that there was more opportunity in the rural areas for commercialization of fruits and trees, but indicated that people need better administration and improved quality of life to pursue such goals. “There are a lot of opportunities here but no incentives for us to stay,” a local youth explained (Personal communication, June 10, 2015). Another common observation pointed out by the youth is the insufficient support for going organic. They explained that organic farming has better value but is not incentivized by the government. Further, the private financing structure for farmers in Rosário da Limeira encourages the use of pesticides to guarantee a return on investment. Additionally, interviewees voiced that agrottoxins are harmful for the community’s health and are concerned about the city’s water quality, as it comes from a local river where the urban sewage is also dumped (Personal communication, June 10, 2015).

People in the rural community of Rosário da Limeira also expressed concern about the future changes in the environment due to the impending challenges of climate change. Last year’s drought exposed them to water shortages and awakened the community’s consciousness on environmental issues (Personal communication, June 3, 2015). In addition, the potential encroachment of mining raises concerns from the youth not only about the future of rural livelihoods, but also regarding the collapse of food systems linked with rural farmland (Personal

communication, June 10, 2015). Despite legitimate concerns about the continuing viability of rural livelihoods, community members expressed willingness to share their resources with their neighbors and assist with crop harvests whenever they could (Personal communication, June 3, 2015). Overall, there was an atmosphere of cooperation and goodwill that could be fostered to encourage participation and to mobilize the community around environmental issues.

Mobilization around environmental issues

The research found that there have indeed been instances of community mobilization opportunities around environmental issues in the past. However, participation around environmental issues has been intermittent. This inconsistent level of participation has been further exacerbated by the discouraged attitude of many households and lessened the sense of community.

In conversations about environmental issues, interviewees noted that there was formerly a farmers' community association (Miguel, personal communication, June 2, 2015) and an environmental council that served to spread information about environmental issues throughout the community (Ana, personal communication, June 4, 2015). It was this council that led a successful movement to prevent mining in the past, but it has been inactive for six years. Even though the community has historically had the capacity to unify around environmental issues, the participation witnessed today is scant. At a June 11, 2015 municipal meeting aimed at informing citizens about the possibility of bauxite mining in the area, only about 20 community members were present.

Community members have also expressed a discouraged attitude toward effecting change, and felt that this was a common sentiment regarding environmental issues. One interviewee, a local hobby farmer, expressed interest in learning how to improve her land and show other community members the same. However, she acknowledges that she cannot "force them" (Paula, personal communication, June 3, 2015). She further expressed the need for the community to be better organized around environmental issues, and her frustrations at the level of disconnect between neighbors (Personal communication, June 3, 2015). Another farmer, when asked about the success of associations (farmers groups), said that there was no one left in Rosário da Limeira to form an association. Even if there was, he explained, disagreements would keep farmers from accomplishing much. According to Miguel, "one ox by itself will pull the right way, but if you have more than one, it will not" (Personal communication, June 2, 2015).

Community members have expressed discouragement not only towards environmental issues, but also about the rate of rural flight. Past attendance of environmental council meetings generally included around 50 persons (Ana, personal communication, June 4, 2015), but the council is currently inactive. Forty families once lived in the community and now there are ten; Iracambi used to have twelve employees, now there are two. There are significantly fewer community associations, environmental council meetings, and opportunities for rural employment. Thus, low rural populations are reducing not only the physical capacity to gather around environmental issues, but also influencing perceptions of the community's ability to create change.

Although the community perceives a lack of cohesion around environmental issues, there still exist structures and institutions within the community that facilitate community gathering around environmental issues. As discussed above, ecology and care for the poor are two primary goals of the local church (Frei João, personal communication, June 1, 2015). Furthermore, according to other residents and findings of this research, churches facilitate community gathering opportunities (Ana, personal communication, June 4, 2015). Lastly, interviewees reported Iracambi as a community resource that has been directly engaged in past issues and the desire to

partner with government offices to provide support and trainings. Thus, the church, Iracambi, and the government are seen by the community as spaces and opportunities for participatory decision-making around environmental issues.

Competing environmental and economic priorities

Another central theme is that different sets of actors possess different sets of priorities and approaches to environmental sustainability and economic development. Not only do federal and local legislation sometimes conflict, community members also display divergence regarding these interlinked facets. One instance of this is the decision-making hierarchy regarding organic production methods amongst all three actors (national government, municipal government, and community). For example, community members expressed an interest in organic farming practices. While interviewees stated that not all rural farmers in the locality engage in agroecology practices, several interviewees preferred the shift away from the use of agrottoxins. Despite the desire of interviewees to practice organic farming, most stated they did not have sufficient resources to do so. For example, Paula stated that she would like to utilize organic cow manure as fertilizer, but she and her husband were unable to source a sufficient amount of manure in the local area (Personal communication, June 3, 2015). Interviewees stated that they received government assistance in the purchasing of chemical fertilizers and pesticides through agricultural extension services, bank loans and government credit schemes. This illustrates how national level agricultural and economic policies drive rural farming practices without necessarily accommodating the needs or wants of rural farmers.

While the national government has focused on increased production through monocrops and agrottoxins at the top-tier of decision-making, the municipal government of Rosário da Limeira differs in their relationship to agricultural production and economic development. In an interview with Valdeli Silva, Secretary of Agriculture, Environment, and Tourism, he stated that he wanted to support rural farmers in implementing agroecology to support economic development that was rooted in quality of life. However, Valdeli also explained that he could not solely push organic production methods as he did not want to alienate other rural farmers who did not wish to shift to this cultivation style.

The varying priorities for and approaches to environmental sustainability are further complicated by a lack of information regarding environmental issues and existing frameworks to address them. For example, a former announcer of the former Belisario Community Radio station expressed that the absence of environmental education programs was mostly due to lack of reliable information. This disparity in information sharing is further evidenced by the unawareness of several interviewees of the advancing mining efforts in the area. Even when interviewees were aware of mining companies gaining exploratory licenses and expressed concerns about the potential environmental and livelihood impacts due to mining activities, they lacked detailed information about these operations. Further, some interviewees were unaware of their land tenure rights, and spoke of instances in which mining companies capitalized on this unawareness. These instances demonstrate that various sets of actors possess diverse priorities and approaches to environmental sustainability and economic development.

Encouraging participatory decision-making: The importance of communication, education, and location

The following recommendations for Iracambi and the Community of Rosário da Limeira have been categorized in accordance to their short term or long-term reach, and include Institutional Partnerships, Government Engagement (Advocacy), Organizational Capacity Building, Community Engagement and Mobilization efforts.

Short-term community participation and engagement

- 1) **Conduct a preliminary Participatory Rural Appraisal (PRA) to assess the needs of the community.** Ensure genuine incorporation of the concerns, priorities, and needs raised into developing future programs. Allow for participation of key groups such as women, youth, to focus on diversity of needs. Inclusion of a stakeholder analysis conducted by the community, as a way to understand how to interact with a variety of actors.
- 2) **Take advantage of key organizations and groups already working within the community.** One of the examples is the already established platform of the Franciscan monks. The church is a major influence in the region and could be a source of disseminating environmental education. It is recommended Iracambi look into forming a coalition with such groups to influence local participation in environmental decision-making.
- 3) **Identify local people who are willing to assume a leadership positions** as well as those who are already active in voicing their views about environmental issues. Train these people to become environmental community and/or conservation leaders. Include youth leaders and ensure selection is made to represent each community or school. Ideally, this will result in projects implemented in their communities. Help provide tools to ensure that the chosen participants have the trust and backing of the community.
- 4) **Develop an outreach strategy to improve communication.** Create a community contact list to send out meeting and event invites. This directory could also serve to identify local people in arranging transportation for access to events for interested community members. Utilize creative methods such as mobile text outreach, social media, and visual representations such as photo-voice, art and theatre to enhance environmental consciousness.
- 5) **Seek funding for an Iracambi Governmental-Community Liaison position** that employs a local community member to advocate for government action on environmental issues. For example, the government can be encouraged to provide free or subsidized Cadastro Ambiental Rural (CAR) assessments to rural farmers. This would build people's trust in the government and incentivize participation, and also could help to combat mining concerns.

Long-term community participation and engagement

- 6) **Facilitate an “Agroecology Farmers Network”** to allow knowledge and seed sharing, capacity-building and encouraging best farming practices (organic methods, integrated pest management etc.) among farmers of the neighboring communities with each other.
- 7) **Link the urban areas with rural farmers** by establishing a “Community Supported Agriculture” influenced model which will help strengthen rural livelihoods and fair prices for the farmers. For example, the initiatives taken by Belo Horizonte into meeting urban food demands with rural production can serve a model to learn from.

8) **Increase the frequency and outreach of Iracambi's workshops on environmental education.** These workshops should be targeted at all community members. Both local youth and adult populations expressed an interest in participating in Iracambi events. Host separate workshops for various age levels in order to account for cultural and age sensitivities.

9) **Partner with or sponsor the establishment of a community radio station.** Include an environmental program slot in various radio programs. The environmental knowledge can be provided by the Iracambi Research Center.

10) **Encourage the establishment a women's NGO or community group** to create a space for women to come together and learn what their common goals are, as well as discuss the environmental issues of their communities. Many women mentioned the importance of the church in providing space for such conversations. Therefore, the church holds promise as a potential partner in organizing a women's group.

Long-term participatory governance and budgeting; ideal policy environment

11) **Explore the feasibility of Participatory Governance and Budgeting in the municipality.** An initial step would be for civil society to participate in applying for government funding. This would directly increase ownership of the projects and result in concrete and visible on-the-ground changes by also integrating a mechanism for community accountability of government. A longer-term step would be to utilize the existing relationship with Belo Horizonte to educate and support community members to shift towards participatory governance and budgeting.

Conclusion: Rosário da Limeira in a global context

This report has presented critical issues regarding insufficient participation in environmental decision-making in Rosário da Limeira. The report has addressed the questions about what can be done to increase participation in environmental decision-making, and what forms of participation are most effective and most desired by the community. Using the theoretical framework of participatory development and adopting a definition utilized by the community, the research interrogated community structure, perceptions of government and governmental support, environmental priorities, and capacity around environmental decision-making. The research found that within the community, activities and groups for facilitating participation already exist, but can be strengthened. In addition, women and youth play an important role in the community, and each of their roles require increased consideration. While differing levels of support are given to different levels of government, interviewees did express an appreciation for government trainings and programs, though communication lines to request trainings and other support are limited and ineffective. Interviewees do care about conserving environmental resources, and have high levels of environmental awareness. They also mobilize around environmental issues; however, attendance is often scant due to lack of communication, transportation, etc. Although the community possesses goodwill to practice agro-ecological farming methods and mobilize, government priorities and agricultural approaches differ, leaving demand by rural populations unmet. This disincentivizes participation. Our recommendations to address these concerns focus on three key themes – communication, education and location – to foster citizen participation in environmental decision-making. As recommendations are pursued, it is important that changes in programming be continuous and dynamic. The ever-changing lens of participation should develop,

change, and frequently call into question the validity of methods and adjust appropriate action moving forward.

As rural populations look to a future of increasing environmental stress from urbanization, economic development and climate change, participatory governance mechanisms offer a space for addressing rural needs in the face of looming threats to their livelihoods. Furthermore, similar recommendations have the potential to be effective in other contexts, which are proliferating around the globe. While such transferability is possible, sociocultural contextualization is a necessity if interventions are to be effective. Encouraging participatory governance in environmental decision-making can be seen as a way of protecting rural livelihoods and supporting those who live on the land to conserve the world's natural resources.

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Stakeholder Analysis

All citizens and organizational bodies of Rosário da Limeira have a stake in the issue of participation in the environmental arena. The condition of the surrounding physical environment - the forest, the air, the water, the biodiversity -- will impact all those agents who live in, work in, play in, or visit the municipality. Yet through analysis of the interviews conducted by our team, it is apparent that the groups included below have a larger stake or role in the local environmental conversation, and so they are included in the discussion of our research findings and conclusions.

Table 1: Stakeholder Analysis

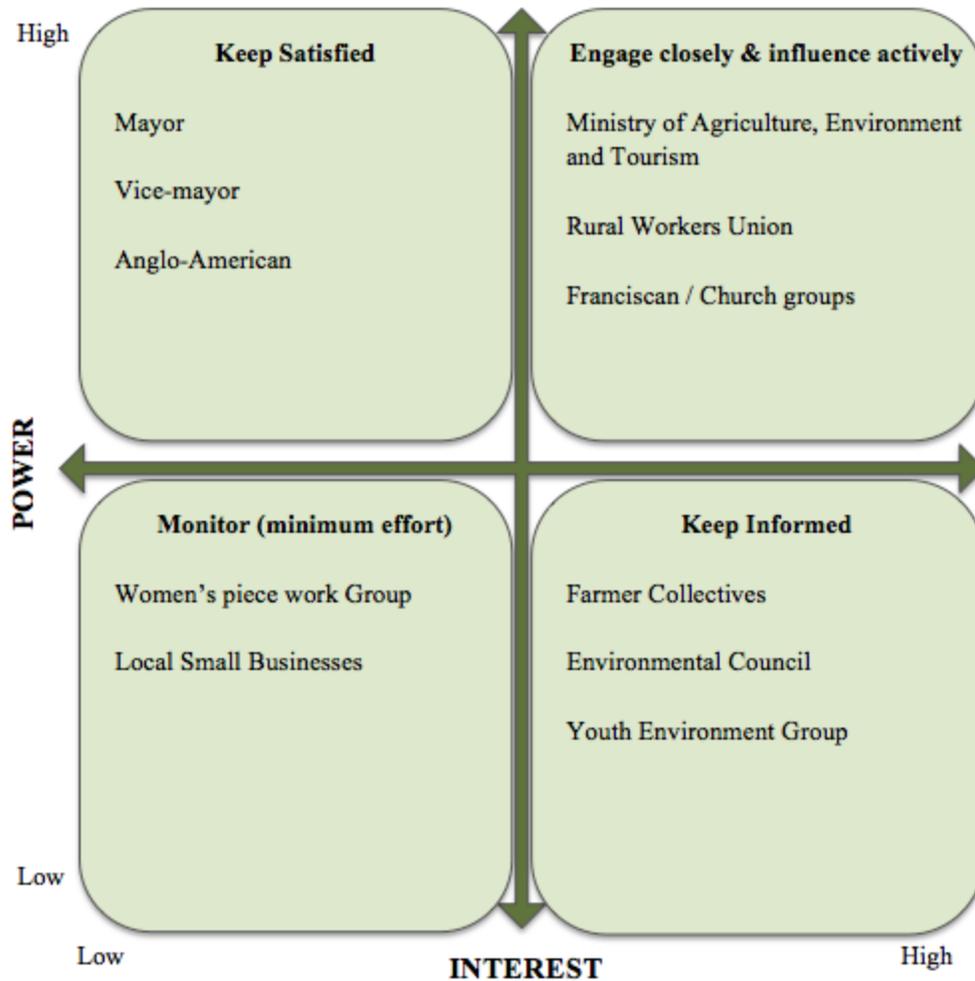
Public sector stakeholders	Civil society stakeholders	Private sector stakeholders
<ul style="list-style-type: none"> • Mayor • Vice mayor • Ministry of Agriculture, Environment and Tourism 	<ul style="list-style-type: none"> • Churches • Iracambi • Franciscan Groups • Youth groups • Rural Laborers Union • Environmental Council 	<ul style="list-style-type: none"> • Anglo-American • Farming collectives • Women’s piece work group • Local small businesses

Stakeholder analysis is a useful tool to inform strategic action for an organization like Iracambi. In analyzing research findings to form strategies that aim to initiate and improve upon local participation in environmental decision, it is pivotal to consider the decision-making power and active levels of interest in the issue at hand. Successful initiatives will be those that are strategically founded in the understanding of local power dynamics. Those that demonstrate historical and/or current levels of power to change local social dynamics, public opinion, and/or public policy must be identified, examined, and vetted for potential collaboration.

Power-Interest Grid

In the stakeholder analysis grid below, we have categorized the local actors relevant to participation in environmental decision-making in RDL and placed them on the grid based on information gained from our research interviews. Thus, they have been sorted to the best of our ability based on interviews, yet with recognition that more local knowledge is likely necessary in order to ensure accuracy. These actors may change location on the grid with time due to the nature of each actor’s specific composition. For example, mayoral administrations change every number of years when election results determine so, and ministerial positions change in consequence, such as the Secretary of Agriculture, Environment, and Tourism. A long-term actor’s power or interest level may also shift, such as the declining strength of the Environmental Council in RDL since mobilization to successfully form a protected nature preservation area around the state park in RDL around ten years ago. As a result of the actors’ dynamic natures, at the beginning of any new strategic initiative it is important to identify such shifts and adjust strategy accordingly.

Figure 1: Power-Interest Grid



The stakeholders with both high power and interests that align with the conclusions and recommendations presented herein, are those organizations or people that it is important to fully engage in future activities as Iracambi aims to equip the local population to participate in local environmental decisions. Concerning efforts to create policy change, high-power and high-interest actors should be the target for any campaigns. The ‘decision-makers’ stand at the very top of the power list. Usually, as history and our research findings suggest in Rosário da Limeira, this is composed of government bodies. Next, and also rounding out those with high power but perhaps not as much interest, are the opinion leaders -- people whose opinion matters. A pyramid that prioritizes stakeholders, also known as an Influence Map, begins to take shape (Planning Tools: Stakeholder Analysis, 2009).

Those with lower interest but higher power should be kept satisfied. Ideally, strategy of the initiative should include actions that focus on the fact that these high-power, low-interest actors can become supporters or patrons for the proposed policy change if brought around. The stakeholders with less power but high interest should be kept informed. However, very importantly, if organized, they could form the foundation of a coalition or interest group which may be able to lobby to create change.

ⁱ The Black Brotherhood was an organization founded on Catholicism that served as an organized association of slaves in the larger scheme of a slave economy. The brotherhood was allowed because the slave owners felt as though it was a way to keep control of their slaves—so while it kept certain slaves in a cohesive group, there were ulterior motives as to why this group was even allowed.

ⁱⁱ It is also important to note that in the agricultural sector, there is a Rural Workers' Union for landless farmers that functions to connect farmers with land for production. None of the interviewees in this study were members of the Rural Workers' Union.

ⁱⁱⁱ With the exception of Rodrigo, who did not conform to this law (Interview, June 3, 2015).