

Alternative Development as an Ecological Defense against Mining Development: The Case of Santa Fe

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Executive Summary

In recent years Panama has seen a surge in mining activity as part of government efforts to increase Foreign Direct Investment in the country, with a number of changes to the mining code and free trade agreements (notably with mining giant Canada) aimed at facilitating this kind of development. While open-pit mining is a relatively new industry to Panama already projects have begun to be developed in the country with many more still at the exploration or permitting stage. The vast majority of these mining concessions are in rural areas, primarily on indigenous or *campesino* land.

Traditionally these areas have been marginalised and neglected by central governments, suffering from high levels of poverty and lacking key infrastructure. In these marginal rural areas the primary industry is often small-scale peasant agriculture, often subsistence based, a form of livelihood that is becoming increasingly precarious as centralisation of landholdings by agribusiness, soil degradation and population pressures push farmers into increasingly ecologically sensitive areas. As a result these areas suffer from high levels of outmigration to urban centres and a loss of key cultural and ecological resources. It is in this context that mining claims to offer a lifeline to these communities, bringing much needed income, development and infrastructure. In response to past criticism about the exploitative nature of the mining industry, mining companies are increasingly trying to rebrand themselves as forces for positive change in neglected rural regions, developing CSR (Corporate Social Responsibility) programs aimed at winning social license to operate and ensure that communities benefit from the mine's presence through jobs and development initiatives.

However, the reality in mining communities is often very different, with mining bringing with it environmental destruction, social divisions and little in the way of lasting development. The town of Cañazas is one such case. In the 1990's it was a prosperous mining town, however, now with the mine gone the town continues to suffer from poverty, economic marginalisation and the ongoing environmental and health problems associated with the old mine, all factors townsfolk must take into account as they prepare for the mine's reopening after a 13 year closure. The residents of Cañazas remain extremely divided about the mine with many recognising that the old mine did not bring them the prosperity they were promised. At the same time many accept the mine's inevitability and, with few other sources of income, welcome the income the mine will bring, even though they now know it will be only temporary.

Too often poor rural communities find themselves in a trap, forced to either accept externally-opposed, potentially destructive forms of development or continue to suffer from poverty and marginalisation. However, there are other options available. Increasingly rural communities are developing their own development models, which are locally based, attempt to restore community control over the means of production and are increasingly ecologically or conservationist in focus. Organic agriculture, cooperative enterprises and ecotourism initiatives all have the potential to offer sustainable, inclusive development to rural communities, and by providing real alternatives, can serve as an ecological defense against mining development.

Over the course of this project I was able to go to Cañazas to interview townsfolk, both pro- and anti-mining to understand community perceptions of the 1990's mine and its development impacts as well as their hopes and concerns about the new mine, and possible alternative livelihoods available to them.

My other research site was Santa Fe, a beautiful mountain town now faced with mining development which many in the town oppose. However, unlike other towns in the region groups in Santa Fe have been developing a number of locally based development initiatives which if expanded could offer an alternative path to prosperity, one that is sustainable in nature and responsive to local needs. In Santa Fe I was able to talk to the groups and individuals behind these initiatives, trying to understand their impact, their limitations and how their proponents feel they differ and contrast with large-scale mining activities.

My hope is to connect the stories and experiences I heard in Cañazas and Santa Fe with the wider literature surrounding mining development, the limits of CSR and the potential of alternative development projects. By drawing on past experiences from other communities I hope to compare and contrast the development opportunities provided by mining with more locally based ecological forms of development and seek to better understand what I saw in the two towns I visited. Finally I will make recommendations of ways communities like Santa Fe can strengthen their ecological development initiatives based on my own and other author's experiences and observations. My hope is that this document will serve not only as a reflexion on different kinds of development but as a practical tool for my partner organisation in the field, la Cooperativa Esperanza de los Campesinos, to expand and promote their own development projects, and as a way to inform my host institution, CIAM, about community experiences of mining in the North of Veraguas. As academics and activists concerned about the destructive impacts of open-pit mining on communities and ecosystems, we need to move beyond the merely reactive, not just opposing projects as they happen but helping communities to develop viable alternatives to mining which will improve their livelihoods while defending the environment as well.

Resumen Ejecutivo

En los años recientes Panamá ha visto un aumento en la actividad minería en el país como parte de los esfuerzos del gobierno a promover la Inversión Extranjera Directa. La mayor parte de estas concesiones de minería son en las áreas rurales, con frecuencia en las tierras indígenas o campesinas.

Tradicionalmente estas regiones habían sido marginalizados y descuidados por los gobiernos centrales, sufriendo de alta niveles de pobreza y faltando infraestructura importante. En estas áreas rurales marginalizadas la industria primaria es a menudo la agricultura campesina, muchas veces basado en la subsistencia, un método de vida que es cada vez más precario mientras que la centralización de la posesión de la tierra por las grandes empresas agrícolas, la degradación del suelo y las presiones de una población creciente llevan a los campesinos de trasladar en áreas muy sensibles ecológicamente. Como consecuencia de esto, estas áreas sufren de altas niveles de emigración a los centros urbanos y un perdimiento de recursos culturales y ecológicas claves. Es en este contexto que la minería pretende a ofrecer una salvación a estas comunidades, trayendo un buen ingreso, desarrollo e infraestructura. En respuesta del criticismo de las prácticas explotativas de la industria minería en el pasado, las compañías mineras están tratando de remarcar sus mismos como fuerzas por el cambio positivo

en las regiones rurales descuidados. Muchas veces creen programas de CRS (Responsabilidad Social Corporativa) con el objeto de ganar la licencia social de operar y de asegurar que las comunidades benefician de la presencia de la mina con empleos y las iniciativas de desarrollo.

Sin embargo, la realidad en las comunidades mineras es con frecuencia muy diferente, con la minería asociada con la destrucción ambiental, las divisiones sociales y poco como el desarrollo durable. El pueblo de Cañazas es un caso de este fenómeno. En los años noventas era un pueblo minero prospero, sin embargo, ahora el pueblo sufre de la pobreza, la marginalización económica y los problemas ambientales y de salud asociada con la vieja mina, todos factores que el pueblo necesitan tomar en cuenta mientras que preparen por el re-abrimiento de la mina después de 13 años de cierre. Las residentes de Cañazas se quedan extremadamente dividido sobre la mina con muchos reconociendo que la vieja mina no les trajo la prosperidad que ellos eran prometido aunque a la misma tiempo aceptando la inevitabilidad de la mina y, con pocos otros fuentes de ingreso, alegrándose del dinero la mina traiga, aunque ellos ya saben que va a ser solamente temporal.

Desafortunadamente las pobres comunidades rurales les encuentran sus mismos en una trampa, forzado de aceptar las formas de desarrollo potencialmente destructivos y impuesto por al fuera o de sufrir de la pobreza y la marginalización. Sin embargo hay otras opciones disponibles. Con más frecuencia las comunidades rurales están creyendo sus propias modelos de desarrollo, que son los esfuerzos locales de restablecer el control comunidad sobre los medios de producción y muchas veces son ecológicas o conservacionistas en su foco. La agricultura orgánica, las empresas cooperativas y el ecoturismo todos tienen el potencial de ofrecer el desarrollo sostenible y inclusivo a las comunidades rurales y por dando las alternativas reales, pueden servir de ser una defensa ecológica contra el desarrollo minera.

Por este proyecto fui a Cañazas de hacer entrevistas con el pueblo, por- y anti-minera ambos, para comprender los conocimientos comunitarios de la mina de los años noventas y su impacto sobre el desarrollo también de sus esperanzas y sus preocupaciones sobre la nueva mina y los métodos de vida alternativas disponibles a ellos.

Mi otro sitio de investigación fue Santa Fe, un lindo pueblo montañoso que se enfrentan con el desarrollo minero al cual muchos en el pueblo oponen. Sin embargo, diferente de muchos otros pueblos en la región, hay grupos en Santa Fe que están trabajando con algunas incitativas de desarrollo de base las cuales, si expandan, podrían ofrecer un camino a la prosperidad alternativo por el pueblo. En Santa Fe hablé con los grupos e individuos atrás de estas incitativas, tratando de comprender su impacto, sus limitaciones y como sus proponentes se sienten que ellos contrastan con las actividades de las grandes empresas minerías.

Mi esperanza es relacionar las historias y experiencias oí en Cañazas y Santa Fe con la literatura más grande sobre el desarrollo minero, las limitaciones del CSR y la potencial de los proyectos de desarrollo alternativo. En estudiando las experiencias pasadas de otras comunidades quiero comparar y contrastar las oportunidades dado por la minería con formas de desarrollo más ecológicas y del base y comprender mejor que vi en los dos pueblos yo visité. Finalmente voy a dar recomendaciones de como las comunidades como Santa Fe pueden fortalecer sus incitativas ecológicas basado de mi propias observaciones y la experiencia y observaciones de otros escritores. Mi esperanza es que este documento servirá no solamente como una reflexion sobre diferentes tipos de desarrollo pero como una herramienta practica por mi organización compañera del campo, la Cooperativa Esperanza de los Campesinos, de expandir y promover sus

propios proyectos de desarrollo y como una manera de informar mi institución de pasantía, CIAM, sobre las experiencias comunitarias de la minería en el norte de Veraguas. Como académicos y activistas que se preocupamos por los impactos destructivos de la minería del cielo abierto sobre las comunidades y los ecosistemas, necesitamos ser no solamente reactiva, oponiendo a los nuevos proyectos pero ayudando también a las comunidades de desarrollar alternativas a la minería las cuales van a mejorar sus vidas mientras que defiendan al ambiente.

Project Work Hours

Works Days in Panama City-14

Days in Cañazas-2

Days in Santa Fe-13

Introduction

Host Institution: Centro de Incidencia Ambiental (CIAM) Panamá

CIAM is a Panama City based NGO which works to see that Panama's natural resources are protected, public consultation is respected and people's constitutional rights to a safe and healthy environment are upheld. Formed in 2007 by a group of lawyers and environmental engineers, CIAM engages in strategic litigation against the government when these rights have been violated, as well engaging in public education about environmental issues (CIAM 2012). In the past CIAM has mostly focused on environmental conflicts surrounding hydroelectric and mining development but has also in recent years worked on projects related to marine and coastal protection, biodiversity conservation and the fight against climate change (CIAM 2012). In particular their CONTAMINAS campaign has been highly successful in increasing public knowledge of the risks of open pit mining in Panama, as well as helping to push for better regulation of mining in the country (CIAM 2012).

As an organisation which seeks to uphold the environmental rights of communities cultivating strong, supportive relations with these communities is an important part of CIAM's mission. However, given CIAM's small size and massive work load (they are the only NGO in

Panama involved in environmental litigation) this is not always possible. Thus work by interns conducting field research is extremely helpful in bridging the gap between the capital and the interior and in strengthening the networks of solidarity which make CIAM's work possible.

Partner Institution: La Cooperativa Esperanza de los Campesinos/Fundación Héctor Gallego

The other institutions, though I was not formally partnered with them, that helped me with my work and proved to be crucial in fomenting my understanding of alternative development in the Santa Fe region were La Cooperativa Esperanza de los Campesinos and the Fundación Héctor Gallego. These two sister organisations were founded as a result of the community organising efforts of Father Jesus Héctor Gallego in the late 60's. Gallego, a Colombian priest, arrived in Santa Fe in 1967 and began to organise peasants in the region, at the time the poorest in the province (Fundación Héctor Gallego 2011). Despite Gallego's assassination in 1971, his organising efforts continued and the town of Santa Fe now boasts a coffee co-op, a producers association, two cooperatively run stores, an internet cafe and an agroforestry program as part of its mission to promote an ecological and solidarity based economy in the region (Fundación Héctor Gallego 2011).

The cooperative and in particular two of its founding members, Jacinto Peña and Cerviliano Aguilar, were extremely welcoming and more than willing to work with me on this project, helping me get in contact with people to interview and sharing their knowledge of the different ecological initiatives in the region. In return I hope to produce research that is useful for them by providing perspective of the various economic and environmental trends in the region as well as the ways their own projects can be expanded by drawing on examples from other communities. I also tried to help them with their own environmental initiatives outside of the scope of this project; hosting a community workshop educating people about open pit mining;

how it works and the dangers associated with it, as well helping to put them on the list of PFSS internship partners so as to deepen the relationship between them and the university and allow for more collaborative projects in the future.

Context of Mining in Panama-growth of a boom

While mining currently only constitutes 1.4% of Panama's GDP (Mining Journal 2011) the sector is set to expand dramatically, with a number of government reforms to the mining code as well the recent signing of a Free Trade Agreement with Canada, home to over 58% of the world's public mining companies (Mining Association of Canada 2011). The government of Panama claims that these mining projects will bring in revenue for the state as well as aid in the development of previously marginalised communities, (Chauvin 2012) while companies such as Pacific Rim and Inmet operating in the region have sought to portray themselves as pioneers in sustainable mining development. (Pacific Rim Mining Company 2010), (Inmet Mining 2012) However, in many parts of the country this expansion of mining activity has been met with widespread opposition by indigenous and *campesino* communities who see it as a threat to local livelihoods and a source of environmental destruction (Holtby and Simms 2011). The most famous of these mining conflicts in recent years has been the fight of the Ngöbe people to preserve their territorial sovereignty in the face of mining development, a conflict which led to the blockading of the Pan-American highway for two weeks, the killing of two Ngöbe protesters by security forces and eventually a constitutional ban on mining in Ngöbe territory (No a la Mina 2012). However, with existing and proposed mining concessions covering 44% of Panamanian territory (Holtby and Simms 2011), confrontations between communities and companies over mining development is not just limited to the Comarca, with mining conflicts occurring in the provinces of Veraguas, Los Santos, Colón, Chiriquí and Coclé as well. (MICLA 2012), (OCMAL

2010). Some of these conflicts, such as the ongoing dispute between community members, ANAM and mining companies Inmet and Petaquilla Gold over their projects in the Donoso protected area, have been the subject of high profile legal cases (La Prensa 2009) or international media attention,(CBC 2012) many though remain unstudied.

Mining in Veraguas

Veraguas is one such region where large scale mining projects are starting to make serious inroads. While mining has occurred in the region since colonial times it wasn't until the last twenty years that foreign multi-nationals began to take an active interest in the region. (De la Esperilla III 2001) In 1994 a Canadian company, Greenstone Resources built an open pit gold mining just outside of Cañazas, which despite promises of long term development for the region, went bankrupt and was abandoned after 5 years (Field observations-April 3rd, 2013). Now a company (Global Silver SA) has bought the old concession with the hope of re-opening the mine (Business Week 2012) sparking debate amongst the town's residents about large-scale mining's' ability to deliver on its repeated promises of prosperity. Across Veraguas there has been a significant increase in mining development with, as of December 2012, a total of 41 mining concessions in the province (Ministerio de Comercio e Industrias 2012). Already there have been a number of protests across the province against this growth of mining activities (Rodríguez 2012), (PanamaAmerica 2013), (Rodríguez 2012) with more planned for the near future (Personal correspondence-February 2013).

While the mining conflicts in Veraguas have yet to reach the same intensity or profile as conflicts in other parts of the country that could soon change. In conducting this research I sought to identify the effects large-scale mining has and will have on the region as well as establishing links between CIAM and local groups concerned about mining issues. Through

talking to different actors in the region I hoped to investigate mining companies' development claims and look to see if there are not more ecological alternatives open to Veraguenses seeking to improve their livelihood.

Growth of Peasant Politics-Hector Gallego and the Cooperative

While mining might currently represent the most visible face of development in Veraguas it is far from the only one, or even the most important. For years the province has been the centre of a vibrant cooperative movement that has sought to improve the lives of its members in a way that is socially just and that restore popular control over the economy (Fanovich 2007). These initiatives range from consumer and transport coops to large scale operations such as the Cooperativa Esperanza de los Campesinos coffee processing business or the Juan XXIII producers association with 2000 and 4000 member respectively (Fanovich 2007). With 62 established organisations and 32,249 members, cooperatives are a major economic force in the region (IPACOOOP 2012). In the region of Santa Fe the cooperative movement began in the last 1960's with the efforts of Colombian priest Héctor Gallego, who was able to successfully organise *campesinos* into a small producers' coop which was eventually able to break the power of the local oligarchy which had controlled the region's economy (Vierba 2009).

Gallego's actions, heavily influenced by ideas of progressive Catholicism and Liberation Theology current at the time, intended that the empowerment that the cooperative would bring to be not merely economic and political, but spiritual as well. Through the work of the cooperative, religious study sessions and capacity building Gallego sought to ensure peasants reflected not just on their present situations but also those possibilities not yet present (Vierba 2009). This openness to expanding possibilities remains a key part of the cooperative's present work as they focus not just on strengthening existing initiatives but also seek to develop new, innovative

projects with an increasingly environmental focus (Fundación Héctor Gallego 2011). Thus the Santa Fe cooperative, and by extension the larger cooperative movement remains uniquely positioned to transcend the limits of traditional development and create new, ecological alternatives.

Limits of traditional development

Ever since the modern idea of development was first proposed by US President Harry S. Truman in his 1949 inaugural speech, the concept has come under intense scrutiny from groups both in the North and South who have questioned its ability to adequately address the issues of poverty and marginalisation in what has become the Developing world (Sachs 1989). In particular modern developmentalism has been accused of imposing Western views of markets and societies at the expense of the ideas and contributions of local communities, especially those of traditional and rural peoples (Sachs 1989). In rural areas across Latin America such as Veraguas development primarily took the form of Green Revolution programs which sought to boost agricultural production but often with little regard for ecological wellbeing or the rights of peasant farmers (Altieri 1991). In particular these programs, with their focus on expensive technological inputs and chemical based agriculture served to further centralise landholding and destroy the soil of regions already characterised by a high degree of land inequality and ecological degradation (Altieri 1991).

Likewise the global boom in mineral prices, from the 1990's onwards has meant the growing expansion of mining activities into previously marginal communities causing major disruptions to traditional livelihoods (Ballard and Banks 2003). Increasingly these companies claim that their activities can provide key social and economic benefits to communities that have previously been neglected by central government (Ballard and Banks 2003), citing provisions of

jobs, education and infrastructure improvements as key to mining's development potential and an essential part of the modernisation process (Esteves 2008). However, these claims have been challenged by communities who see mining development as causing environmental destruction, threatening existing livelihood, exacerbating social tensions or providing development which is short term and paternalist in nature (Ballard and Banks 2003), (Bebbington et al. 2008), (Moore 2009).

Increasingly rural communities, in both mining and non-mining areas are seeking to develop their own locally-based development initiatives which aim to be more socially inclusive and ecologically orientated in nature, transcending the limitations of the current, neo-liberal development paradigm. These projects not only have the ability to empower individuals, improve people's quality of life and conserve the natural environment but act as an ecological defence against mining development, as could well be the case in Santa Fe. In this report I will look at the current alternative development schemes in the region and their ability to defend against the mega-mining projects that the Panamanian government and foreign companies currently propose.

Objectives

The goal of this project was to conduct a critical assessment of mining in the region of northern Veraguas, giving both a general overview of the recent growth of the industry in the region as well focusing on a specific case, the Santa Rosa mine in Cañazas which has so far elicited the most concern from communities in the region. At the same time I investigated those community projects which could constitute an ecological alternative to mining development. Through interviews with community members I sought to gauge public opinion around mining and identify the key concerns people have about these kinds of project. In doing so I was able to

establish strong working relationships with community groups and activists, notably la Cooperativa Esperanza de los Campesinos, engaged in the fight against open pit mining, who can help CIAM in their mission to defend environmental rights and encourage citizen participation, by providing on the ground support and testimony of the environmental problems their communities face. The goal is to produce research that is practical and applicable for CIAM. Given the size of the organisation and the sheer number of environmental conflicts in the country, it is often hard for CIAM to get an accurate picture of the state of a project or its effect on local communities, until a major confrontation or disaster occurs. Work like this is thus valuable for CIAM in that it gives them a greater understanding of mining in regions of the country that until may not have been priorities in the past but could emerging as major conflict zones, as well as in bridging the rural and urban divide between different environmental groups.

My hope is that in this region I can help CIAM and other groups engage in proactive environmentalism, not merely reacting to environmental conflicts as they occur, but working to promote and development ecological alternatives that reduce community economic dependency on mining projects. In doing so I seek to connect my observations of the development initiatives in northern Veraguas to wider debates about large scale mining its effects on community development and the viability of locally based alternative schemes.

My final goal was to provide for the cooperative a study of the different ecological initiatives in the Santa Fe region, especially as they relate to organic agriculture and permaculture projects, analysing the benefits of each project and the challenges they face. In the report I offer suggestions of how to deepen and strengthen these initiatives, drawing on examples from other countries and the wider literature surrounding these kinds of development schemes. In

doing so I hope to offer an outsider's perspective that will hopefully allow them to see their work in a new light and help to spur even greater debate and innovation.

Study Area

Field interviews for this project were primarily conducted in two locations; Santa Fe and its surrounding environs, and the town of Cañazas, both in the north of Veraguas province. The corregimiento of Santa Fe has a population of 12 890, with 2809 living in the town of Santa Fe, proper, two hours north of Santiago, (Ministerio de Obras Públicas 2007) the rest living in neighbouring towns and hamlets, many inaccessible other than by dirt road or footpaths. The Santa Fe region is made up of primarily latinos, though the corregimiento borders the Ngöbe-Buglé Comarca and has a sizeable indigenous populations. Over 40% of the population practices agriculture, either for market or for personal consumption and the ecology of the region can be classified as typical of a Pre-Montane Moist Forest ecosystem (Ministerio de Obras Públicas 2007). As well as visiting the town itself I also conducted interviews in the communities of El Salto and La Piquera, both about a two hours walk away from the town itself. The Santa Fe region is also the home of the 72.636, 00 hectare Santa Fe National park founded in 2001 (Ministerio de Obras Públicas 2007).

My second research location was Cañazas, a town of 5346 two hours Northwest of Santiago (Ministerio de Obras Públicas 2007). Like Santa Fe, Cañazas is situated in a farming region, with 30% of the population engaging in agriculture (Ministerio de Obras Públicas 2007). Compared to Santa Fe, Cañazas has a much more arid climate, greater deforestation and visible signs of soil erosion are a lot more prevalent. Additional research for this project was also conducted in Panama City.

Methods

My primary research method was the interview, talking to affected members about their thoughts and experiences surrounding the growth of mining in the region, initiatives they have taken to improve their livelihoods in an ecological manner, the limitations of both traditional and alternative development and wider environmental issues in the area. In particular I asked people what risks they associated with mining, how they conceived the environment around them, what do they rely on for their livelihoods and what actions are being taken in the region in response to this increase in mining activity, as well as problems of poverty and underdevelopment.

It has been my experience that the best way to gather information is conversational, and that it is better to let people themselves shape the structure of the interview rather than trying to extract information from them or seek to impose arbitrary categories on people's answers. I did on one occasion hand out questionnaires during my presentation to the community about mining issues on March 21st (Appendix A.), however, the answers I received were a lot less detailed and I feel less reliable than the ones I would have received from a more informal setting. Also given the time available to me, the disparate and often isolated nature of communities in the region and the difficulty of organising meetings, very rarely did I have the opportunity to conduct comprehensive surveys other than on the 21st.

During my interviews I work diligently to see that the principles of Free, Informed and Prior Consent were respected, basing my actions on the McGill University Protocol for Working with Indigenous Peoples (McGill 2006) which despite the fact that none of my subjects self-identified as indigenous I feel represents a good guide of how to conduct effective, respectful research especially in the context of key cultural difference and possible issues of trust and power imbalance. I sought to make sure that people understood the purpose of my interviewing

them and gave them the option to participate or not without making them feel pressured or manipulated into doing so. Upon completing the project I will translate the final report into Spanish and return copies to the communities I visited so that they can see the outcomes of the research as well as make use of it for themselves, a fact I made very clear to the people I talked to. As a compliment to these interviews I have also relied on primary and secondary documentation, in particular past literature concerning mining, community organising and ecological development initiatives so as to situate my findings into wider academic and policy debates on these subjects.

Key limitations to my research methodology were issues of trust and bias, which must be taken into account when reviewing the data I collected in the field. Interview subjects were often chosen using a snowball method, with people being recommended to me by previous interviewees, creating a serious selection bias. While in some cases individuals recommended individuals whose views they did not agree with more often than not they would recommend friends or colleagues who often held very similar perspectives. As much as possible I tried to conduct random interviews such as was the case in Cañazas but given my temporal and logistical constraints I often had to rely on targeted interviews instead. As well my status as both a foreigner and as an associate of the cooperative definitely affected people's perceptions of me and subsequently the answers they gave me. People often appeared reluctant to criticise the cooperative in front of me, despite some obvious concerns about the organisation they expressed. As well there is a chance that people's understanding of me as a foreigner interested in environmental issues caused them to overemphasise the extent to which they were involved in ecological initiatives. As one man in La Piquera told "some people actually on't compost here...they just pretend to do get funding from the Mesoamerican Biocorridor Initiative".

However, that being said I found people to very open and friendly and willing to speak honestly about the problems in the region even when the issue had the potential to be contentious such as mining development, political action or the challenges of ecological agriculture.

Objectivity is always difficult to achieve, especially when you have to not only separate your own biases but those of the institutions you are partnered or working with. As an individual working for an inherently political organisation (CIAM) and partnered with another fairly politicised group (the Cooperative) it is hard not to be perceived by the people I'm interviewing in a political manner. What's more the individuals I spoke to demonstrated a distrust of apoliticsm, instead wanting to know where I stood before they did likewise, which for the sake of honesty and reciprocity I did. Thus I quickly concluded that absolute neutrality was impossible to achieve. Instead I aimed for fairness, trying as much as possible to hear from both sides, being critical in my interviews even when I agreed with the actions or views of that individual I was talking to, and not attempting to give manipulative or misleading questions. My hope is that I have managed to produce a broad enough cross-section of ideas and opinions, which by no means comprehensive or definitive, gives a fair representation of community views surrounding mining, agriculture and development in the region.

Results

Cañazas

The case of Cañazas provides a compelling portrait of the effects open pit mining can have on rural communities. As a town caught up in the first wave of the modern mining boom in the early 1990's only to have that mine go bust in 2000 and then begin to reopen in the last three years we can look at mining in Cañazas in all stages of its development. Not only do we see the

initial conflicts and promises but also the way in which they play out over time. Information was gathered in Cañazas over the course of two days. The first March 22nd was World Water Day and a march and a teach-in had been organised by a group called the *Coordinadora campesina por la defensa de los ríos y la vida*, which I was able to attend and interview speakers and attendees about water (and by extension) mining conflicts in the region. My second day of research in Cañazas was on the 4th of April when I visited the town with the McGill Panama Field Study Semester (PFSS) as part of our Environmental Management class taught by Professor Thom Meredith. The thirty of us students broke up into groups of four and conducted random interviews with members of the town, interviews which I have attempted to compile and synthesize as part of this report.

The Santa Rosa Mine: 1993-2000

Unlike most parts of Panama where open pit mining represents an entirely new phenomena, with little in the way of precedent or past experience for communities to base their opinions on, Cañazas has already gone through one cycle of the mining story and is now about to embark on another. Thus understanding what occurred between 1993-2000 with the Santa Rosa mine is crucial not only to understanding the present economic and social reality of Cañazas but also can serve as a cautionary tale for other communities faced with mining projects.

In 1993 Canadian company Greenstone Resources Ltd, acquired the rights to exploit the Santa Rosa deposit which had begun to be an area of interest for mining companies when a concession was first granted in 1979 (Hughes 1998). Upon acquiring the Santa Rosa Greenstone made a number of promises to develop the region, the poorest in the province of Veraguas (Serrano 2005). Over the course of the mine's life a number of projects were initiated by the company including a new, 250 gallons a minute water plant, an occupational health clinic, new

access roads, repairs to the local school, the mayor's office and the local church (Serrano 2005). According to the company it invested almost 500 million dollars in the local economy, generated by 1998 364 direct jobs and over 5 times as many indirect jobs (Serrano 2005). This vision of prosperity was echoed by some townspeople. As one man who worked for the local office of the Catholic Church told me "there was a lot of money in the town, some people did very well". As well an influx of foreigners and outside visitors associated with the mine brought secondary benefits especially to bar, restaurant and hotel owners (Sandino-Gold et al, 2013). However, this new prosperity was not without its destructive effects.

Residents I spoke to mention that more money in the town meant higher prices for consumer goods which they were quick to note affected everyone in the town, even though the mine only employed a select few. As well residents remarked that the influx of mine workers also meant a rise in social problems particularly as it related to drug and alcohol consumption as well as prostitution. What's more while the mine brought prosperity, this prosperity was fleeting and highly unequal. As the man from the pasture office put it "the mine threw money at people [in the form of salaries] they didn't teach people how to run businesses or start development initiatives." As Serrano writes "Cañazas ahora es un pueblo fantasma, pues, de ser un fructífera y prospera comunidad, volvió al olvido y a la pobreza" (Serrano 2005).

While the old mine left little in lasting economic effects it did have one enduring legacy: that of environmental destruction. In October of 1995 the company was fined 1000.00 /B for discharging contaminated water into the Alto de la Mina watershed, as Serrano points out the first of many ecological problems associated with the mine (Serrano 2005). Since that time the mine came under constant criticism from residents with concerns about chemical leaching, cyanide spills and fishkills (Serrano 2005). In 1998 ANAM conducted a technical review of the

project, identifying a number of environmental violations and cases of negligence associated with the project including excess water in the tailings ponds, waste water being discharged into the watershed with higher than acceptable cyanide levels, and high levels of cyanide in the local fish population (Serrano 2005).

Following the mine's closure these environmental problems have continued with the company largely abandoning it and contributing little to its closure. The people I talked to said that the abandoned mine site continues to pose health risks to the local community, with cancer rates in the region increasing and ongoing concerns about water contamination. As well one woman we talked stated that due to old pit filling up with water has meant an increase of malaria in the region, largely eradicated before (Sandino-Gold et al 2013). Though I did not have time to confirm the veracity of all these claims, it would certainly appear as if the old mine did little to bring long-term development to the region, and had a wide number of environmental and health risks associated with it, all factors influencing people's perception of its reopening.

The New Mine

In 2011 control of the Santa Rosa mine passed over to American company Golden Phoenix with the promise of reopening the mine (Golden Phoenix 2011). In 2011 Silver Global, the successor company to Golden Phoenix received the approval from ANAM to begin the construction of the new mine (See Appendix C.). After a decade of economic depression, the mine is finally about to return with new promises of development and prosperity and new conflicts and concerns. According to Ranulfo Rafelo, a local school master and one of the proponents of the mine, the project is going to be different, with the company building roads and improving the school. Whatsmore the company will focus more on education to bring about long term development as well as bring short term jobs. Despite this though he was unclear about how

these programs would be able to continue once the mine closed, saying more consultation between the company and the mayor's office is necessary. The man I spoke to at the parish office said that some in the town are very excited about the mine reopening, primarily those whose family benefitted from the last mine, and who have now become dependent on the income it brought. However, many more he says oppose its reopening, about 60% in the town and many more in the surrounding countryside.

In particular he says *campesinos* oppose the main due to its affect on agriculture. The area around Cañazas is extremely arid, making water a key resource and any disruption to it from mining activity a key cause of concern for local farmers (Sandino-Gold et al. 2013). Of the people we spoke to the vast majority identified water issues, either contamination or overuse, as their key reason for opposing mining development. Protection of the water supply from mining and hydroelectric development, seen by many as related (Personal Correspondence-March 2013), were key rallying points in the region as evidence by the March 22nd march and teach in which over 300 people, mainly *campesinos* participated in, all organised by water shed. When asked by one of the speakers why they were there the answer was overwhelming “¡Por el agua!” Other key concerns residents identified were the return of social problems such as alcohol abuse and prostitution, lack of long term development and deepening of social divisions between town and countryside. As well, despite the company's promise of jobs, none of the people we spoke to worked for the mine, or had a family member who did. The reason for this they said was that the majority of jobs were high skill jobs which locals were not qualified for, thus the majority of the people employed by the mine were either foreigners or else from other parts of Panama (Sandino-Gold et al. 2013). Thus it would appear despite its many promises; the mine fails to meet the criteria of sustainable, long term development for the majority of the town's residents.

The Availability of Alternatives

Despite widespread recognition of the many environmental problems associated with open-pit mining and cynicism about the ability of the mine being able to provide long term prosperity for the region, there was one fact that effected people's acceptance of the mine: the unavailability of viable alternatives. As stated earlier Cañazas is the poorest district in Veraguas province, already one of the poorest in the country (Ministerio de Obras Públicas 2007). Most people in the corriegmineto are subsistence farmers with a number of people in the town employed in the service industry. Remittances from Panama City also form an important part of the towns' economy (Personal Correspondence-April 2013). Deforestation and soil erosion due to cattle ranching is widespread, affecting production, and the southern part of the corriegmineto is extremely arid and unfertile, also limiting agricultural opportunities (Personal Correspondence-April 2013). According to the man I spoke to at the parish office, life for agriculturalists is very hard, with little in the way of government support and rising land prices due to land grabs by foreigners seeking to build large agro-industry projects. Thus there is also considerable out-migration either to Panama or Santiago as people abandon agricultural livelihoods which are quickly becoming ecologically and economically unsustainable (Personal Correspondence-April 2013). In this context the offer of a mining job, even if its short term, becomes highly attractive. Sandino-Gold et al. recall one occasion where the man they were interviewing recounted a conversation he overheard between two men, one pro-mine, the other anti-mining, discussing the project. The pro-mining man had replied to the other man's arguments against the project "find me another job and I'll be anti-mine" (Sandino-Gold et al. 2013).

Despite this some efforts have been made to improve the livelihoods of Cañazeños without relying on the mine. A producer cooperative has just been formed as well as a

cooperatively run store to help relieve the pressures on rural communities. The man I spoke to in the parish office shared his vision of making Cañazas a tourist destination. “We have a beautiful waterfall in the mountains over there and many paths for hiking, if only we had the facilities to house tourists. This is the development we need”. People are working to develop more sustainable development alternatives; however, lack of resources is a serious issue. The question is not whether the incentive to develop these alternatives exist but whether it will be too little too late, as the mine marches on.

Community Fatalism

Despite widespread dissatisfaction in the community with the mine’s reopening, the mood in the town was not of rebellion but of resignation. Almost all the people we talked to were convinced that the mine would go ahead regardless of how the community felt. As one woman put it “If there is enough gold, it will open – if not, it won’t”, said one woman “even the mayor is powerless to do anything” (Sandino-Gold et al 2013). In fact people showed a great distrust of the authorities with allegations of corruption and collusion between the company and the mayor’s office abounding. As a result few of the people we spoke to were actively involved in imposing the mine, instead they felt it was better to negotiate with the company to mitigate the destruction and ensure the community received a fair deal this time (Personal Correspondence- April 2013). As one man put it “if the company did what they said what they were going to do, our situation wouldn’t be that bad” (Sandino-Gold et al 2013). Past experience though renders this a big if. Thus with Cañazas we see a community about to embark on a process of mining development which they are well aware may be ecologically destructive and fail to provide long term prosperity, but lacking appropriate alternatives, are forced to accept.

Santa Fe

The town of Santa Fe and its surrounding environs represents however, a very different case. As Albertina, the old alcaldesa of the region said to me in an interview “In Santa Fe we have always followed a different trajectory”. Compared to Cañazas, Santa Fe has a number of alternative development initiatives available to them, many associated with the Cooperative. The question is whether these initiatives will be able to provide sufficient income for the area’s residents to meet both their immediate needs and their rising expectations especially as mining companies are increasingly taking an active interest in the region?

Mining in the Region

While gold panning over on the Caribbean side of the Cordillera Central has been a source of additional income for many of the men of Santa Fe for years, unlike Cañazas the area has never had a mine (Personal Correspondence-January 2013). Thus residents I spoke to had little firsthand knowledge of how industrial mining worked however, most were aware of the risks associated with it. Currently 6 mining companies have concessions to conduct exploration in the Santa Fe region (see Appendix D.) with the most pressing for the area’s residents being the concession accorded to Miramar Mining Corp. The concession as it stands now currently within the boundaries of Santa Fe National Park (see Appendix B.), which environmental groups claim is illegal under Panamanian law (Personal Correspondence-April 2013).

The Panamanian government was about to give the company the approval to commence exploration on the concession which dates from 2003, when activists pointed to the fact the park was operating on protected land (Zea 2013). Currently the concession exists in legal limbo with residents and environmentalists calling on the government to annul the concession, while

Miramar refusing to give it up until the government awards them compensation in the form of either money or a new concession (Zea 2013). The issue is further complicated by the fact that another company, Geo Minas SA has 10 ha of its concession in the park as well as in La Yeugada Forest reserve (see Appendix B.) and has so far suffered no sanction (Zea 2013). According to one man who I spoke to who lives in El Pantano near one of the mine sites, no consultation by the company occurred and the concession itself is in violation of Ley 44-de la Protección de los Recursos Naturales. According to Albertina, the old mayor of the region, the government has been hesitant to condemn the mine, despite a legal challenge being launched against them. As well she said there is even more gold to be had on the other side of the Cordillera, which she thinks companies are keen to exploit. Many of the people I spoke to in town seemed quite concerned about a road the government is currently building to the coast, speculating that it might be to open the region up to mining activity.

Despite the intense interest by companies in their region the people I spoke to had little knowledge of mining activity in the region beyond the fact it was occurring and a few rumours about who was involved. No-one I talked to had been consulted by the company, even those living in the area of the concession, nor did anyone, except for Albertina or the man from El Pantano know the names of the companies involved. As a result there is a great deal of mistrust of the companies and a feeling that they are operating without transparency or the consent of the people (Personal Correspondence-April 2013). Of the people I spoke to in the Santa Fe region no-one spoke positively about mining. This was very different from Cañazas where I was able to find people with both pro-mining and anti-mining views. However, Cañazas had a mine in the past which some of the people had worked for while in Santa Fe there has never been a mine nor has anyone yet been the beneficiary of mining activity. What's more, everyone I spoke to, both in

Santa Fe and in other parts of the province, referred to there being a much more developed environmental consciousness in the region (Personal Correspondence-March-April 2013). According to Roderigo Cornejo, an agronomist for MIDA (Ministerio de Desarrollo Agropecuario) working with producers in the area, Santa Fe has by far the highest level of environmental consciousness in the region, with more farmers practising ecological techniques than other areas. Others attributed the presence of the national park and tourism as reasons for this environmental consciousness, as well as the presence of the cooperative which organises anti-mining and anti-hydroelectric actions, as well as promote ecological initiatives (Personal Correspondence-January 2013). As a result of these initiatives Santa Fe is currently pursuing an alternative course of development, separate and opposed to large-scale mining activities.

Alternative Development Schemes

Since the days of Héctor Gallego Santa Fe has been a centre of innovative development solutions which have sought to bring lasting prosperity to the region while promoting a new kind of economy; one based on solidarity and popular control (Fundación Héctor Gallego 2011). Increasingly these efforts have also sought to conserve the natural environment while integrating it into the local economy (Personal Correspondence April 2013). In this section I will focus on three of these initiatives, which though far from the only forms of economic livelihood in the region, certainly seem to be the most important from an ecological perspective and provide the greatest opportunity for residents to build a sustainable local economy.

Coffee Production

By far the most important crop for the Santa Fe region is coffee. Coffee is a major cash crop for *Santafereño* farmers and a key source of local pride (Personal Correspondence 2013).

When I asked Albertina what was it that separated Santa Fe from town's like Cañazas in terms of development her reply was immediate "well we have coffee here". As one of the few crops with a wide demand outside the region itself, it has the potential to bring and keep bringing prosperity to the region; however, it is not without its limitations, economic and ecological, that must be taken into account.

Unlike other coffee producing regions in Panama such as the region around Boquete, most of the coffee in Santa Fe is produced by small farmers (Personal Correspondence-March 2013). Traditionally these farmers would sell their coffee to intermediaries, often big coffee companies such as Café Duran, profiting little from what they produced. However, starting in the 1980's cafeteros in the region have sought to gain greater control over production through a series of initiatives organised by the cooperative. According to Lionel, director of Café Tute, the cooperative's coffee initiative, a producers' cooperative was first formed in 1983 in the hope of acquiring a better price for their crop however, this was difficult as they were still beholden to the same middlemen to process and sell their produce. Pretty soon the cooperatives members realised that the only way they were able to receive their fair share of the profits, was if they began to process the coffee themselves. In 1987 they began the mechanisation process and have recently bought a new, state of the art torrefactor from Costa Rica to increase production. The cooperative now has 300 members, produces 300 tonnes of coffee a month and is the largest coffee producer in Veraguas (Personal Correspondence-March 2013). Whatsmore production is mainly geared towards local consumption with the cooperative making a conscious decision to switch from exporting their crop overseas to providing cheap, fine quality coffee for fellow Veragüenses instead. According to Lionel the cooperative pays better than average prices to farmers for their crops as well as providing their members with an annual dividend based on the

coops profits. Whatsmore it has installed a sense of pride amongst farmers to be processing and selling their own coffee as well as serving as an inspiration for other communities of what a successful democratic, workers-run business looks like. Already the coop has hosted capacity building sessions with representatives from communities in Guna Yala and the Darién about exporting the Café Tute model (Personal Correspondence-April 2013).

However, the business is not without its challenges and its negative environmental impacts. Only about 5% of the coffee that Café Tute processes is organic, the rest is from farmers still reliant on chemicals, mostly fungicides for production (Personal Correspondence-March 2013). As well coffee both in Santa Fe and in other parts of Panama has come under attack from coffee rust which has not only impacted production but also lead to an increase in fungicide use. According to Gamaliel, a farmer from La Piquera, the only chemical he uses is fungicide on his coffee trees on a farm which is in every other way a model of integrated agroforestry. “I have to” he said “The climate keeps getting wetter, we keep getting more fungus, it’s the only way to get rid of it”. I did speak to one man though, Egberto Soto a farmer from El Salto and agroecological pioneer, who said he was able control the rust without resorting to pesticides. “The key is the soil” he said, “all this problem with the coffee is the result of bad soil”. In his view increased rains, poor soil, farmers not providing enough shade and too much chemical use has upset the natural equilibrium, leading to more disease (Personal Correspondence April 2013). It was the government’s promotion of fungicides that he saw as leading to the crisis. This being said; he admitted that even he had lost 50% of his trees to the disease; however, many farmers in the region he claimed have lost more. One thing Egberto, Gamaliel and Lionel all did agree upon though is that this year the rust was less severe than before, hopefully indicating that with proper management its effects will only be temporary. Whatsmore Lionel did speak of the cooperative’s

efforts to expand organic coffee production as part of its activities, however, considering the economic importance of coffee and the risks of disease he admits it's hard to get people to make the switch. Thus through the efforts of the cooperative, coffee has managed to bring some prosperity to the region in a manner that is inclusive and empowering however, its environmental record has been less than exemplary, with farmers still heavily dependent on chemical inputs and subject to insecurity and disease. Thus a transition must be made to more sustainable form of agriculture that can meet both their economic and ecological needs.

Organic Agriculture/Agroforestry

As well as growing coffee for export, subsistence farming is also a key source of economic livelihood in the region. While the majority of the farmers in the region still practice conventional (chemical) or traditional (slash and burn agriculture) there are a growing number of farmers using organic or agroecological techniques (Personal Correspondence-March-April 2013). Whilst I met one man, Chón, who had been practising organic agriculture for the last 35 years, most people I spoke to said that the movement had only begun to grow in the last 10 to 20 years (Personal Correspondence March 2013). Some, such as Egberto, mentioned making a conscious switch to ecological agriculture, while other such as Gamaliel said they were only adding on to traditional techniques however, in talking to representatives from MIDA and INADEH (Instituto Nacional de Formación Profesional y Capacitación para el Desarrollo Humano), it would appear as if composting and other organic practices were not common in the region before, suggesting a break with tradition for most farmers (Personal Correspondence March 2013). *Campesinos* I spoke to said their reason for switching to organic agriculture, were personal and environmental health, increased production and greater security. All felt that organic agriculture had improved their control over production and meant a better income as well

(Personal Correspondence January-April 2013). Of the four organic/agroecological farms I visited three practised agroforestry/permaculture style farms with a high degree of crop integration and with a large portion of the original forest preserved while one practised a more conventional style of organic farming with less crop diversity and more disruption of the surrounding environment. Of the 15 individuals who I spoke to who practised organic/ecological agriculture 7 said they used compost to fertilise while all but one said they used natural pest controls, mostly by planting companion plants with natural insect repelling abilities (Personal Correspondence March-April 2013). Preservation of natural biodiversity was also cited as a method of dealing with insects and other pests, as well as preventing diseases. Of the four farms I visited three also raised animals, primarily chickens and goats with one (Egberto) practising intensive silvopasture, another (Gamliel) having a pen of eight goats which he raised for meat and cheese and fed vegetable waste and forest plants, and the third (Chón) having only two goats which he relied on mostly for manure to make fertilizer. Of farmers who composted animals manure, earth, charcoal, fungus and vegetable waste were most common, with one man (Egberto) refusing to use fermented composts as he believed they produced gases detrimental to local insect and microbial life (Personal Correspondence March-April 2013). Vermicomposting and compost teas were also used by two of the farmers (Personal Correspondence March 2013). Intercropping as well as crop rotation was also identified by interviewees as key to maintaining plant and soil health (Personal Correspondence March-April 2013).

All of the farmers I spoke to produced primarily for their own consumption but also sold their crops at market, mainly through the cooperative (except for Egberto who sells his to clients privately). When asked how they had developed these techniques I was told it has been a mixture of formal training (Gamaliel and Chón both received training in permaculture techniques

in Nicaragua) and informal experimentation. One farmer, Egberto, even maintains a small portion of his 8000m² farm solely devoted to experimenting with new techniques. “Agroecology is different than conventional agriculture,” he said “you need to observe the plants, the soil, figure out why things occur and respond to them accordingly” (Personal Correspondence April 2013). However, despite receiving capacity building from outside groups all farmers said there is little support right now for organic farming from the government, however, there are some grassroots initiatives being developed, as a way to seek greater support. In La Piquera I had the opportunity to attend a meeting between representatives of the Ministerio de Desarrollo Agropecuario (MIDA), INADEH and La Asociación de Productores Unidos de San Roque as they discussed improving the capacity sessions the government offers. The Asociación San Roque has existed for ten years and was founded, according to their president Juan de Dios González, out of necessity by farmers in the region looking to switch to organic agriculture (Personal Correspondence March 2013). The organisation now encompasses 35 families who all practice (to varying degrees) organic production techniques as well rice/aquaculture systems set up by the organisation. The organisation is democratically run with a 7 person junta directiva elected by the membership every year and looks to facilitate training sessions for its members as well as seek funding for agricultural improvement projects such as the rice/aquaculture program mentioned above as well as pig and chicken rearing program.

The people I interviewed all said they were very happy with the association and the training sessions the government offered however, they did cite problems of accessibility and over centralisation of power in the junta directiva as key limitations on the association’s effectiveness. In particular participants felt that the government facilitators for the training sessions the association organised were not particularly cognisant of the logistical issues

associated with attending the sessions, especially for women with children, in this quite remote region of the province (Personal Correspondence March 2013). As one woman, Virginia said “It’s very hard to attend the classes as a single mother...I know many women have the same problem and some have not been able to attend because it’s too far...I make it though as the courses have really improved my life” (Personal Correspondence March 2013).

Despite the promise of organic agriculture it is not without its challenges nor is it by far the most common form of agriculture practised in the region. According to Gamaliel only 20% of the farms in the region are fully organic, the rest use a mixture of organic and conventional techniques (Personal Correspondence March 2013). Many he said will use composts fertilizers and organic pest controls but will still use fungicides on the coffee. Herbicides are also quite common in the region. According to Graham, an American who now lives and farms in Santa Fe you can buy a can of herbicide for only 6\$, which given the number of weeds in the rainy season, is too good of a deal for many farmers to pass up (Personal Correspondence March 2013). He also stated that the government has recently imposed greater restrictions on burns (another form of weed control) further incentivising herbicide use. As Egberto said, many farmers adopt the 50:50 approach, using organic techniques when possible and chemicals when necessary. All the farmers I talked to except for Egberto said the transition from conventional to organic agriculture had been quite hard, with it taking a long time for the soil to regain its natural fertility after years of chemical use. This slow transition they said was a key limiting factor for other farmers who wanted to transition to organic means of production (Personal Correspondence March-April 2013). One man, Egberto, even expressed doubts of whether organic agriculture is even better for the environment, practising instead what he called ecological agriculture, a no weed, no compost approach which relies on intercropping, soil improvement and preservation of local

biodiversity to create an integrated, agroforestry system which mimics and improves upon the natural environment (Personal Correspondence April 2013).

Egberto also said that lack of communication between organic farmers and continued support for conventional techniques by the government also limits organic farming's growth. In speaking to representatives from INADEH and MIDA I was told they do not explicitly recommend organic farming but try to focus on techniques that are low cost, sustainable and easy for farmers to implement such as composting and intercropping. In their opinion organic agriculture is better for the environment and for farmers and is growing in popularity in the region, though it those have significant limitations, mainly the time it takes to do effectively (Personal Correspondence March 2013). Other limitations that farmers identified with ecological agriculture in the region is lack of infrastructure particularly good roads making it harder for farmers to get their goods to markets, as well cultural biases against the forest which cause people to engage in deforestation even when it is possible to integrate it effectively into production (Personal Correspondence April 2013).

Despite these limitations all the people I spoke to seemed very excited about organic agriculture and were quite proud that what they were doing was ecologically sound. When asked whether they felt, with the right resources and support, organic agriculture could be a force for development in the region, people were affirmative that it could, going as far to say that it would provide a more sustainable and locally appropriate form of development for the region than mining or hydroelectric could. As Jacinto Peña, one of the cooperatives founders, and now organic agriculture enthusiast put it "with mining we are destroying the earth, with ecological agriculture we are improving it" (Personal Correspondence April 2013).

Eco-Tourism

The final industry that separates Santa Fe from its neighbours and gives it the opportunity to pursue development schemes independent of mining development is tourism. Though nowhere near as well-known as Boquete, like the popular mountain town, Santa Fe has the fresh air and natural beauty that makes it the perfect destination for hikers and backpackers. Listed in the Lonely Planet as one of their top locations in Panama tourists are increasingly making Santa Fe a vacation destination providing a number of opportunities for locals. Locals serve as guides offering bird watching and horseback riding tours as well as running hotels and restaurants for visiting foreigners (Personal Correspondence March 2013). Farmers such as Egberto and Chón have even managed to integrate tourism in their agroecological projects, with visitors paying to stay at their farms and learn more about permaculture techniques (Personal Correspondence March-April 2013). The cooperative has also sought to expand its operations to meet tourists' needs offering tours of the Café Tute factory, setting up an internet café to provide Wi-Fi to residents and tourists alike and have even set up an Eco-Tourism committee to discuss future projects, though they have yet to materialise (Personal Correspondence January 2013). Many people I spoke to identified tourism as having a positive environmental effect as people now have a greater incentive to conserve the natural environment which was now providing them with additional income due to tourist activity (Personal Correspondence March –April 2013). As Albertina put it “tourists only want to see health environments” (Personal Correspondence April 2013).

The people I spoke to were overwhelmingly supportive of tourist development especially the kind of tourists they get. As Nelson, Chón's son, put it “here we get good tourists...hikers, older people, people interested in agriculture...we don't have casinos or discotheques so we don't get bad people” (Personal Correspondence March 2013). Despite this he said the effects of

tourism were no entirely positive. In particular he was worried that Santaferenses were losing control of the tourist industry to foreigners. The two most popular hostels in town, Hostel la Quía and Hostel Anachoreo are run by a Belgian-Argentine and a Dutch-Cambodian couple respectively and while expat land sales are nowhere near as big of a problem as in Bocas del Toro or Boquete they are certainly increasing, leading to higher land prices and possible competition between locals and foreigners (Personal Correspondence March-April 2013). As Nelson put it “we can’t compete with the foreigners, they have more access to capital, they know what foreigners want...it’s not that we don’t want them here but we want control over the tourist industry, make sure it still benefits Santaferenses” (Personal Correspondence March 2013). Nelson was confident that if they had greater access to credit and better education, Santa Fe could maintain a viable, locally controlled tourist industry, saying people came there to see something different and witness local culture, something the foreigners couldn’t offer. Thus tourism still has significant potential to provide a sustainable livelihood to the residents of Santa Fe but more action and assistance is needed to ensure that local control is maintained and that the destructive cycle of land grabs and rampant development that has occurred in Bocas del Toro, and to a less extent Boquete, is not replicated in the region (Personal Observation April 2013), (Spalding 2013).

Unlike Cañazas Santa Fe has yet to experience large-scale mining and right now appears to be quite opposed to its development. In part this is due to heightened environmental consciousness in the region and so far lack of formal incentives on the part of the companies but also due to the broad range of development alternatives open to residents. Coffee production, ecological agriculture and eco-tourism all have the potential to provide a sustainable income for the region, however, with varying effects on the local environment and social relations.

Whatsmore each comes with its own challenges in ensuring that it is developed in a way that not provides a good income but is also ecologically sound and socially inclusive. Possible suggestions of how this can be done and the various limitations each kind of development imposes will be discussed in the next section, drawing on both field observations and case studies from other parts of the world.

Discussion

Theory

Mining and Development: Promises and Reality

Increasingly multi-national mining companies have attempted to shed their exploitative image and rebrand themselves as forces for development in rural areas, with renewed focus within in the industry on harm reduction, Corporate Social Responsibility (CSR) and social licence to operate (Esteves 2008). As Ballard and Banks writes, discourses surrounding mining development, which often only included companies and governments, are increasingly incorporating community voices, frequently by the industry itself in formal stakeholder models (Ballard and Banks 2003). According to Jenkins and Obara:

For mining companies, CSR is the manifestation of a move towards greater sustainability in the industry i.e. the practical implementation of the goals of sustainability. CSR is a means by which companies can frame their attitudes and strategies towards, and relationships with, stakeholders, be they investors, employees or, as is salient here, communities, within a popular and acceptable concept (Jenkins and Obara 2008).

While some may view the renewed focus on CSR as signs of an honest effort, there are many more who question both the motives behind the switch and its actual effectiveness (Jenkins and Obara 2008). As Esteves points out mining companies are not moral entities but companies seeking profit shareholders and their actions must be understood as such (Esteves 2008). There are concrete benefits for companies adopting CSR programs such as acquiring an advantage over less socially responsible competition, maintaining social stability, and cultivating a good public reputation (Jenkins and Obara 2008). As a result companies may develop programs that meet their needs rather than those of the people they are supposed to be helping, focusing on flashy pet projects rather than actively listening to the needs of communities (Esteves 2002). As well the benefit from mining CSR programs can often be very uneven, with resources going to benefit those groups who are pro-mine while ignoring those whose relationship may be conflictive. Jenkins and Obara gives the example of a mining company in Ghana who refused to work with *galamsey* (small-scale miners) despite the fact they are major stakeholders in the region, helping to fuel community conflicts and undermine development initiatives (Jenkins and Obara 2008).

As well the benefits that accrue from a mine's presence can be highly uneven in nature, reinforcing existing power relations or gender hierarchies. As Ballard and Banks write mining is a very masculine industry, with most jobs be awarded to men, while undermining traditional forms of livelihood, such as subsistence agriculture, which women have a greater control over (Ballard and Banks 2003). As well social problems such as prostitution, sexually transmitted diseases and domestic violence tend to increase with a mine's presence (Moore 2009). Whatsmore the average mine life is between 30 and 50 years, meaning any benefit the mine will bring is bound to be temporary, thus CSR programs must be geared in such a way as to provide lasting benefits for local communities, a difficult prospect given often very different cultural

understandings of land use between the community and the company (Ballard and Banks 2003), different perceptions of the nature of CSR programs (Jenkins and Obara 2008) and the internal contradictions implicit in the CSR process (Esteves 2002).

While the lasting benefits of mining development may prove elusive other less-desirable after-effects are often all too prevalent. Open pit mining is a highly disruptive activity requiring widespread deforestation, relocation of millions of tonnes of waste rock and massive water use (Hilson 2001). As well mining has been the cause of some of the largest environmental disasters of the last 20 years such as the Ok Tedi disaster in Papua New Guinea in which 250 million tonnes of mining waste was released into the surrounding environment or the Onai 3.2 billion litre cyanide spill in Guyana (Hilson 2001). Other less dramatic but equally harmful environmental effects from mining include air and noise pollution as well as the leaching of heavy metals into the water supply from acid mine drainage (Moore 2009).

As a result increasingly communities in rural areas are mobilising to block mining development, with mining one of the largest sources of land conflict in the world (Hilson 2001). As Bebbington writes the growth of foreign mining in Latin America, facilitated by neo-liberal mining code reforms in the 1980's and 90's, has been met with the equally impressive growth of new social movements opposed to mining and setting out to articulate a new vision of sustainable development (Bebbington et al 2007) . Very often these new social movements are rooted in indigenous or *campesino* communities, drawing on traditional notions of land use, fundamentally opposed to mining development (Bebbington et al 2007). However, opposition itself is not alone. As Bebbington writes in his comparison of two anti-mining movements: one opposed to the Yanacocha mine in Peru and another fighting against the Ascendant copper

project in Ecuador, a movement's success or failure is partly determined by its ability to articulate an alternative vision of development and the availability of other forms of livelihood (Bebbington et al 2007). Thus opposition itself is not enough, communities need alternative development models to act as ecological defences against mining development.

The Potential of Ecological Agriculture

Of the alternative development schemes available to communities under threat from mining development perhaps the most important is ecological agriculture. As most mining projects occur in rural areas where subsistence or small-scale agriculture is the most common form of livelihood (Balard and Banks 2003), developing sustainable solutions for local producers is key to the overall goal of rural development (Altieri 1991). Increasingly these farmers are finding themselves in a precarious situation. According to Fischer and Vasseur 22.6% of land in Panama is severely degraded and unsuitable for agricultural cultivation (Fischer and Vasseur 2000). This and combined with high population growth rates and high rates of land concentration in Panama's most productive regions has forced a growing number of farmers to seek land on the agricultural frontier contributing to the destruction of Panama's dwindling forests (Fischer and Vasseur 2000). These ecologically sensitive areas, primarily lowland tropical forests or mountain slopes are ill-suited for both conventional chemical and traditional slash-and burn agriculture, further escalating deforestation and soil erosion (Altieri 1991).

Increasingly farmers both in Panama and other parts of Central America have been turning to agroforestry as a way of improving production while maintaining local ecosystems (Fischer and Vasseur 2000), (Montagnini et al 2008). Agroforestry seeks to integrate cultivated plants and trees alongside existing trees as part a managed ecosystem that seeks to provide

farmers with food, wood, medicinal plants and other useful forest products while conserving as much as possible existing forest cover (Fischer and Vasseur 2000). Common trees planted by agroforestry practitioners that I spoke to in Santa Fe were coffee, cacao, oranges, bananas/plantains, chiotte, pifa and maracuya. In Costa Rica, agroforestry programs have been underway since the 1990's as part of a Payment for Environmental Services (PES) scheme aimed at promoting reforestation, the technique has been very successful at both promoting the needs of small farmers while at the same time protecting fragile ecosystems (Montagnini et al 2008). Agroforestry is certainly a marked improvement over earlier conservation schemes which in taking a strict-preservationist approach, sought to limit human-nature interaction creating a conflict between human and environmental needs (Sunderland et al 2008).

As well a number of other agroecological approaches are being adapted and implemented by communities across Latin America, providing hope and development to rural communities. Organic and permaculture initiatives, Altieri writes, have the potential to provide sustainable development better suited to the needs of small-scale agriculturalists than the current agricultural paradigm with its focus on chemical inputs and centralised production (Altieri 1991). As Furze writes:

A [new] dominant worldview must be in place which looks to an agriculture based on self determination, and which strives to achieve its public purpose - human health and survival. There is little doubt that the permacultural model potentially achieves this (Furze 1992).

Development schemes aimed at achieving agricultural intensification using agroecological techniques have proven successful across Latin America, particularly at addressing the twin threats of population growth and soil degradation affecting subsistence

farmers (Pichón and Uquillas 1997). Successful techniques include intercropping, and mixed land use, cultivation of nitrogen fixing plants and efficient fertilizer use (Pichón and Uquillas 1997), all of which I found were used by farmers in Santa Fe to lesser or greater degrees.

What's more, unlike conventional agricultural development, ecological agriculture is able to make use of traditional knowledge, maintain local genetic diversity and adapt to regional or cultural considerations, increasing its success rate as well as well as restoring local pride and a providing greater self-determination (Pichón and Uquillas 1997). It also has the added benefit of increasing long-term yields (Pichón and Uquillas 1997), (Altieri 1991). Thus ecological agriculture has the potential to enrich the lives of rural communities while maintaining crucial eco-system services making it key to any successful rural development scheme and any ecological defense against mining development.

Three Cheers for Co-ops

Despite the promises of agroecology it is not without its limitations. Of the challenges organic producers in Santa Fe faced the most important were poor communication between farmers, poor infrastructure and lack of institutional support (Personal Correspondence- February-March-April 2013). Often small producers find themselves physically isolated as well as economically marginalised finding it hard to reach markets or get a good price for this project. This is where producers' organisations and cooperatives can play a crucial role in rural development.

Producer coops allow farmers to get better prices for their produce by negotiating group prices; consumer coops reduce the costs of inputs by buying wholesale while finance coops give farmers access to credit often denied to them by large financial institutions (O'Donnell). As well cooperatives, with their focus on direct democracy and group decision-making help strengthen

social relations between their members and helping to facilitating skill-sharing and capacity building between them (O'Donnell). Unlike a corporation whose primary function is to make profit, cooperatives, as community or worker owned enterprises are often seen as serving a wider social role and focusing more on long-term rather than short-term development. As Molina and Miguez write, referring to the Basque Country's famous Mondragon cooperative group "few corporations can properly call themselves a social movement, as is the case with this particular 'co-operative experience' now known as Mondragon" (Molina and Miguez 2008).

As a result of this social movement aspect, cooperatives have traditionally been better at adapting to environmental and economic crises in such as a way to ensure sustainable solutions for their members, such as Mondragon's restructuring of its enterprises during the 2008 economic crisis to avoid layoffs (Tremlett 2013), or la Cooperativa Esperanza de los Campesinos move towards ecological development initiatives. As O'Donnell writes "No puede existir un verdadero cooperativismo, si no se desarrollan los aspectos sociales a la par con los económicos" (O'Donnell). Thus cooperatives can serve as the perfect complement to ecological development initiatives in providing the organisation and structure needed to ensure their success.

Suggestions

No good goin' at it alone-The need for communication, education, ecological consciousness-raising and constructive partnerships

Looking at the literature and the experiences of other communities in Latin America demonstrates that ecological and cooperative initiatives can provide lasting development to rural areas and can serve as a viable alternative for those communities seeking to avoid the destructive boom and bust cycles associated with mining. Already there are a number of promising signs in Santa Fe that this kind of development can be achieved. The existence of organisations such as

the Cooperative and the Asociación de Productores Unidos de San Roque as well as innovative individuals such as Egberto, Gamaliel and Chón all provide hope for the region. However, challenges still remain most importantly problems of poor communication, infrastructure and institutional support. That being said there are number of ways in which these organisations can seek to strengthen their projects.

Communication is key to facilitating the spread of ideas between individuals and promoting agroecological principals. The farmers I spoke to in Santa Fe said they communicated very little with other local producers about ecological agriculture, even with fellow practioners attending instead capacity building sessions offered by government officials or foreign organisations (Personal Correspondence-March-April 2013). Often times these sessions do not explicitly promote ecological agriculture or are not particularly cognisant of local needs.

Whatsmore they are usually one time courses rather than permanent forums for skill-sharing and critical pedagogy. Thus strengthening contacts between local ecological farmers to share ideas as well as non-organic farmers to promote organic techniques would be key to strengthening the local agroecology movement. Possible ways this could be done would be offering monthly sessions at the cooperative's *ranchero* organised by farmers for farmers with the occasional guest speaker from outside organisations, as well as setting up four or five model farms which could host local farmers keen to learn more about their methods. Already Egberto and María and Chón have expressed an interest in offering up their farms to willing local learners. A final way organisations like the cooperative could enhance local knowledge of ecological agriculture in the region, would be by conducting a census of organic producers in the region, detailing what techniques people use and who is willing to except visitors who want to learn more, displaying the results in map form so people can know which of their neighbours are practising organic

agriculture and how they can get in touch with them. In particular efforts must be made to reach individuals in the more marginal areas outside of Santa Fe as well as those currently not involved with organisations such as the Asociación San Roque and the Cooperative. Education and outreach efforts can also be extended beyond Santa Fe to other regions with less developed cooperative and agroecology movements such as Cañazas to demonstrate its benefits.

Efforts must also be used to promote wider environmental education in the region, in particular as it relates to mining development. While there appears to be a broad social consensus against mining in Santa Fe, the people I spoke to did not appear to know that much about it, both in terms of what was happening in Santa Fe and more generally about how open pit mines worked and the problems associated with them. This is very dangerous, as companies will often exploit community misunderstandings about mining to spread misinformation and to create social divisions (Moore 2009), (Simms and Moolji 2011). Community sessions better informing people about mining development as well as linking communities with other towns that have successfully combated mining development are crucial, with organisations like CIAM being able to provide a key liaison as well as sharing their knowledge and experience with these communities. Finally education programs focused on the importance of local ecosystem services could help in promoting local conservation initiatives. Already Albertina, the old mayor, teaches students in the local school about the importance of maintaining local diversity. “It is important”, she said “for children to see something as beautiful”. According to Egberto, many *campesinos* still see the forest as threatening, and cutting it down as a improving the land, preventing conservation and agroforestry efforts. According to him “people need to learn to live and in the forest...the problem though is education”.

The primary challenge though local, ecological development schemes face is lack of resources and infrastructure. Roads in the region, other than the road to Santiago, are dirt tracks and poorly maintained, many communities are very remote and hard to access, especially in the rainy season. As well problems with community health clinics, local schools and lack of electricity hamper efforts. Ideally it would be up to governments provide these services however, as I was repeatedly told, the central government cares little for the needs of rural communities, with little in the way of help for community groups like the coop and with most resources distributed on the basis of patronage rather than need (Personal Correspondence-April 2013). Whatsmore the Panamanian government has been aggressively promoting mining development (Chauvin 2012), often putting them at odds with the wishes of rural communities. As Gamaliel put it “we don’t have faith in the government...they care more about building mines or hydro dams than providing solar panels or wind turbines for people here. Now that would actually be useful”.

Therefore communities must look for other places for support. In the past NGO’s have provided crucial support to communities attempting to develop agroecology initiatives (Altieri 1991), (Pichón and Uquillas 1997), (Montagnini et al 2008), with groups such as the Peace Corps and Patronatos de Nutrición doing important, locally-based development around issues of food security in neglected rural areas. The other important stakeholder who could prove key to addressing issues of environmental destruction and rural poverty in the region are conservation groups. Traditionally the relationships between local communities and conservationists has been one of confrontation, with conservationists seeing small-scale farmers as an ecological threat, while many *campesinos* see conservationists as elitist and uninterested in the social dimensions of environmental protection (Sunderland 2008). However, as the successful reforestation efforts

in Costa Rica mentioned above show, conservation and rural development can be integrated through innovative agroforestry schemes (Montagnini et al 2008). Partnerships with groups such as the Mesoamerican Biocorridor Program, which already has a presence in the region, is one way in which conservationists and farmers could meet their shared needs. As well some groups in Latin America, have managed to make use of international carbon markets to turn forest preservation into a viable income for their communities which can then be reinvested into other projects (Rival 2011).

The final partnership opportunity that I discussed with the cooperative in Santa Fe was between them and McGill University. Already students visit the town as part of the Panama Field Study Semester (PFSS) however, it may be beneficial to formalise a more lasting relationship between the two groups, perhaps through an internship programs. Under the program student interns would provide the cooperative with much needed technical knowledge as well as labour to work on long term projects, while the cooperative would educate students about organic agriculture techniques, cooperative enterprises and the realities of *campesino* life. These kinds of inter-cultural exchanges would help expose each party to new ideas which challenge previous ways of thinking and hopefully allow them to come up with creative solutions to the problems the community faces. There is nothing inevitable about mining or any other form of development. In fact the process is open-ended with a variety of choices available to rural communities, each with their own ecological and economic effects. However, as it stands right now communities remain constrained by their lack of resources and the necessities of their residents, hampering alternative development initiatives and open the way for companies and governments offering quick and easy solutions, which communities are often forced to accept.

Conclusions

Ain't no such thing as inevitable: why a new economy is possible and the need for proactive environmentalism

It would appear these days that the opportunities for rural communities in Panama are few. Neglected by government and with access to land ever dwindling, residents often find themselves restricted to a number of unsatisfying choices. Many, especially the young, leave for the cities, while others look for previously unexploited land in places such as the Darién, pushing the agricultural frontier further into fragile and vital ecosystems. However, neither of these opportunities are true solutions, with widespread rural to urban migration only contributing to problems of urban sprawl and poverty and with the colonisation of new agricultural frontiers fuelling deforestation and soil degradation. It is in this context that mining development has been promoted as a saviour for local communities, providing jobs and livelihood in areas which would otherwise would be bereft of them. It is a sales pitch which feeds of inevitability, that somehow rural communities are a doomed thing of the past and that mining represents there only way to compete in the modern world. In fact for companies and governments, mining is modernisation, finally linking those unproductive back waters to the global capitalist economy. Mining then is progress and those community members who oppose mining are standing in the way of progress' march.

However, increasingly rural communities, in Panama and across Latin America, are challenging this notion of progress and seeking to reclaim the discourse of development for themselves. They are questioning a development model which too often brings ecological destruction and little in the way of lasting prosperity and instead seeking to develop their own initiatives. Progress for these communities it not merely material, but ecological, political and social as well. As Jacinto Peña and Cervilano Aguilar put it development, is a spiritual process,

it's about giving people control over their lives, breaking down individual selfishness and creating what they call "una economía de solidaridad" (Personal Correspondence-April 2013).

In writing this report I was able to observe in Cañazas the problems associated with mining development; the sense of fatalism and of broken promises, as people feel forced to accept a kind of development that know will be destructive. However, I was also able to observe an economy of hope. In Santa Fe I met people developing community initiatives based on principles of local control, cooperativism and ecological production. While many of these initiatives remain small scale and with obvious limitations, they are important not only as a testament to human initiative, but as starting point for a new vision of environmental conservation and human development. With better access to resources and wider support they could develop into viable alternatives to mining development in combating rural poverty. However, they could just as easily be washed away by the forces of economic modernisation and resource extrcativism. Ultimately it is up to these communities to decide what kind of development they want, which model they will support, however, that those not mean we should be silent. As scientists and activists we can provide vital technical and material support to these communities in developing these initiatives. In fact if we are serious in addressing environmental problems it is imperative that we do so. In a country, and a world, both facing problems of uncontrolled urban expansion and widespread destruction of natural areas, formulating a coherent, ecological solution to the challenges of rural development and conservation is vital. Mining clear fails to do that. However, there are alternatives being developed slowly and surely across the continent. It is these alternatives that constitute the true forces of progress in the country. As they and similar social movements teach us, nothing is inevitable and another world is possible. All that is left is to work to see it happen.

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Appendix A.-Santa Fe Group Interview-March 21st

Encuesta sobre el medio ambiente y los métodos de vida en Santa Fe

Eso es un informe estrictamente anónima, si usted no sea comfortable con alguna pregunta, no necesita contestarla.

- 1) ¿Cuánto años tienen?
- 2) ¿Es masculino o femenina?
- 3) ¿Qué es su ocupación? ¿Qué es la fuente de ingreso principal en su familia?
- 4) ¿Usted o miembros de su familia practican la agricultura orgánica? ¿Sus vecinos? ¿Hacia cuanto?
- 5) Si tiene finca ¿cómo evita plagas e insectos? ¿Cómo fertiliza las plantas?
- 6) ¿Qué es su opinión sobre la minería y la hidroeléctrica? ¿Es positivo o negativo? ¿Qué son los riesgos, que son los beneficios?
- 7) ¿Sabe mucho de los proyectos mineros en el área? ¿Qué piensa será el impacto de la minería en la región?

- 8) ¿Piensa que el medio ambiente es importante por la vida? ¿Qué son los riesgos ambientales más grandes en el área?
- 9) ¿Qué en su opinión es el desarrollo, que es la pobreza? ¿Piensa que Santa Fe es pobre?
- 10) ¿Qué quiere ver en la próxima 10 años para mejorar la vida para le gente en la región

Appendix B.-Concessions in Santa Fe National Park

SOLICITUDES PARA EXPLORAR ORO

TRÁMITES DENTRO Y PRÓXIMOS AL PARQUE SANTA FE

LAS COMPAÑÍAS:

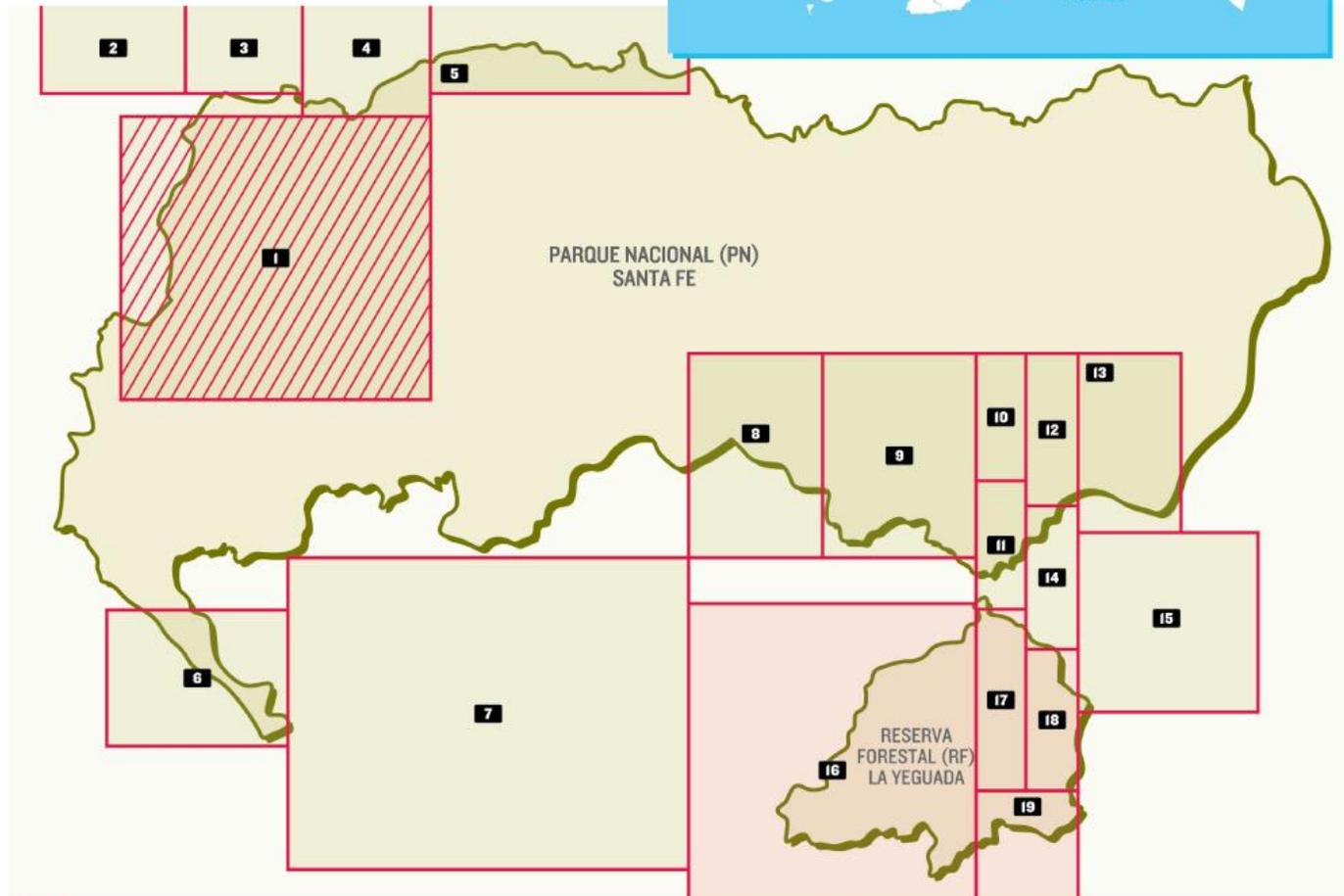
Miramar Mining Corporation. Presidente: Juan Francisco Pardini

Geo Minas. Presidente y agente residente: Juan Francisco Pardini

Panamá Mining and Golden Cycle. Presidente: Juan Carlos Franceschi

Inversiones Sayus JCV. Presidente: Josefina Castillero Velásquez

Mapintec Geotechnologies. Presidente: Zorel Morales



//// Concesión por otorgarse

1 Miramar Mining; 13 mil 200 hectáreas

Estatus: elegible para contrato

2 Miramar Mining, 10 mil 24 hectáreas

Estatus: Elegible para contrato

3 Miramar Mining, 16 mil 741 hectáreas

Estatus: Planos aprobados

4 Miramar Mining*

5 Panamá Mining and Golden Cycle, 5 mil hectáreas

Estatus: Por presentar el estudio ambiental

6 Mapintec Geotechnologies, 3 mil 691 hectáreas*

7 Inversiones Sayus JCV, 18 mil 742 hectáreas

Estatus: Solicitó prórroga para documentación

8 Geo Minas*

9 Geo Minas*

10 Geo Minas*

11 Geo Minas*

12 Geo Minas*

13 Geo Minas, 9 mil 800 hectáreas

Estatus: En revisión de expediente

14 Geo Minas*

15 Geo Minas 7 mil hectáreas

Estatus: Elegible en caducidad

16 Geo Minas*

17 Geo Minas*

18 Geo Minas*

19 Geo Minas, 23 mil 900 hectáreas

Estatus: En evaluación

*Infografía La Prensa-Alejandro Colmenárez • Fuente Mici, Anam y Registro Público

* No se reporta el estatus ni hectáreas del trámite en el registro minero de febrero, tampoco en rechazadas, pero sí figura en los mapas del MI

Appendix C.-Photos



Organic Farm in La Piquera with
evidence of intercropping-17th of



Agroforestry in La Piquera-17th of
Abril

Meeting in Cañazas for World Water
Day-March 22nd, 2013



ANAM EIA approval for the Santa
Rosa Mine



Appendix D.-Concessions in the Santa Fe Region

DIRECCIÓN NACIONAL DE RECURSOS MINERALES -SOLICITUDES DE LOS MINERALES METALICOS

N°	EXPED	SIMBOLO	TIPO	FECHA DE ENTRADA	EMPRESA	MINERAL	LOCALIZACIONES	ZONAS	HAS	STATUS
1	2001-34	AGMESA	EXPLORACION	28-03-01	ATLANTIC GULF MINING & EXPLORATION, S. A.	oro y otros	Coclé del Norte y Calovébora, Donoso y Santa Fé, Colón y Veraguas	2	22,016.98	Nota de Advertencia (paralización de solicitud)
43	93-72	GMSA	EXPLORACION	05-10-93	GEO MINAS, S.A.	oro y otros	Chitra, La Yeguada y San José, La Huacas, Calovébora, Calobre, Santa Fé, Natá, Veraguas y Coclé	3	7,000	Elegible-Caducidad-Pendiente Notificar
44	94-41	GMSA	EXPLORACION	13-04-94	GEO MINAS, S.A.	oro y otros	Cerro Plata y Cañazas, Cañazas, Veraguas	3	16,000.00	Caducidad-Pendiente Notificar
46	94-43	GMSA	EXPLORACION	19-04-94	GEO MINAS, S.A.	oro y otros	Cañazas, Agua de Salud y Los Valles, El Prado, Calovébora o Santa Catalina, Cañazas, Las Palmas y Bocas del Toro, Veraguas y Bocas del Toro	2	16,700.00	Caducidad-Pendiente Notificar
48	94-66	GMSA	EXPLORACION	21-04-94	GEO MINAS, S.A.	oro y otros	Chitra, Calovébora, Palmar, Las Huacas, Calobre, Sta. Fé, Olá y Nata, Veraguas y Coclé	4	9,800	Revisión de expedientes por evaluación

49	95-24	GMSA	EXPLORACION	13-03-95	GEO MINAS, S.A.	oro y otros	Calovébora, Gatuncito, El Alto; Chitra, La Yeguada, Monjaras, El Potrero, Santa Fé y Calobre, Veraguas	5	23,900	Revisión de expedientes por evaluación
52	2012-20	GRI	EXPLORACION	13-06-12	GREENFIELD RESOURCE S INC.	Oro y otros	Calovébora, Santa fe-Veraguas	1	2,993	Revisar documentos solicitados
56	2007-46	ISJSA	EXPLORACION	31-07-07	INVERSIONES SAYUS JCV, S.A.	oro y otros	El Pantano, El Alto, Gatuncillo, Santa Fé, El Cuay, Santa Fé, Veraguas	1	18,742.22	Solicita prórroga para presentar documento
57	2007-47	ISJSA	EXPLORACION	31-07-07	INVERSIONES SAYUS JCV, S.A.	oro y otros	El Cuay, Santa Fé, El Alto, San José, Los Hatillos, La Yeguada, Monarás, El Coclá, Santa Fé, San Francisco, Calobre, Veraguas	3	21,134.23	Revisar documentos
101	2003-06 Calovébora I	MMC	EXPLORACION	09-09-96	MIRAMAR MINING CORP.	oro y otros	Río Luis y Calovébora-Santa Fé-Veraguas	2	10,024.403	Elegible
103	2004-17 Calovébora II	MMC	EXPLORACION	03-06-04	MIRAMAR MINING CORP.	oro y otros	Santa Fe (Cab.), Calovébora, El Alto, El Pantano, Río Luis, Santa Fé, Veraguas	1	13,200	Elegible- Revisar publicación
104	2010-32 CERRO PEÑA BLANCA	MMC	EXPLORACION	3 sept. 10	MIRAMAR MINING CORP.	oro y otros	Calovébora-Santa Fé-Veraguas	4	8,434.296	Elegible- Revisar publicación

119	2009-07	PGCI	EXPLORACION-MINERALES ENERGETICOS	11-02-09	PANAMA GEOTHERMAL CO., INC.	Minerales y Fluídos Geotérmicos	Gatú o Gatuncito y El Alto-Chitra, La Yeguada, San José, El Potrero y Monjarás-El Alto, Santa Fé, Calobre y San Francisco, Veraguas	1	24,910.68	Evaluando, revisión planos
131	2000-58	PMGCI	EXPLORACION	20-06-00	Panamá Mining of Golden Cycle, INC.	oro y otros	Calovébora, Santa Fé, Veraguas	1	2,846.78	Revisar documentos
132	2000-63	PMGCI	EXPLORACION	06-07-00.	Panamá Mining of Golden Cycle, INC.	oro y otros	Calovébora, Santa Fé, Veraguas	4	4,237.23	Presentar el Estudio de Impacto Ambiental
133	2001-19	PMGCI	EXPLORACION	18-01-01	Panamá Mining of Golden Cycle, INC.	oro y otros	Calovébora, Santa Fé, Veraguas	1	3.456	Revisión de documentos
134	2001-20	PMGCI	EXPLORACION	18-01-01	Panamá Mining of Golden Cycle, INC.	oro y otros	Calovébora, Santa Fé, Veraguas	2	2,896.13	Presentar el Estudio de Impacto Ambiental
135	2001-21	PMGCI	EXPLORACION	19-01-01	Panamá Mining of Golden Cycle, INC.	oro y otros	Calovébora, Santa Fé, Veraguas	1	5.000	Presentar el Estudio de Impacto Ambiental