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The Invisible Impasse

Understanding Access to Education in the City of Colón,
Panamá



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Smithsonian
Institution



McGill
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1. EXECUTIVE SUMMARY

1.1 English Version

The Invisible Impasse: Understanding Access to Education in the City of Colón, Panamá
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Colón is a city of great inequalities. Economic inequality is arguably the most visible form of inequality and has important repercussions on various social aspects of the city. We are particularly interested in the relation between economic inequality and educational attainment at the neighbourhood level (See Appendix II.I Map 2 for mapped comparison of income and education level in the district of Colón). Educational inequality often exacerbates economic inequality by depriving the poor of an adequate education needed for middle- or high-income jobs (Machin and Vignoles 2004). Such inequality is usually caused by a lack of access to educational opportunities, amongst other reasons (Torche 2010).

Our project uses an evaluation of the state of formal and informal primary education in Colón, aiming to highlight areas of deficiency that are in need of improvement. Disparity in the quality of education is not represented in the national census data where the sample units for the city of Colón only display two units for Barrio Norte and Barrio Sur. The lack of representative information from the national census data can be problematic as authorities often rely on such data for policy-making purposes. A closer examination of the access to educational opportunities is needed to more accurately represent the state of formal and informal primary education within the city of Colón.

Over the span of five days, we examined the access to educational opportunities in Colón by collecting information in two ways. First, a survey of formal education in Colón was conducted amongst teachers of formal primary education to get their perspectives on the matter. The survey took the form of a questionnaire. 70 surveys were distributed equally amongst three public schools and four private schools. Second, interviews with four groups of stakeholders were conducted to collect information on access to educational opportunities from different perspectives. Two schools, three community centres serving as informal educational centres, and two government representatives, and an urban planner versed in the historical and contemporary human and political geography of Colón were interviewed, for a total of eight interviews. Four indicators of access to education (resources and methods, communication, informal presentation, and time and money) were used to categorize the questions of both the teachers questionnaire and the interviews.

For the first component of our research, the low response rate of 30% (21 out of 70 questionnaires were returned) caused our sample size to be too small to be able to draw any significant conclusion from our data, although schools from both the public and the private sectors seemed to have similar access to education in terms of resources and methods. In terms of communication, however, teachers from public schools seemed in general to discuss amongst

each other on a more regular basis than teachers from private schools. In terms of informal education, public school teachers seemed to have been more exposed to informal educational centres than private school teachers.

For the second component of our research, all groups of stakeholders agreed that the lack of parental involvement in their children's learning was problematic and reduced access to educational opportunities for the children. They also all noted the importance of informal educational centres as complementary support systems to formal educational centres, providing a more integrated and holistic education for youth.

In conclusion, we have provided theoretical and case-study evidence in support of access to education improvements as a means to reduce socioeconomic inequality. In this study, informal education centers have emerged as loci for learning for primary-aged students. Their role extends into multiple dimensions of the social life, as community centers often do. They are 'stakes in the ground' in Barrio Norte and Barrio Sur that remain intent on helping Colonenses move past their invisible impasse.

The next steps include continuing this study forward and extending the scope to include the perspective of parents and students, more schools, community centers, and invested stakeholders. In addition, educational inequality is not just an issue in the city of Colón, but in other parts of the district as well. Extending the spatial scale of this study to include other *corregimientos* in the district of Colón could provide useful insight on the state of the educational system within the city of Colón and, more generally, in the metropolitan area of Colón, especially since it is not usual for the population living in *corregimientos* outside of the city of Colón to commute everyday to the city for academic purposes, amongst others.

1.2 Resumen Ejecutivo

El impase invisible: Un entendimiento del acceso a la educación en Colón, Panamá

Por Justin Chisholm & Florence Tan

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Colón es una ciudad de grandes desigualdades. La desigualdad económica es posiblemente la forma más visible de desigualdad y tiene repercusiones importantes sobre varios aspectos sociales de la ciudad. En particular estamos interesados en la relación entre la desigualdad económica y el logro educativo en el nivel del barrio (Appendix II.I Mapa 2 para una comparación entre la nivel de ingresos y educación en el distrito de Colón). La desigualdad educativa a menudo exacerba la desigualdad económica por privar el pobre de una educación adecuada necesaria para obtener empleos de ingreso medio o alto (Machin y Vignoles 2004). Tal desigualdad por lo general es causada por una falta de acceso a oportunidades educativas, entre otros motivos (Torche 2010).

Nuestro proyecto usa una evaluación del estado de enseñanza primaria formal e informal en Colón, apuntando para destacar las áreas de deficiencia que tienen la necesidad de mejorar. La disparidad en la calidad de la educación no es representada en los datos del censo

nacional, donde las unidades de la muestra para la ciudad de Colón sólo muestran dos unidades: el Barrio Norte y el Barrio Sur. La falta de información representativa de los datos del censo nacional puede ser problemática como las autoridades a menudo confían en tales datos para objetivos de formulación de la política a seguir por un partido. Un examen más cercano del acceso a oportunidades educativas es necesario para representar con más exactitud el estado de enseñanza primaria formal e informal dentro de la ciudad de Colón.

Sobre el palmo de cinco días, examinamos el acceso a oportunidades educativas en Colón. Recolectamos la información de dos distintos modos. Primero, un estudio de educación formal en Colón fue conducido entre los profesores de enseñanza primaria formal para conseguir sus perspectivas sobre la materia (el asunto). El estudio tomó la forma de un cuestionario. 70 estudios fueron distribuidos igualmente entre tres escuelas públicas y cuatro escuelas privadas. Segundo, las entrevistas con cuatro grupos de tenedores de apuestas fueron conducidas para recoger la información sobre el acceso a oportunidades educativas de perspectivas diferentes. Dos escuelas, tres centros municipales que sirven como centros informales educativos, dos representantes de gobierno, y un planificador urbano versado en la geografía histórica y contemporánea humana y política de Colón fueron entrevistados, para un total de ocho entrevistas. Cuatro indicadores de acceso a la educación (recursos y métodos, comunicación, la educación informal, y el tiempo y el dinero) fueron usadas para clasificar las preguntas tanto del cuestionario de profesores como de las entrevistas.

Para el primer componente de nuestra investigación, la tarifa de respuesta baja del 30 % (21 de 70 cuestionarios fue devuelta) hizo que nuestro tamaño de la muestra fuera demasiado pequeño para ser capaz de sacar cualquier conclusión significativa de nuestros datos, aunque instruya tanto del público como de los sectores privados parecieron tener el acceso similar a la educación en términos de recursos y métodos. Sin embargo, en términos de comunicación, encontramos que los profesores de las escuelas públicas hablan más entre ellos en una base regular que los profesores de escuelas privadas. En términos de educación informal, profesores públicos de la escuela parecieron haber sido más expuestos a centros informales educativos que profesores de escuela privada.

Para el segundo componente de nuestra investigación, todos los grupos de tenedores de apuestas convinieron que la falta de participación paternal en el estudio de los niños es el problema más grave y reduce las oportunidades educativas de los niños. Ellos también notaron la importancia de centros informales educativos como sistemas de apoyo complementarios a centros formales educativos, proporcionando una educación más integrada y holística para juventud.

Para concluir, hemos proveído teórico y pruebas de estudio en apoyo del acceso a mejoras de educación como el medio de reducir la desigualdad socioeconómica. En este estudio, centros de educación informales han surgido como lugares para aprender para estudiantes de la primaria. Su papel se extiende en múltiples dimensiones de la vida social, a menudo como los centros municipales hacen. Ellos son ' estacas(intereses) en la tierra(razón) ' en el Barrio Norte y el Barrio Sur que permanece absorbido en la ayuda Colonenses el movimiento por delante de su callejón sin salida invisible.

Los siguientes pasos incluyen la continuación de este estudio adelante y la ampliación del alcance para incluir la perspectiva de padres y estudiantes, más instructores, centros municipales, y tenedores de apuestas invertidos. Además, la desigualdad educativa no es solamente(justo) las publicaciones(cuestiones) en la ciudad de Colón, pero en otras partes del distrito también. La ampliación de la escala espacial de este estudio para incluir otros

corregimientos en el distrito de Colón podría proporcionar una mejor perspicacia(idea) sobre el estado del sistema educativo dentro de la ciudad de Colón y, más generalmente, en el área metropolitana de Colón, sobre todo ya que no es habitual para la población que vive en corregimientos fuera de la ciudad de Colón para viajar diariamente al lugar de trabajo diario a la ciudad para objetivos académicos, entre otros.

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2.1 General Acknowledgements

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2.2 Host Institution

2.2.1 The Smithsonian Tropical Research Institute (STRI)

The Smithsonian Tropical Research Institute (STRI) is a bureau of the Smithsonian Institution whose aim is to enrich our knowledge of biological diversity. Since the inauguration of the first research station in Barro Colorado Island in 1923, the STRI has quickly become a popular stop for scientists around the world who wish to conduct research on the tropics. With the active support for fellows and visitors leverage resources, the STRI is able to welcome more than 900 visiting scientists every year (“About the Smithsonian Tropical Research Institute”, 2015).

2.2.2 The Punta Galeta Marine Laboratory

The Punta Galeta Marine Laboratory is a research station located near the city of Colón, at the Caribbean entrance of the Panama Canal (*see Appendix II.I for a map of the location*). Following the end of the Second World War, the Galeta Point was bequeathed by the Pentagon in 1964 to the Smithsonian Tropical Research Institute and became a protected area in 1997. Since then, the marine laboratory has gone on to become one of the most important marine research facilities in the world.

The Punta Galeta Marine Laboratory’s mission is formed of four pillars: science, education, public outreach, and the poetic. The first pillar, science, encompasses all the research that is being done at the marine laboratory. Scientists from around the world and from all

academic backgrounds come to Galeta to conduct research on tropical coastal and marine habitats. The second pillar, education, is of great importance for the research facility. The staff at Galeta is very invested in environmental education in Colón and has put a lot of effort and resources in promoting tropical coastal and marine education for children of all ages. The educational program for students, which started in 2000, aims to bridge the gap between the natural sciences done at the STRI and the Panamanian classrooms and gives children from Colón the opportunity to come in direct contact with their local environment. The teacher training program came about, in 2006, after the Galeta staff noticed the teachers' poor knowledge of tropical coastal and marine habitats. Every year, the program welcomes teachers from across the country for two weeks and offers workshops on environmental sciences in the goal of strengthening the teachers' capacity to teach on tropical, coastal, and marine ecosystems. The third pillar, public outreach, reflects the laboratory's efforts to engage with the general public through free monthly talks in the city of Colón, visiting hours open to the public, and guided tours of the ecosystems surrounding the research station. The fourth and final pillar, the poetic, refers to the splendour of the place and the sense of tranquility it can bring to visitors (Heckadon-Moreno, personal communication 2015).

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2.4 Number of Equivalent Full Days Spent on the Project

	Number of Equivalent Full Days Spent at Punta Galeta	Number of Equivalent Full Days Spent in Panamá City	Total Number of Days	Total Number of Hours (based on average 8h day)
Justin Chisholm	19	13	32	256
Florence Tan	19	13	32	256
Total	38	26	64	512

3. INTRODUCTION

3.1 Context and Historical Background on the City of Colón

The city of Colón was founded on the Caribbean coast of Panamá in 1850 as the Atlantic base for the Panama Railroad. The city's importance to the Panamanian economy and global commerce has grown dramatically with the development, and current expansion, of the Panama Canal. Today, the canal feeds into an important economic pillar in the city, the Colón Free Zone. The free trade import-export zone is the biggest in the Americas and has become a destination for commercial tourism (S. Heckadon-Moreno, personal communication 2015). However, the Free Zone pays taxes to the national government, not Colón, who then redistributes some revenue back to the province (S. Heckadon-Moreno, personal communication 2015). In 2012, former president Ricardo Martinelli approved an expansion and sale of the Colón Free Zone that would have destroyed recognized historical monuments (Archibold 2013; K. Dillon, personal communication 2015). This sparked violent protests that opposed his placement of development over the people. In essence, his attempt to expand the presence of commercial development in Colón was a move that would have evicted the residents of the center of Colón from their homes and livelihoods (K. Dillon, personal communication 2015).

Martinelli's attempt at wide-sweeping privatization was preceded by similarly-themed turn toward neoliberal policy by Manuel Noriega in the 1980s. Noriega's neoliberal economic policies and planning further contributed to social degradation, disproportionately so in the black communities of Panama, like Colón (Priestly and Barrow 2008). Priestly and Barrow (2008) denote 1980-81 as a key point at which Panamanian government social spending was dramatically cut. The shift of priorities away from social investment alarmed residents of the

vulnerability of their culturally significant city centre. One response was the community-guided work to recognize the historic city centre of Colón as a monument for conservation by the World Monuments Fund in 2010 (WMF 2010). These spaces in the historical core, from parks to schools, represent culturally significant monuments, not only because of their rich history but because of their use-value today. However, the legal recognition of this monument does not eliminate the threat of future development or perceived invisibility of Colón's full-slate of social-economic problems like high crime, infrastructure degradation, water scarcity and quality issues, flooding, the absence of waste management, education disparities, and poverty (World Bank 2000; Rojas 2012; S. Heckadon-Moreno, personal communication 2015).

3.2 Inequality and Development

Global 'progress' in 2015 in numerous aspects of 'development' is under a critical gaze. This year marks the final year of 15 for the United Nations' Millennium Development Goals. What does it mean to progress, and who does this 'progress' serve? Here we are met with two predicaments. The first is socio-economic while the second is socio-ecological. First, although the average person on earth remains far better off today than during any other time in human history, more than 1.2 billion of 7 billion still live in extreme poverty and 40% of global wealth rests in the hands of the planet's richest 1% (UNDP 2013). This problem of distribution persists on the global and local scales, and permeates the in-betweens of regions and countries. Second, the inherent good of growth-based development is a contentious assertion at best, especially given its dependence on earth's endowment of finite natural resources. However, to address many of today's social problems we will have to work within a seemingly expired growth paradigm because of the sheer scale and momentum that growth-centred policies have reached worldwide. Who is to make the value judgement that it is morally acceptable to prevent

intervention in contemporary problems of inequality so as to begin tackling a more long-term overhaul of the relationship between development and ecological systems? This is the second predicament. It remains paramount that we address inequality, even if it necessitates working, to an extent, within the current, ecologically destructive, economic development paradigm.

3.2.1 Defining and Outlining Inequality and Development

For the purpose of interregional and international comparison of development, Gross Domestic Product (GDP) per capita based on purchasing power parity (PPP) is the most widely used indicator (The World Bank 2015*a*). Changes in GDP per capita represent changes in economic growth, with increasing values signifying positive growth and vice-versa. Analogous to the share-value of a publically traded company, a country's GDP needs to continually increase to bring returns to its investors. A country's GDP has to grow in perpetuity for it to 'develop.' However, this metric of economic development at the country level does not account or encourage the equitable distribution of a country's economic successes. The Gini Index, a metric of increasing inequality from zero to one, compares how individual consumption ability deviates from a perfectly equal distribution (The World Bank 2015*a*). These two indicators, GDP and Gini, have in essence become synonymous with development and inequality for the country and the individual. And while nationally aggregated data could accurately represent individual well-being in a socially deterministic and equal world, the reality in which we find ourselves is in stark contrast, socio-ecologically complex, and increasingly unequal. The world over has embraced the global spread of free market economic policy at the expense of a general global increase in income inequality over the last 20 years (UNDP 2013; Morley 2001).

Two distinct but interrelated types of inequality manifest on the individual scale that, when paired, exacerbate existing problems of distribution. Inequality of Outcomes refers to

differences in monetary and nonmonetary resources, such as individual income and educational attainment, that an individual can use at a particular moment (UNDP 2013). Outcomes result from previous investments of time or money, hard work, or from an endowment of privilege, social or economic. The second type, Inequality of Opportunities, refers to differences in one's ability to access potential outcome producing resources, like education and employment (UNDP 2013). Access to opportunities results from investment of time or money, hard work, or from an endowment of privilege, social or economic.

Estimates of income inequality do not present the complete picture of the fairness of the distribution of benefits from development. In addition to income inequality, we can employ social mobility as a measure of the differences between individuals in their ability to access a high quantity of quality opportunities. It is a measure of one's ability to improve on social status over time (Lopez and Perry 2008). Anderson (2001) created a metric for social mobility, a scale of increasing mobility from zero to one that is used to rank countries. As the range of accessible opportunities decreases, the metric approaches zero or social immobility. Mobility is an important social indicator in the context of inequality because a "lack of mobility and inequality tend to move together" (Lopez and Perry 2008, 11). In any society with imperfect social mobility there will always be inequality because there will be difference in the distribution of opportunity.

The impact of existing inequalities on the development process is an important question to pose given the prevalence of the development distribution gap in many corner of the world. There are two distinct reasons why inequality matters in this moment. First, people feel intrinsically responsible to not remain complicit while similar 'others' go without the aforementioned outcomes and opportunities that we have (UNDP 2013). Alternatively, and instrumentally, if unequal distribution of income reduces the economic potential of a large part

of the population, then individual consumption (or GDP per capita) will decrease and (UNDP 2013). In short, unchecked inequality can have a negative impact on present and future economic growth (Barro 1997, Acemoglu et al 2007).

When Kuznets (1955) modelled the relationship between inequality and industrialized development he saw inequality as a necessary middle-point that would eventually pass and give way to a more equal distribution of benefits. He predicted that in the industrialization process, rural agriculturalists migrate from the countryside for more productive employment in the formal industrial sector. While this transition takes place, inequality levels peak and then return to pre-industrial levels in the final stage when the low productivity informal agricultural labour force is replaced by a highly productive formal industrial labour force. However, Kuznets' model reaches an impasse in practical application when its assumption of one-path development is not met. In Latin America, for example, several countries remain stunted in Kuznets' middle-stage, in part because "many rural-urban migrants ended up in the low productivity urban informal sector" instead of the opportunity and outcome laden formal industrial sector (Huber et al 2005, 6).

Rather than rely on redistributive forces of the market or Kuznets' stages of industrialization to rectify unequal distribution, careful government social spending can alleviate distributional discrepancy. Preventative healthcare and primary/secondary education spending are inclusive investments in human capital that, although with a time lag on returns, reduce inequality and yield both intrinsically valuable human development and instrumentally valuable economic development (2005). Furthermore, the Interamerican Development Bank (IDB) asserts that effective democracies, in addition to being more economically and politically stable, "tend

to do a better job of delivering essential social services to low income neighbourhoods” (1998, Huber et al 2005).

3.2.2 A Brief History of Inequality and Development in Latin America and Panama

Latin America and the Caribbean (LAC) have long been unable to shed the dubious title of the world’s most unequal region (Tsounta and Osueke 2014; Molina 2014; Lopez and Perry 2008; Acemoglu et al 2007). Although its economic development indicators are on par or close to the global average, LAC’s health, education, and income distribution gaps are no secret to its population, of which 90% believe income distribution is either unfair or very unfair (Lopez and Perry 2008, World Bank 2013). Furthermore, Panama is a LAC regional leader in economic development and inequality. According to the World Bank (2015), from 2011-2013 Panama’s economic growth rates were, on average, 6.6 and 7.3 percentage points higher than those for LAC and the world respectively. However, much like its neighbouring countries, Panama has a high Gini index of 0.519, comparable to Guatemala’s 0.524, which happens to be the tenth most income unequal country in the world (World Bank 2011). Despite average or better economic development indicators, chronic regional and national inequality plague LAC; four of the top ten of the world’s most income unequal countries are in Central and South America (5. Honduras, 8. Columbia, 9. Brazil, and 10. Guatemala), the other six are in Sub Saharan Africa (Kiersz 2014).

Inequalities in Latin America manifest today as widening gaps in the distribution of indicators of health, education, and income. However, the driving forces behind these inequalities are far from clear, ranging from colonial era land monopolies to contemporary issues surrounding environmental degradation and government policy. The power held by today’s economic and political elite may indeed be attributable to colonial distributional structures that

have persisted through time. In the New World's labour-intensive plantation economy, European elites reaped profits from a monopoly over coffee and sugar production that was protected by their political power and land rights (Engerman and Sokoloff 2000; Lopez and Perry 2008). This economic model persisted across Spanish colonies, including in Panamá in what is now Portobelo, one of the empire's first strategic ports through which plantation exports and the slave trade operated (LaRosa and Mejia 2007). Colonial elites depended upon the cheap labour, and therefore disempowerment, of indigenous and African slave populations who they made a socially immobile class by excluding them from access to land, education, and power (Lopez and Perry 2008). Engerman, Sokoloff (2007) and Huber et al (2005) argue that inequalities rooted in colonial stratification of power could be to blame for the lack of distributional improvement brought by industrialization. Even with industrialization's open markets and urban centers, rural-urban migrants lacked the social mobility and opportunity that Kuznets (1955) claimed would improve livelihoods in the final stage of industrialization.

The National Government of Panamá, a strategic player in global free market commerce because of the Panamá Canal, has enacted policy decisions that place its economic development at odds with the integrity of the natural environment. This is significant because in upper-middle income countries like Panamá, high levels of inequality have been linked to increases in local environmental degradation (Jorgensen 2004). Furthermore, the United Nations Development Program's (UNDP) 2011 report on environmental risk found a positive feedback relationship between environmental degradation and inequality. The UNDP describes a relationship wherein environmental challenges increase inequality and these inequalities further strain the environment upon which people may depend for necessities like clean water and air, food, and potentially income. Panamá has a dubious reputation in jeopardizing environmental protection

for the benefit of private investment in development projects. Specifically, in 2009 President Ricardo Martinelli rejected seven environmental improvement public policies of the Autoridad Nacional del Ambiente (ANAM) and eliminated the necessity to conduct environmental impact assessments and public consultation on projects (Rojas 2012). By viewing the environment as conveniently valuable to protect economic assets, for example like the Canal watershed which protects the hydrological inputs to the Canal in contrast to granting mining concessions on inhabited and fertile territory, the Panamanian government places economic development above equality by prioritizing conservation use for projects with economic benefits (i.e. GDP increase) rather than social benefits (like access to local agricultural livelihoods). Ultimately, environmental conservation and economic development that includes the participation of the most unequal stakeholders is an important strategy for reducing place-specific inequalities in Panama.

In contrast to what has been elaborated upon above, analysis of regional inequality in Latin America has shown a slowing in the widening of the gap from 2000-2010 (Molina 2014, Tsounta and Osueke 2014). However, in Panamá the widening of the gap, which slowed from 2002-2007, began to increase again from 2007-2012 (Molina 2014). Moving forward, there are options to either allow the open market and Kuznets' curve smooth over inequalities, or for the government to intervene with well-guided policy intervention. Literature on inequality and political systems supports the notion that effective and representative democracy is a strong mechanism for the equitable distribution of educational and income outcomes and opportunities (Acemoglu et al. 2007, Huber et al. 2005).

3.3 Education in Theory

3.3.1 Education and Economic Benefits

The endogenous growth theory states that growth in the long run is driven by endogenous forces centred on technological knowledge (Creedy and Gemmell 2005). The augmented Solow model of economic growth, on the other hand, states only exogenous forces with an emphasis on human capital drive growth (Arnold et al. 2007). Both put human capital and knowledge at the forefront drivers of economic growth. Investment in human capital and knowledge through education is thus regarded as a significant contributor of economic development. The economic benefits that a higher level of education provides are multifold and are felt both at the individual and at the societal levels. The private returns to education, or the returns to education from which only the individual who received education benefits, mainly include better wages and income (Rydell et al. 1999). Private returns to education can be significant: in many countries, one additional year of schooling is “invariably associated with between 5 and 15% higher earnings...” (Arnold et al. 2007, 5). An educated and skilled worker is more likely to find a high-income job than an unskilled worker. The prospects of a better economic status are often the main incentive for people to receive a higher-level education (Sturm 1993). Public returns to education constitute the economic benefits education provides to the society at large. For example, as educational attainment increases so too do the contributions to the tax base of the educated population. This provides an ethical revenue stream for the government that could be reinvested in social programs. Although often overlooked, this type of economic returns plays a central role for educational planning.

Public and private returns to education are not only economic benefits, however. Education also provides social benefits to the population, both directly and indirectly. Examples of social public returns include reduced crime rates and violence, technological innovations, improved social cohesion, and reduced poverty rates (Rydell et al. 1999). The public returns to education, both social and economic, are thus arguably more important than the private returns to education in terms of government policy making concerning the educational system (1999). However, economic development does not necessarily imply a reduction in inequality. Although education as an investment in human capital is regarded by the endogenous growth theory and the augmented Solow model as a central contributor of economic growth, the role it plays in addressing inequality is not always positive and is largely determined by the distribution of such investment in the educational system.

3.3.2 Education and Social Benefits

As mentioned in the previous subsection, another important component of education is the social benefits it provides to the individual receiving education and to society at large. Education can generate social benefits in terms of abilities and preferences in different ways. Firstly, by changing the constraints an individual faces, education can provide the individual with some economic and social empowerment and freedom. Secondly, by increasing the knowledge or improving the information on which an individual bases his behaviour, education can help the individual make more educated and conscious decisions which may affect his behaviour and way of thinking at a deeper level (Behrman et al. 1997). Not only do the social benefits that education may generate through these two dimensions directly impact the individual, but they can also have greater influences and indirectly impact society at large.

Similarly to the economic returns to education, the social returns to education can be assigned into private or public benefits as they are directly and indirectly felt at the individual and the societal levels. Social private returns to education include improved health and nutrition, enhanced skills, improved social status, and greater access to networks (1997). Social public returns to education include lower rates of crime and violence, more-educated and better-informed electorate, lower rates of poverty, and stronger civic engagement (1997).

Both the economic and the social returns to education at the individual and the societal levels are only felt after a considerable lag, especially if investments and other efforts are directed towards primary education (Huber et al. 2005). In such cases, the private and social benefits of education will mostly be felt once the children reach the working age and enter the work market. Investing in education is a long-term engagement that can have impacts on generations to come.

3.3.3 Formal and Informal Education

Formal education and informal education are two terms with many different definitions. What constitutes informal education especially varies depending on the other types of education defined. For the purpose of this research project, we define formal and informal education as the following.

Formal education takes place in an official institution under the direction of, in this case, the Ministerio de Educación of Panamá (MEDUCA). Formal education is more structured, usually pre-arranged, and teacher-led. The material taught in the classrooms usually follows a national curriculum, and learning is evaluated using standard criteria determined by MEDUCA. For some levels of education, such as primary in Panama, formal education is compulsory and

typically sequential (Eshach 2007). Formal education provides students with official credentials that can be used as a signal of competency for potential employers (Sturm 1993), which can increase the private economic benefits received by the individual receiving education.

Informal education, on the other hand, can take place anywhere and at any time. For the scope of our project, only learning in community centre settings is considered informal education, although it is acknowledged that such type of education is a much broader concept and does not necessarily need the mediation of an institution to take place. Informal educators working at community centres intervene in the daily life of individuals and groups to “better understand the young people [they] are working with” (Richardson and Wolfe 2001, 18). Informal education in community centres can significantly contribute to formal education by increasing the meaningfulness and relevance of the formal curriculum, improving the interest and engagement of students with the formal curriculum through inquiry-learning and cross-disciplinary contexts, and diversifying and enriching the children’s general learning in a different environment (Eshach 2007). Because informal learning is not as structured as formal learning, children have the opportunity to learn and explore in different contexts, such as through culture, history, and daily life, which contributes to a more holistic education.

3.3.4 Education and Socio-Economic Inequality

Two competing theories try to explain the role of education as an investment in human capital. The human capital theory states that education improves an individual’s productivity and therefore promotes economic growth (Sturm 1993). The screening theory, on the other hand, views education not as a tool that improves an individual’s productivity itself, but rather as a sorting mechanism that distinguishes between the inherently more productive people and the

inherently less productive people, which creates a more efficient society by assigning them to different occupations based on their productivity (Sturm 1993). Both theories regard education as a vehicle of economic growth.

However, economic growth does not necessarily equate to reduction in inequality. Following the premise of the screening theory, for instance, education drives economic growth not by increasing individuals' productivity, but by separating the inherently more productive people from the inherently less productive people and assigns them to different occupations in order to create a more efficient economy. Although the inherently more productive people may personally enjoy the benefits of a higher educational attainment and the country as a whole may experience economic growth, education, according to screening theory, is likely to further isolate the unselected individuals, thus negatively impacting income equality. Economic development is only truly beneficial to society at large if it coincides with a reduction in inequality.

The role education can play in reducing inequality is largely determined by the distribution of investments the government spends in the educational system (Huber et al. 2005). Investing in the educational system at the level at which enrollment is the highest, is most likely to benefit the greatest number people and is not restricted only to the smaller portion of the population that already have the opportunities to pursue a higher education (Rydell et al. 1999). For instance, spending public expenditures on primary and secondary education has found to be more effective in reducing income inequality than directing such spending towards tertiary education (Huber et al. 2005). Subsidizing higher-education institutions is only more likely to benefit children from wealthy families or who already have access to educational opportunities, and may accentuate inequality (Thorbecke and Charumilind 2002).

Additionally, a positive correlation exists between an individual's level of education and income as a higher education is often associated with better wages (Tsounta and Osueke 2014). Educational attainment can thus be seen as an indicator of socioeconomic inequality, although it is important to note that the relationship between educational attainment and income inequality is not one of direct cause-and-effect and that other factors such as familial backgrounds or geographical area are to be considered when trying to establish or explain the relationship between these two variables (See Appendix II.I, Map 2 for a visual comparison of levels of income and education in different barrios in the district of Colon

3.3.5 Education in Latin America

Since 1970, most of primary education has been universalized in Latin America and the Caribbean for the younger cohorts. However, many of the children in these cohorts drop out of school upon graduating primary school, resulting in low levels of secondary school enrollment. University education in Latin America and the Caribbean, in contrast, has been expanding at a fast rate, with increasing levels of enrollment over the last decade (The World Bank 2015*b*). This difference in enrollment rates has created an unequal distribution of educational achievement in each country's population which, in turn, has been contributing to income inequality (Huber et al. 2005).

The disparity in educational attainment has been a strong predictor of income inequality amongst households in Latin American countries. Low levels of social mobility in Latin America have been thought to explain, to some extent, the level of education of the region. Indicators of social mobility have been studied to assess the importance of different variables, such as family

background, in educational disparity, although data limitations have restricted the amount of studies conducted on the subject (Lopez and Perry 2008).

3.3.6 Education in Panama

Similarly to Latin America, Panama has been characterized by low educational mobility, both from the government side and the individual side (Lopez and Perry 2008). According to Tsounta and Osueke (2014), Panama records the highest Gini coefficient for education, with a score of 8.5, making it the most unequal country in terms of education in Latin America. The Gini coefficient for education measures the distribution of years of education between the lower class and the upper class in Panama.

Government public expenditures on the educational system have taken multiple forms. Distributing subsidies to schools, for instance, reduce the costs of sending children to school, both in terms of direct monetary and time costs and money forgone as the children are in school instead of working (Sturm 1993). Investing in their children's education seems more attractive to parents as future returns to education would be higher. The Conditional Cash Transfers program, in which parents are given credit transfers if they send or keep their children in school, is a policy implemented in Panama that also reduces the opportunity cost of having children spending time in school for low-income households (Lopez and Perry 2008). However, further investments in both the supply side and the demand side of the educational system, such as an increased availability of schools and teachers on the supply side and a lift of credit constraints for low-income households on the demand side, are needed to increase educational mobility and reduce inequality in the country (2008).

4. FRAMING THE STUDY

4.1 The Problem

Panama is an unequal country in terms of educational attainment and income distribution as displayed by its high Gini coefficients for education income. Within the context of Colón, our personal communications with Dr. Stanley Heckadon-Moreno and preliminary informal observations confirmed the socio-economic degradation of the city with anecdotal and visual evidence that prompted further research.

To quantify our observations we decided to map the most common level of education and the percentage of primary school graduates by neighbourhood using census data (see Appendix II.I Map 3). However, these parameters were limited in describing the phenomena because of the scale at which data was available. The scale of neighbourhood level was the smallest scale available from the Contraloría General de la República de Panamá's 2010 Census of Population and Housing. Although the map shows a clear difference in educational attainment between neighbourhoods, with the *corregimiento* of Cativá having the lowest overall educational attainment and the *corregimiento* of Cristóbal having the highest overall educational attainment, Colón is represented as having a homogeneous, average level of education because it is composed of only two census units, Barrio Norte and Barrio Sur. The scale at which data on educational attainment was available was not refined enough for the purpose of our study, which left us with little information on the state of the educational system within Colón. This presents a problem not only within the context of our research but for any research or policy planning that would intend to understand educational attainment in Colón at a scale that better reflects its socio-cultural heterogeneity.

4.2 Research Question

How can increased access to educational opportunities be used to improve the current quality of the primary educational system in the city of Colón?

4.3 Justification

Punta Galeta Marine Lab carries out its educational programs to engage both students and teachers in a type of education that extends beyond the classroom. Their goal is to provide teachers and students from Panama with affordable access to educational opportunities centred on field and experience-based learning. As noted in the literature review section, increasing access to education is a means through which income inequality can be addressed. Investing in education also addresses Panama's current problem of educational inequality. Overall, we chose to focus on education because investment in it can reduce two forms of inequality, educational and income.

The mere existence of a resource does not mean that its use is available for the entire population. Differences in access are what underlie inequality, so to address this in our question we sought out to understand the access to educational opportunities in Colón. Further, we chose the broader category of educational opportunities so as to not restrict ourselves to only education within the formal classroom setting. These out-of-classroom opportunities were labelled 'informal' and represent a pathway through which to address inequality of opportunity.

We chose to address primary education as a whole, first, because of the focus of Galeta's educational programs on primary-aged students and second, because of educational literature's support for primary education's high returns and potential for inequality reduction (Psacharopoulos 1994).

The spatial scale of our study was limited to the city of Colón and its two formal neighbourhoods, Barrio Norte and Barrio Sur. This study scale was selected so as to address a more targeted question but also because we determined that the city and these two neighbourhoods represent an important problem of scale within the census data. Our question and research aims to provide insight into how to better represent the diverse educational landscape in Colón, a city with dozens of formal and informal education centres.

4.4 Objectives

Posing a question that focuses on the access to education of primary-aged children, we aim to create novel data as a supplement to current census information. While the census focuses on outcome variables such as graduation rate and level of educational attainment, our methodology of surveys and interviews aims to take account of each stakeholder's perspective on three key indicators of access to education: resources and methods, communication, and informal education. By relying on stakeholder involvement and participation to best understand education in an urban context, we aimed to receive valuable information as to how formal and informal education centers have adapted their form of 'teaching' to the local context of Colón. Overall, a better understanding of the situation is not only useful for policy, but it provides our stakeholders with a voice at a scale where they can be heard.

5. TEACHERS' PERSPECTIVES ON ACCESS TO EDUCATION

The first part of our research component involving stakeholders consisted of a survey of formal education in Colón from the teachers' perspectives. The main goal of this component was to examine access to education through various indicators from a sample of formal educational centres.

5.1 Methodology

The survey took the form of a questionnaire, written in Spanish, for teachers of both public and private primary schools. The survey questions were drafted and categorized into three indicators of access to a quality education, namely methods and materials, communication, and informal education (Gertler et al. 2005). The questionnaire consisted of mostly close-ended questions to facilitate the analysis and quantification of the responses. One open-ended question was added to collect the teachers' opinions on the type of educational resource they feel they lack and would like to have the most. Additionally, we integrated a section on environmental education to assess the amount of in-class learning children have about nature and the environment as well as the frequency of opportunities they have to come in direct contact with their local environment through field-trips as part of formal education (A copy of the questionnaire given to the teachers can be found in Appendix III.II)

Seven different primary schools participated in the teachers' survey component of the research. Four of them were private schools. They were the Colegio Santa Teresita, the Escuela Metodista, El Buen Pastor, and the Colegio San José de La Salle. The other three schools were public. They were the Escuela Juan A. Henríquez, the Escuela Pablo Arosemena, and the Escuela Porfirio Meléndez. The schools were selected following the non-probability purposive sampling

method, within a sampling frame created using data on primary schools in the city of Colón compiled by the STRI GIS laboratory and by the Colón regional direction of the MEDUCA.

With the valuable help of Jairo Castillo, our appointed resource person who grew up in Colón and who was the Educational Program Coordinator at the Galeta Marine Laboratory for many years, we chose the schools we believed to be more appropriate for our study based on Mr. Castillo's familiarity with the schools and professional contacts he had established with certain school principals during his affiliation with the Galeta Marine Laboratory. The sampling size of seven schools was restricted due to our limited time allocated to do fieldwork, although efforts were made to sample equal numbers of public and private schools. Ten questionnaires were distributed at each school for a total of 70 copies distributed. The surveys were all given to the school principals for them to distribute back to the teachers. Depending on the day of the visit, teachers had between one and four days to complete the surveys at their own convenience. All surveys were collected during our last day of fieldwork.

5.2 Results

Out of the 70 questionnaires distributed to teachers, 21 were returned to us for a 30% response rate. 10 questionnaires were completed by public school teachers and the remaining 11 questionnaires were completed by private school teachers. Table 1, 2, and 3 in Appendix II present select feedback from the teachers for questions on resources and methods, communication, and informal education, respectively. The tables group all public schools together and all private schools together to examine the differences, if any, amongst the two types of school in their perspectives on access to education.

Overall, data shows that public and private schools are similar in terms of resources and methods available for students and teachers. Class sizes are similar, with about 28 students per class and 29 students per class in public and private schools, respectively. The average years of teaching experience are also similar, with 19.7 years at the public schools and 17.7 years at the private schools.

In terms of communication, however, teachers at the public schools perceived themselves as more engaged with fellow teachers than the teachers at the private schools. At the public schools, 70% of the teachers stated that they regularly met with other teachers to discuss about the progress of their students and 30% of the teachers discussed with other teachers more sporadically, while at the private schools, these numbers are reversed. 80% of the teachers at the public schools stated they regularly shared good teaching practices with their fellow co-workers, while only 64% of the teachers at the private schools did so. Finally, 80% of the teachers at the public schools stated they attended conferences or talks with other teachers throughout the country, and at a rate of around three times per year, while only 45% of the teachers at the private schools stated the same, at a rate of around once a year.

In terms of informal education, data seems to point that teachers at the public schools have more exposure to informal learning centres than do teachers at the private schools. 90% of the teachers at the public schools were familiar with the Galeta Marine Laboratory, while only 36% of the teachers at the private schools were familiar with the station. Similarly, 80% of the public school teachers had taken their students on field-trips while only 38% of the private school teachers had done the same.

5.3 Discussion

From the results above, public and private schools seem to provide similar amounts of resources and methods to their students. Teachers at both types of school have, on average, almost two decades of experience working with children. Although the level of education of the teachers was not asked in our survey, the high average of years of teaching experience both types of school have may be an indicator of the general competence of the teachers or of the knowledge they may have on better teaching practices. The similar class sizes between the public and the private schools also imply that the attention given by teachers to each student in the classrooms is about the same. If the class size of one type of school was higher than the other, children attending these schools could have had received less opportunity to learn as the teacher would have been responsible for the learning of more children at the same time and thus would have had less time to spend with each student.

The frequency with which teachers spoke and shared best-practices was used as an indicator for communication in schools. It was done so because we hypothesized that more communication between teachers would improve the spread of best practices throughout the school and thus improve educational quality. The results indicate that 70% of public school teachers say they frequently share ideas with other teachers while 30% of public schools teachers said they frequently share ideas. This result may be due to differences in the internal structure between public and private schools. Schools that emphasize regular and less-hierarchical meetings between staff might better facilitate an environment for sharing.

Our results indicated that public school teachers have more access to informal educational opportunities through field-trips. This result contradicts our hypothesis that private

schools would have more access to field-trips because of greater socioeconomic status of their students. However, this result may have emerged because of our small sample size that may have included either outlying public or private schools.

5.4 Limitations

We encountered many limitations with our methodology involving the teachers' survey during our fieldwork days. Firstly, the low response rate of 30% we received from the teachers significantly reduced our sample size to 21 participants. Such a small sample size may not be representative of the whole population and thus, drawing any significant conclusion from the data was not possible. Secondly, due to time constraints, we were not able to run preliminary tests with a sample of teachers for our teachers' survey questionnaire. Such preliminary tests would have been useful in order to gauge the teachers' response to the questions and to make modifications to the questions if necessary. Instead, we were not able to verify if the questions were well worded or relevant to our study before distributing the questionnaire, which may have affected the quality of our results. Thirdly, a potential source of bias could have been introduced by giving the questionnaires to the school principals for them to distribute back to the teachers. The school principals could have chosen which teachers to give the questionnaires to as there was no procedure on the distribution of questionnaires for them to follow, which may have affected the type of responses received. Fourthly, and as mentioned by M. Castillo who had been working with teachers through his position as the educational program coordinator at the Galeta marine laboratory, the lack of thorough follow-up of the teachers could have resulted in a low response rate from the teachers. A better organization would have been needed to ensure that the teachers were regularly reminded of our study and of the questionnaire they could complete if they agreed to participate in the research project. Fifthly, we collected data from an eighth

school, the Escuela El Laguito, located in Cativá, a *corregimiento* part of the metropolitan area of Colón. Although we received eight completed questionnaires out of ten distributed, we were not able to analyse the data from this particular school since it was not located within our more narrow area of study, the city of Colón. Lastly, a comparison of our results between public and private schools may be limited by our small sample size because we were not able collect a sample large enough to accurately represent the diversity of schools within each type of school. Undoubtedly, there may be stratification amongst public and/or private schools to the same effect that there is stratification of quality of education between public and private.

6. STAKEHOLDERS' PERSPECTIVES ON ACCESS TO EDUCATION

The second part of our research component involving stakeholders consisted of interviews with school principals, leaders of community groups and informal educational centres, government representatives, and an urban planner versed in the historical and contemporary human and political geography of Colón. From these interviews, we sought to gather information on the state of the educational system in Colón from the perspective of actors who were directly involved or invested in the issue at hand.

6.1 Methodology

Similarly to the teachers' survey questions, the interview questions were drafted and categorized into the same three indicators of access to a quality education mentioned in the previous subsection. All interviews were semi-structured and consisted of neutral open-ended questions so as to leave to the interviewees the freedom to lead the discussion in any direction.

Two public primary school principals were interviewed at their respective schools, Escuela Porfirio Meléndez and Escuela Juan A. Henríquez. Spokespeople from three community centres offering informal education to children agreed to participate in the study: Mujeres Colonenses en Camino (MUCEC), Casa Esperanza, and Alcance. The regional director of the MEDUCA and a representative of the ANAM were interviewed. Additionally, a science high school teacher participated in an interview with a school principal as the latter believed the teacher would be more apt to answer our questions. We conducted a final open-ended interview with an urban planner whose main work revolves around development projects in Colón.

The non-probability, purposive sampling method was followed to select the two primary schools and three community centres at which interviews would be conducted for these two

groups of stakeholders. The sampling of the two primary schools was done within the aforementioned sampling frame constituting of schools in Colón gathered from data compiled by the STRI GIS Lab and MEDUCA's regional direction. The sampling of the three community centres was done within a sampling frame constituting of community groups or centres working with children of primary school ages that we compiled from information collected through various informal discussions with resource people such as the Galeta Marine Laboratory staff and our Research in Panama professor, Dr. Ana Spalding. We relied on anecdotal information provided by both Dr. Heckadon- Moreno and Mr. Castillo, the latter who assisted us during our fieldwork to select the five formal and informal educational centres thought to be most appropriate for our study. The three community centres at which interviews were conducted, namely the MUCEC, Casa Esperanza, and Alcance, are the biggest and most well-known community centres offering informal education in the city of Colón. The non-probability purposive sampling method was used, within a sampling frame consisting of government ministries under which exists a department involved with the educational system at the primary level in Colón, to select the two government representatives we interviewed. Ultimately, the regional director of MEDUCA and an environmental public education representative from ANAM participated in the interview component of our study.

For each group of stakeholders, a different set of the interview questions was used to better address the stakeholders' responsibilities and interests in the educational system, although the essence of all the questions remained the same in examining access to a quality education. For instance, whereas the questions for the community centres' project coordinators or directors focused on the children's continuous learning outside of classrooms, the questions for ANAM's spokesperson addressed the level of integration of an environmental component in formal and

informal educational programs, and the questions for the school principals centred on the material and non-material resources available for students at their schools and the different teaching methods and strategies used by teachers. A copy of every set of questions used for this research component can be found in Appendix III. All interviews but one were based in the city of Colón and were spread over five full days allocated for fieldwork. These interviews were also conducted in Spanish. The interview with the urban planner was conducted in English and in Panama City. Interviews lasted up to one hour and thirty minutes. A tape recorder was used for all interviews with prior informed consent from the interviewees to facilitate subsequent data transcription and analysis.

6.2 Results

6.2.1 School Principals

Escuela Juan A. Henríquez

A teacher in natural sciences at Escuela Juan A. Henríquez and biology/chemistry at the Colegio San Jose de la Salle, Alexis Atola, agreed to participate in our study as a representative of Escuela Juan A. Henríquez. Mr. Atola noted that most student at Juan A. Henríquez live in the city of Colon. This school is without a library or science lab resources like microscopes. Further, he noted that many of the kids from Juan A. Henríquez utilize informal education centers, notably MUCEC and Casa Esperanza, and receive positive educational benefits from them. He compared the differences in access to field-trips between Juan A. Henríquez, a public school, and Colegio San Jose de la Salle, a private school, noting that the later went on more field-trips because of socioeconomic differences between the two. Mr. Artola elaborated at length on the importance of local environmental education in the face of threats like flooding, river

contamination, and garbage disposal. He emphasized the importance of teaching students about local environmental problems, like the impact of port development, but noted that this is difficult when much of the city depends on the port and Zona Libre for employment.

Escuela Porfirio Meléndez

The principal of Escuela Porfirio Meléndez, Glendys Chávez, agreed to participate in our study as a representative of Escuela Porfirio Meléndez. She worked previously at Escuela Manuel Urbano Ayarza in Cativá. Her current school, Porfirio Meléndez, does not have a lab for sciences or a library though students do use the informal education center Casa Esperanza. Further, her school does not take students to Punta Galeta for field-trips, though she did not indicate why. She elaborated on her perception of cultural differences between the two schools because they are situated in distinctly different *corregimientos* in the district of Colon. She noted that Porfirio Meléndez is located in a dangerous red zone high in criminal activity. Still, Mrs. Chávez affirmed that Porfirio Meléndez draws students from all over the district because of its positive reputation. On the topic of environmental education, Mrs. Chávez described an activity where children clean the school of mosquito breeding grounds so as to reduce environmental health risks. One thing she wants to change about the current educational system in Panama, and Colon, is to improve parental involvement in students' learning.

6.2.2 Community Centres' Spokespeople

Alcance

The tutor and volunteer coordinator for Alcance, Yvette Perkins and Yeritza Jimenez, agreed to participate in our study as representatives of Alcance, a youth-focused organization in Colón. The responsibilities of the representatives we interviewed were to coordinate volunteers

from various institutions, while we were present several university students were engaging with elementary students in everything from conversation to table tennis. The representatives agreed that Alcance is a place in Colón where youth from the city of Colón can take themselves off the street. They are open in the mornings and the afternoons so as to accommodate elementary school students who attend classes in the morning or the afternoon. Both representatives clearly stated their mission as a place where youth could be youth; a home for the community. Unlike MUCEC and Casa Esperanza, Alcance intentionally did not attend to specific programs like homework clubs or self-esteem workshops. Instead, the programming involved supervision of the youth in afterschool activities. Alcance offers a cheaply priced food service and a building in middle of Colón where the staff emphasized an effort to create a flexible space, an alternative to the streets, for youth.

Casa Esperanza

A representative of Casa Esperanza, who wished to remain anonymous, agreed to participate in our study. Casa Esperanza is a Catholic organization that is very active in the community. According to the interviewee, they have two “street educators” whose work consist of identifying children workers under 14 years-old in order to eradicate child labour in the city of Colón, which is one of their mission goals. Casa Esperanza offers child support in many different ways and absolutely free of charge. Firstly, the organization offers workshops for personal development on values, self-esteem, and security. Secondly, it provides breakfast, snacks, and lunch for children in need. Thirdly, in terms of health, they provide the children with the services of a doctor once a week and cover medical costs. Fourthly, in terms of education, Casa Esperanza provides school uniforms, didactic materials, books for most subjects, pencils, and various other school supplies to children. All these materials are paid from donations by banks,

private companies, and the Canal Free Trade Zone. Currently, 194 children use the organization's services. They usually come the entire year, including in January and February when they are on school vacation. The interviewee stated that in terms of communication, she discuss with the children's parents about their academic learning or other issues once a week. She also said that teachers whose students attend Casa Esperanza come to the centre to discuss with the workers at the organization about issues of attitude or conduct they might experience with a particular student. More often than not, however, the workers at Casa Esperanza are the ones to do the travelling to the schools.

Mujeres Colonenses en Camino (MUCEC)

Sister Dina Altamiranda, of the Catholic religious community Hermanas de la Misericordia and project director at MUCEC, agreed to participate in our study as a representative of MUCEC. MUCEC was founded by women, with the purpose of providing support to single mothers and their children in need. Regarding education, the stated mission of MUCEC is to offer a (practically) individual education for every child. MUCEC offers a pre-scholar program and a nursery for children of young age as, according to sister Altamiranda, these ages are fundamental for the educational system.

At MUCEC, a different approach to education is used rather than the conventional, in-the-classroom approach. According to her, the approach they use reinforces the official educational program by incorporating what is missing from the national curriculum, that is, the moral, cultural, and ethical dimensions of education. For instance, every Saturday, they organize a cultural event, usually involving a traditional dance, to promote local culture, teach the children about the significance of their culture, and encourage them to be proud of who they are. They are

proponents of the Montessori method of learning, which puts the emphasis on practice and on learning through sensory experiences.

Sister Altamiranda believes the current educational system is fundamentally faulty in that children who have financial limitations do not have the opportunity to receive an education of quality. One of the mission goals of MUCEC is to offer a quality education for children in a precarious financial or familial situation. They detect the learning difficulties that children may have and that the teachers at formal schools do not notice. They also encourage the children to explore and follow their personal interests, which is an aspect of their program they believe the national curriculum does not allow for because it is considered indiscipline. So far, their program has been successful and the children that left the community centre are doing very well at school.

In terms of communication, the workers at MUCEC maintain correspondence with the school teachers, principals, and mothers and work in close collaboration with them to better provide for the needs of the children. Moreover, sister Altamiranda stated that the majority of the children come from difficult familial backgrounds and have problems such as violence and abuse at their house. MUCEC makes effort to welcome the children living nearby the centre to better keep an eye on them and intervene if ever they have problems.

In terms of funding, sister Altamiranda informed us that MUCEC receives funding mainly from personal donations, and in part from banks, private companies, and the Colons Free Trade Zone. Although they started receiving funds from the government six years ago, they did not want to be engaged with the government for fears of inconsistent funding over the years due to the rapid government turnovers and for fears of losing their freedom and decision power.

According to her, discipline and the notion of responsibilities are issues that are not addressed by the current curriculum implemented in formal educational institutions. She believed that if the parents do not teach their children about discipline and good manners, the schools should. She also expressed worries that the current educational system does not prepare well for critical thinking and analysis.

6.2.3 Government Representatives

Autoridad Nacional del Ambient (ANAM)

An 'environmental promoter,' Araelis Morales, agreed to participate in our study as a representative of ANAM. Her responsibilities include conducting the training department of environmental culture in ANAM. According to her, one of the main objectives of the organization is to promote citizen participation in environmental issues and environmental education, both in the formal and informal sectors. Another objective of ANAM is to have a stronger presence in the educational system. Currently, the organization has partnered with MEDUCA to offer environmentally-minded educational activities to children in the schools. ANAM also organizes field-trips with schools in which students get hands-on experience of fieldwork science. Most of the schools ANAM works with are public ones. Mrs. Morales mentioned that private schools ask very little support in terms of training, educational materials, and other resources from them. Additionally, Mrs. Morales stated working with formal educational centres to be easier than with informal educational centres because schools usually follow a predictable schedule, making it easier to plan future collaborations between the two institutions. She believed that a strong education at a young age, in which components of the environment are incorporated, is crucial since children are the future of society. She believed that

children need an integral education, that takes place both in class and at home, and that it is possible to change people's lifestyle and behaviour through the children learning about environment -that is, parents can receive environmental education through their children, which may influence the household's daily routine by becoming more socially responsible.

Ministerio de Educación (MEDUCA)

The current regional director of MEDUCA for Colón, Julio Rafael Gallardo Santa Maria, agreed to participate in our study as a representative of MEDUCA. His responsibilities include orienting and supervising the entire educational system of the Province of Colón. The stated mission of MEDUCA is, in part, to offer a flexible and equitable educational curriculum that responds to all the needs of the population. He stated that the national educational curriculum issued by MEDUCA is implemented in every school and does not vary between public and private schools, or between rural and metropolitan areas. When questioned about the Conditional Cash Transfers program, Mr. Gallardo informed us that families receive US \$150 for every year children are spent in school, although he did not specify who is eligible for such support programs and did not provided us with further details about the program. To improve public education and help the students, Mr. Gallardo stated that MEDUCA works on improving the teachers' competence by sending them to seminars during the summer. Finally, Mr. Gallardo believed that primary education, in both the formal and informal sectors, did not need to be changed, but rather simply reinforced.

6.3 Discussion

6.3.1 School Principals

At the outset of our study we intended to interview school principals in both Colón and Cativá. However, we refined the scope of our study and removed Cativá because we hypothesized that differences in social dynamics between *corregimientos* might introduce biases. Therefore, we decided to focus on a smaller spatial scale. Our hypothesis was supported by the principal of Porfirio Meléndez in her assertion of a difference in community cultural attitudes between her school in Colón and Cativa's Manuel U. Ayarza, at which she formerly worked.

There were several trends shared between schools that emerged from the interviews. First, both schools had neither a library nor scientific lab materials. This shows a lack in the availability of common resources for teachers and students in both schools. Second, both noted the importance of community groups such as MUCEC and Casa Esperanza as extracurricular resources for homework help. This is an important observation because it shows a line of communication between community groups and schools, and given the positive light in which both participants mentioned these community centres. In addition to potential benefits that lie outside scholastic performance, this observation supports the notion that informal educational centers are important still for aiding in formal educational attainment. Finally, both school representatives noted that they did not take their students on field-trips. This is especially important given the contrasting account given by Mr. Atola between the two public and private schools at which he teaches. He noted that the private schools have greater economic support as the students generally come from more stable economic homes and thus can afford the privilege of sending their children on these informal and enriching educational trips.

The principal of Escuela Porfirio Meléndez stated that one of the biggest problems with education today is the lack of involvement of parents in their children's learning. This observation is particularly salient given the above-noted survey results about teacher perception of the same question. Mrs. Chávez echoed a trend in the public schools where 0% of teachers perceived parents being very involved in the learning of their students vs. 60% for private schools (See Appendix II, Table 2). This observation is important, even though we cannot comment its significance due to the small sample size, because it indicates a trend in perception that transcends the boundary between teachers and principals. It inspires the question, is parental involvement a potential indicator of educational inequality that emerges at an early age. It is easy to imagine that a primary-aged student returning home to an involved parent would set a strong and early impression that education is an important tool to value moving forward.

6.3.2 Community Centres' Spokespeople

The informal education that all three community centres provide seems, in various aspects, to help strengthen the conventional education children receive in schools. All three centres, for instance, offer personalized tutoring services to help students with their homework. They also simply provide a friendly environment conducive to learning, away from any possible family issue or other influences that could hinder their learning development.

Although all three community centres share a common goal in providing informal educational services that complement the formal education students receive in schools, the help and support each community centre provides is also context-specific. MUCEC, for instance, was originally founded by women to reach out to single mothers in need. Still to this day, the centre welcomes and offers support to single mothers and their children and is a strong supporter of

women empowerment, offering workshops about self-esteem and personal development targeted at women. The organization also strongly encourages parental involvement in their children's learning. Opportunities are given to mothers to work with their children as educators at the centre.

Casa Esperanza, on the other hand, is very active in the community in fighting against child labour. They provide various services, such as food, medical supplies, and school supplies to keep children out of the work market and in schools. To reduce the opportunity costs for parents to send their children in school, every service offered by Casa Esperanza is absolutely free of charge.

Finally, the staff at Alcance is invested in keeping children out of the streets, where they could find themselves in harmful situations or be exposed to negative influences. The help and support they provide to the community takes the form of offering a place for children to go to freely. The food service they offer is cheap and many volunteers spend time there to keep the place lively and entertaining to the children. Children can but are not obligated to study and do their homework. Alcance is a place, away from possible house or street problems, where youth can feel comfortable going to at any time.

6.3.3 Government Representatives

The two government representatives we interviewed portrayed two very different sides of the educational system. Indeed, while Mr. Gallardo, the regional director of MEDUCA for Colón, only mentioned the formal sector of education, Mrs. Morales, the representative of ANAM, alluded multiple times to the importance of informal education as a complementary support system to formal education.

Although not mentioned by Mr. Gallardo, there seems to be a well-established partnership between ANAM and MEDUCA to provide environmental education to children in schools. According to Mrs. Morales, ANAM does not have such a strong presence in the informal sector of the educational system, although logistic issues seem to be the main justification. ANAM, by providing environmental education through various activities with schools and the general public, is itself an informal educational centre.

Mrs. Morales also referred multiple times to the importance of an integrated education that combines learning from both the formal and the informal sectors to shape one's social and moral responsibility. She seemed to believe that learning cannot be and is not only done in the traditional classrooms, thus strengthening the case for the importance of informal education because, in part, of the social benefits it brings to the individual and to society at large.

Furthermore, although Mr. Gallardo stated that there is no difference in education in Colón, Mrs. Morales noted that the schools seeking support from ANAM in terms of training, educational materials, and other resources, are mostly public. This may suggest that private schools already have such resources to their disposition. This observation is interesting, because from the data we have gathered during the teachers survey component of our research, public and private schools seemed to fare relatively equally in terms of resources and methods (see Table 1 in Appendix II.II).

6.3.4 Urban Planner

Kurt Dillon, an architect and urban planner who has focused on the historical cultural significance of the city center of Colon, agreed to participate in our study as an independent source of information related to urban planning, inequality, and the significance of community

resistance in maintaining the integrity cultural history. Mr. Dillon spoke succinctly about the educational value of informal centers as loci of cultural strength, identity, and resistance displacement by development. Elaborating on the role of informal education centres like MUCEC, he noted the importance of telling people, specifically women, that they are worth something. To Mr. Dillon, these centres are hubs of incredible local knowledge that is not available through secondary data like censuses. They are importantly located in the urban core, and represent figurative the “stakes in the ground” for social resistance against expulsion from the city to the periphery for economic development purposes (Kurt Dillon, personal communication 2015). He elaborated on this point, contemplating how the location of these educational centers in the city of Colón may be significant as a way to increase access to those who need it most, namely women and children living in socioeconomically stressful situation. MUCEC’s location in the core places its mission front and center, making it visible to developers and ultimately representing a hub for community that does not intend to relocate to appease development pressures.

In his concluding remarks, Mr. Dillon noted a potential plan to create a museum of social and cultural history for and in the city of Colon. He expressed concern over how the project might manifest if carried out as a top-down project rather than community-driven. The museum represents a unique opportunity for the community to help shape institutional memory of the past and present identity. Active participation of the community in the creation of this museum would potentially have two notable benefits. One, it would serve as a tool through which to educate youth, and thaw currently unaware, of a history of Colón inclusive of community perspectives. Second, the creation and use of this museum would serve as an educational tool, helping local

and outside people (including tourists and other Panamanians) understand the city in which they stand.

6.4 Limitations

The limitations encountered during stakeholder interviews ranged from the intentional omission of potential stakeholders to the cultural bias' inherent in our questions. Firstly, we chose not to conduct interviews with the parents of primary school children although they form an important group of stakeholders of the educational system. Due to time constraints, logistic issues, and ethical concerns, we felt unprepared to contact them and address with them the issue of their children's learning environment. While interviewing them could have provided us with valuable information and a new perspective on the state of the educational system in Colón, it was particularly unfeasible given the second limitation. Secondly, due to security reasons and logistic issues, we were asked by the staff of our host institution to always be accompanied during our fieldwork days. We also needed assistance from someone familiar with Colón to help us establish a first contact with stakeholders and to travel throughout the city efficiently. Ultimately, the amount of logistical organizing required for our fieldwork, namely because of unfamiliarity with the city, limited our time spent in the field in Colón. Thirdly, we interviewed two school principals in Cativá whose responses, though potentially similar or interesting to compare to the two from Colón, were not included in the results because they did not fit within the refined study scope that emerged mid-way through the project. As a result, we spent time collecting data that we felt would not validly fit into the scope of our Colón-focused question without the threat of introducing errors of spatial heterogeneity because it was collected in a community potentially unlike Colón in any way.

7. ETHICAL CONSIDERATIONS

Measures were taken throughout the study to ensure that the research project conforms to McGill University's Code of Ethics. Prior informed consent was obtained by all participants in the form of a signed consent form. All consent forms were written in Spanish, except for one form given to a participant whose interaction with us had solely been in English. The consent form informed participants on the purpose of the study, the procedures involved, the potential discomforts, risks, and benefits of the study, the duration, and their right to ask questions. Participants were reminded that participation was completely voluntary and that they could refuse to take part of the study, end their involvement in the study at any moment, or refuse to answer certain questions without any loss of benefits (See Appendix II.I for Consent Form).

A statement of confidentiality was also included in the informed consent form. As the teachers' survey was anonymous, participants of this component of the research were asked to simply sign the consent form without adding any personal information. All participants who agreed to be interviewed were given the option to remain completely anonymous, to have only their work position potentially disclosed for citation and credibility purposes in the present report, or to have both their work position and their name potentially disclosed in the report. Interviews were recorded with prior informed consent from each interviewee and will not be disclosed.

Additionally, both researchers completed the Tri-Council Policy Statement's *Ethical Conduct for Research Involving Humans* course on research ethics (TCPS 2: CORE) prior to conducting the study (See Appendix III for TCPS 2: CORE).

8. CONCLUSION

Reducing inequality of access to education is an effective way through which we can reduce general inequality. It is effective for two strategic reasons. First, by increasing access for the disadvantaged we can hope to improve the distribution in the levels of educational attainment for the population. Second, the returns on investing to improve access education have been correlated with overall reductions in inequality. For these reasons, it is worth further study to investigate how various forms of education produce the effect of empowering those who find themselves on the forgotten extreme of the equality gap.

In our study we chose to research how formal and informal educational institutions operate and educate the primary-aged students that they teach. We asked principals, teachers, community groups, government officials, and an urban planner pointed questions through either semi-structured interviews or questionnaires. We asked about what kind of resources and methods they use, how often they share best practices and communicate with students' parents, and qualitatively, about how they organize their educational programs.

Although our sample size in the surveys was limited to 21 teachers, a sample too small to be representative, we can still comment on general trends from both surveys and interviews that provide interesting insights that may give traction to further research. We observed a general absence of parental involvement in the learning of students, which could be due to differences in priority of values that places education below work and other socioeconomic activities. This is important because without support at home, children may not prioritize continuing education to secondary school and beyond, thus limiting their future social mobility and socioeconomic status. Next, we observed a general lack of resources for schools (e.g. didactic materials, libraries

and science lab equipment and between public and private schools. The difference in resources between public and private schools is in the economic status of the children's families that allow private schools to conduct more field-trips and therefore provide more out-of-classroom learning experiences.

Overall, there is a clear discrepancy between government and other stakeholder perception of what is happening in the trenches of education in Colón. The above-noted deficiencies and differences surrounding educational opportunities were not mentioned by the government representative that we interviewed. He indicated that no differences or deficiencies existed in the Panamanian educational system and suggested that the only improvements needed is the reinforcement of existing policies. Additionally, government census data on education is at a spatial scale too large to represent the complex socio-cultural landscape in Colón. Perhaps it is not the intended responsibility of these two government sources (Provincial Director of MEDUCA for Colón and census data) to fully grasp the differences and deficiencies in access to educational opportunities Colón. However, this must not give justification for the dismissal of the issue. If anything, existing data should be combined with more field-work like ours, ideally more extensive in data collection, to inform government policy.

From our results, it is clear that informal education centers offer different programming than the schools in Barrio Norte and Barrio Sur. From affordable food and recreation to workshops on personal development and gender issues, the informal educational centers we interviewed often tailor programming to the local context and demographics they serve. Thus, we conclude that there may not be a need for many 'new' initiatives, but rather a solidification of support for existing programs. To justify such support, however, a more extensive review of informal educational programs is necessary.

The next steps include continuing this study forward and extending the scope to include the perspective of parents and students, more schools, community centers, and invested stakeholders. In addition, educational inequality is not just an issue in the city of Colon, but other parts of the district. Our map of educational attainment shows very low levels of attainment in Cativá, a region we removed from our study to reduce spatial heterogeneity. A community-informed process of extending the list of quantitative and qualitative indicators and questions would strengthen the relevance of our data to the Colonense context.

We have provided theoretical and case-study evidence in support of access to education improvements as a means to reduce socioeconomic inequality. In this study, informal education centers have emerged as loci for learning for primary-aged students. Their role extends into multiple dimensions of the social life, often as community centers do. They are ‘stakes in the ground’ in Barrio Norte and Barrio Sur that remain intent on helping Colonenses move past their invisible impasse.

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APPENDICES

Appendix I – Methodology of Maps

II – Map of Level of Education and the Percentage of Primary School Graduates by Neighbourhood in Colón, Panamá

The map representing the most common level of education and the proportion of primary school graduates by neighbourhood was created using the Environmental Systems Research Institute (ESRI)'s ArcGIS platform and ArcMap 10.3 software. The administrative boundaries at the provincial level were obtained through the STRI BaseMap geodatabase in a shapefile named “*Provincias_detailed*.” The dataset was originally compiled by the STRI GIS Laboratory and was recorded in the UTM coordinate system and projected on the WGS 1984 datum, Zone 17N. The administrative boundaries at the neighbourhood level were compiled by the Contraloría General de la República de Panamá in its 2010 Census of Population and Housing, the most recent national census conducted, and were available on ArcGIS Online in a shapefile named “*CGRINECBarrios2010*”. Although this shapefile was originally recorded in the Web Mercator Auxiliary Sphere and projected on the WGS 1984 datum, the ArcGIS platform was able to project it on the fly to match the WGS 1984 UTM Zone 17N coordinate system. Using the Select by Attributes tool in ArcMap, another shapefile was created from the “*CGRINECBarrios2010*” dataset to only include the neighbourhoods with an area code starting with 0301, which constitutes the beginning of the codes for all neighbourhoods within the District of Colón. Since the focus of the map is centred on the metropolitan area of the City of Colón, the spatial extent of the neighbourhoods was further narrowed down on the map to represent most of the

neighbourhoods of six corregimientos in or around Colón City, namely Barrio Norte, Barrio Sur, Cristóbal, Cativá, Sabanitas, and Puerto Pilon. Raw data on the level of education (*Nivel de instrucción recodificado*) of the Panamanian population was also obtained from the Contraloría General de la República de Panamá's 2010 Census of Population and Housing. The data was manipulated in order to generate two variables, the level of education of the plurality and the percentage of people who have graduated at least from primary school for each neighbourhood with an area code beginning with 0301. Seven neighbourhoods within the scale of the map (Urbanización Costa de Oro No.1 (P), Samba Bonita, Quintas de Espinar, Altos del Mivi, Mindi, Divino Niño, and Brigey) had a relatively low census response rate of 58 people or less and were thus not represented on the map. The interval size of 10% for the percentage of primary school graduates variable was determined based on visual aesthetic and clarity.

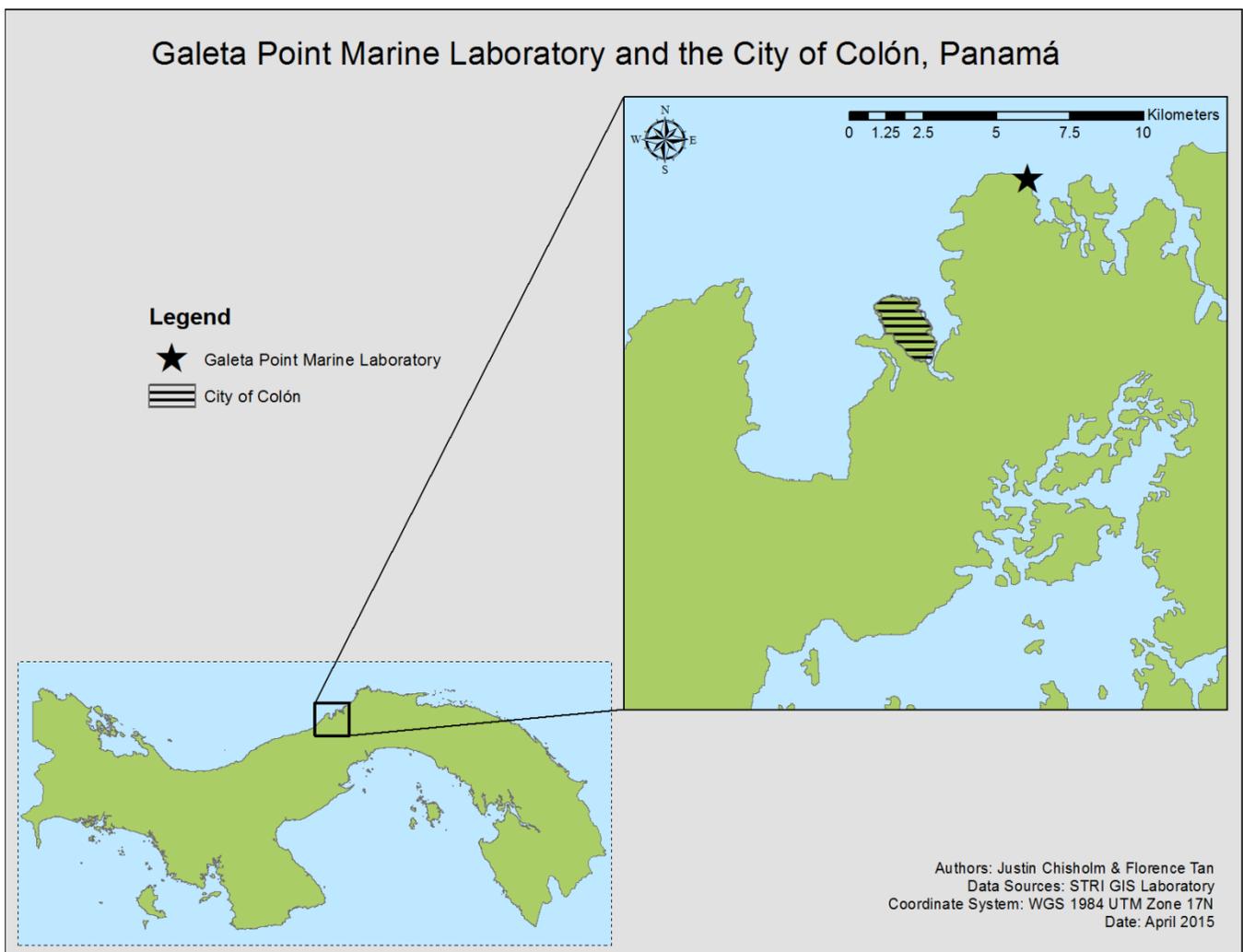
I.II – Map of the Formal and Informal Educational Centres in Colón, Panamá

Similarly to the previous map, the map showing the locations of the formal and informal educational centres we interviewed in the City of Colón for this research project was created using ESRI's ArcGIS platform and ArcMap 10.3 software. The background basemap of the City of Colón was obtained from ArcGIS Online. Out of the nine primary schools that participated in the study, the coordinates of seven were already recorded in a shapefile named "*Escuelas*" that held information on most schools throughout Panama and that was available on the STRI BaseMap geodatabase. The shapefile was originally compiled by the STRI GIS Laboratory. The coordinates of the remaining two schools and three informal educational centres were recorded during our fieldwork days using a Garmin's GPS III PLUS navigator. The dataset under the shapefile named "*Escuelas*" was recorded in the WGS 1984 UTM Zone 17N coordinate system

and all subsequent datasets were projected on the fly to match this coordinate system. Although coordinates for the two schools located in Cativá (Escuela Manuel U. Ayarza and Escuela El Laguito) were readily available in the “Escuelas” shapefile, the two schools were not represented on the map as the focus of our research project was narrowed down to the City of Colón.

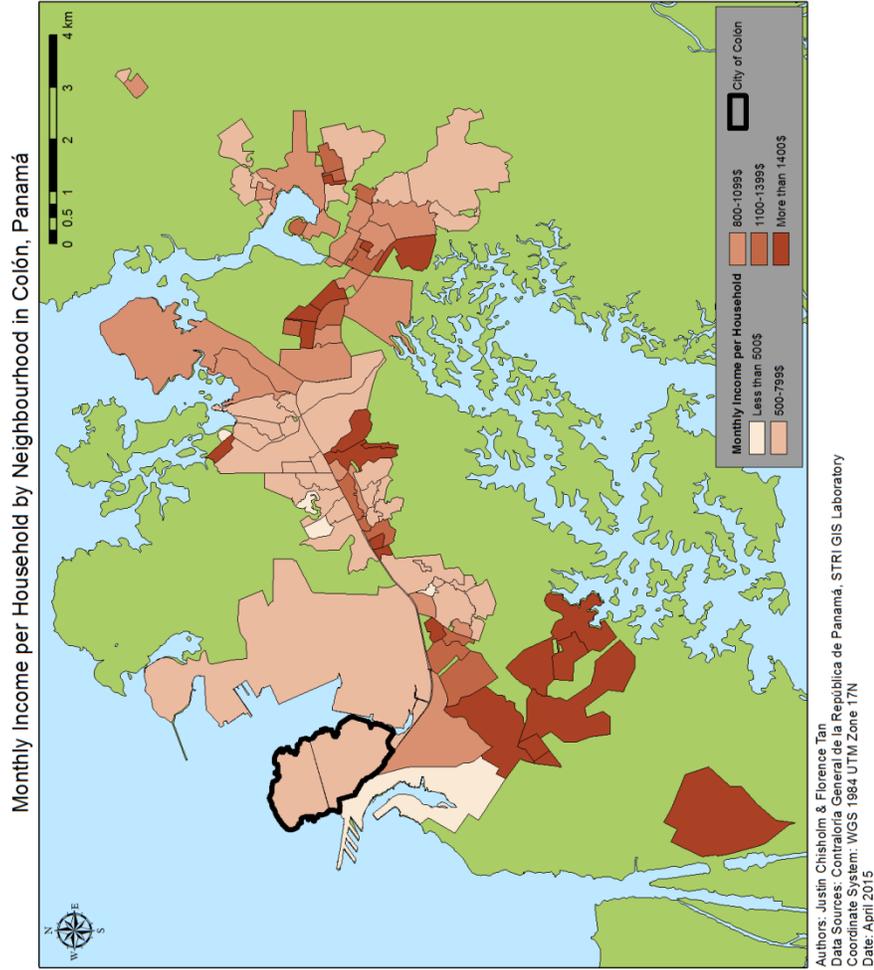
Appendix II – Figures

II.I Maps

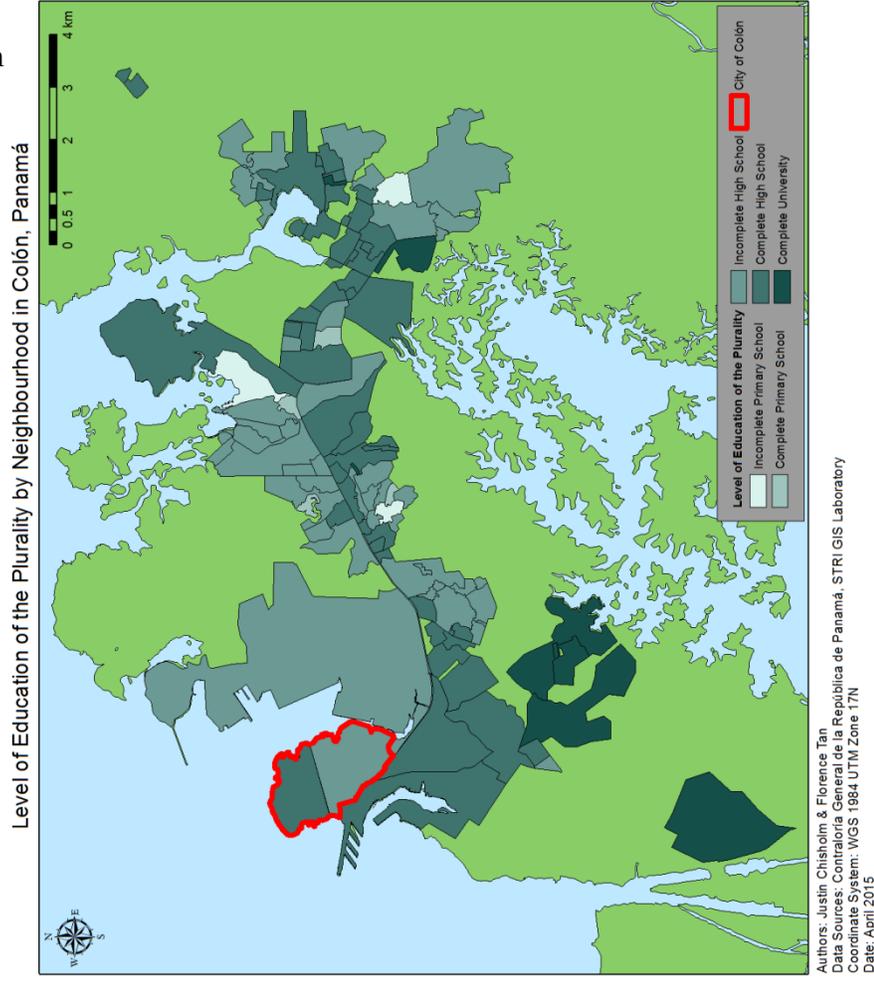


Map 1. Galeta Point Marine Laboratory and the City of Colón, Panamá

Chisholm



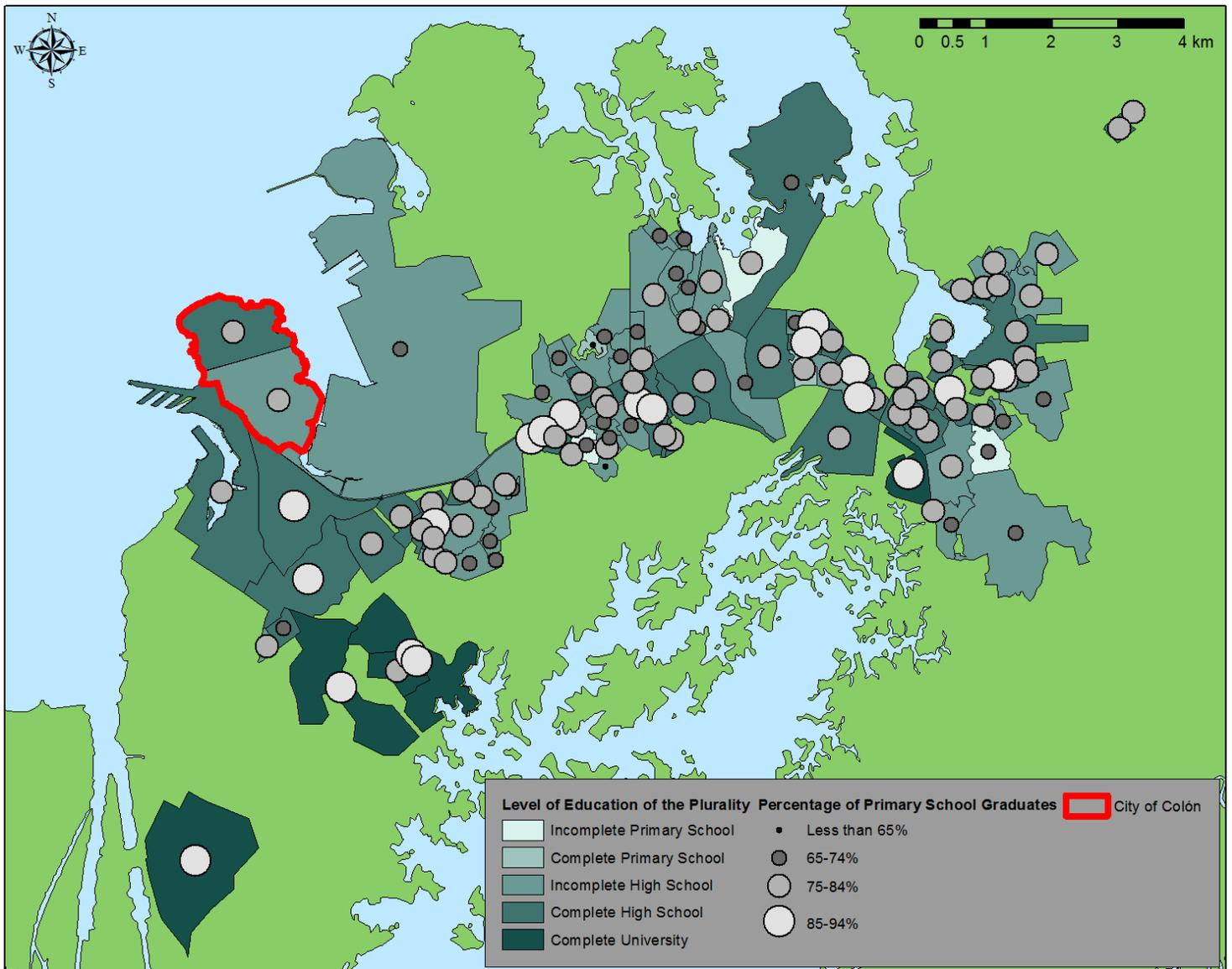
(a)



(b)

Map 2. Maps representing (a) the monthly income by household and (b) the level of education of the greatest proportion by neighbourhood in Colón, Panamá

Level of Education and Percentage of Primary School Graduates by Neighbourhood in Colón, Panamá



Authors: Justin Chisholm & Florence Tan
Data Sources: Contraloría General de la República de Panamá, STRI GIS Laboratory
Coordinate System: WGS 1984 UTM Zone 17N
Date: April 2015

Map 3. Map representing the level of education and the percentage of primary school graduates by neighbourhood in Colón, Panamá

Formal and Informal Educational Centres in the City of Colón, Panamá



Map 4. Formal and Informal Educational Centres in the City of Colón, Panamá

II.II – Tables

Table 1. Teachers' Responses for Questions about Resources & Methods

QUESTION	PUBLIC SCHOOL	PRIVATE SCHOOL
<i>Number of participants</i>	<i>10</i>	<i>11</i>
Average years of teaching experience	19.7 years	17.7 years
Average students per class	≈ 28 students/class	≈ 29 students/class
Hours per week that students are in school	28.5 hours/week	33.5 hours/week
Teachers who use interactive methods or various types of media or communication tools (games, songs, movies) in their class	100% (10/10)	80% (8/10)
Teachers who have noted an improved interest from the students after using such interactive methods or media and communication tools	100% (10/10)	100% (6/6)
Teachers who allow free time for students to do their own learning in the classroom	70% (7/10)	56% (5/9)
Time students have for independent learning in the classroom	2.8 hours/week	2 hours/week

Table 2. Teachers' Responses for Questions about Communication

QUESTION	PUBLIC SCHOOL	PRIVATE SCHOOL
<i>Number of participants</i>	<i>10</i>	<i>11</i>
Teacher-Student Communication		
Teachers give a written progress report to their students	3 times/year	3 times/year
Teachers who never discuss with their students about their progress	0% (0/10)	0% (0/9)
Teachers who sporadically discuss with their students about their progress	20% (2/10)	22% (2/9)
Teachers who regularly discuss with their students about their progress	80% (8/10)	78% (7/9)
Teacher-Teacher Communication		
Teachers who never discuss with other teachers about the progress of their students	0% (0/10)	0% (0/10)
Teachers who sporadically discuss with other teachers about the progress of their students	30% (3/10)	70% (7/10)
Teachers who regularly discuss with other teachers about the progress of their students	70% (7/10)	30% (3/10)
Teachers who never share good teaching practices with other teachers	0% (0/10)	0% (0/11)
Teachers who sporadically share good teaching practices with other teachers	20% (2/10)	36% (4/11)
Teachers who regularly share good teaching practices with other teachers	80% (8/10)	64% (7/11)
Teachers who attend conferences or talks with other teachers throughout the country	80% (8/10)	45% (5/11)
Teachers attend these conferences or talks	3 times/year	1 time/year
On average, years that teachers have been attending these conferences or talks	17.1 years	10.7 years
Teacher-Parent Communication		
Teachers organize meetings with their students' parents	2-3 times/year	2-3 times/year
Students' parents attend these meetings	2-3 times/year	2-3 times/year
Teacher-Principal Communication		
Times per year that the teachers meet with their school principals to discuss about the students' progress	2-3 times/month	2-3 times/year

Table 3. Teachers' Responses for Questions about Informal Education

QUESTION	PUBLIC SCHOOL	PRIVATE SCHOOL
<i>Number of participants</i>	<i>10</i>	<i>11</i>
Teachers who have taken their students on field-trips	80% (8/10)	38% (3/8)
Number of field trips in the past year	2	1
Teachers who know about Galeta	90% (9/10)	36% (4/11)
Teachers who have visited Galeta with their school	60% (6/10)	36% (4/11)
On average, years that teachers have been visiting Galeta	3.5 years	1.0 years
Teachers perceive parents to be not involved at all in students' learning	20% (2/10)	0% (0/10)
Teachers perceive parents to be moderately involved in students' learning	80% (8/10)	40% (4/10)
Teachers perceive parents to be very involved in students' learning	0% (0/10)	60% (6/10)

Appendix III – Templates of Consent Form, Questionnaire, and Interviews

III.I – Template of Consent Form

Consentimiento para participar en una investigación

Título del estudio: El impase invisible: Un entendimiento del acceso a la educación en Colón, Panamá

Investigadores: Justin Chisholm - BA & Sc. Environment en curso (justin.chisholm@mail.mcgill.ca)
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Instituciones: Instituto Smithsonian de Investigaciones Tropicales & Universidad McGill (Canadá)

1. Propósito del estudio

El propósito de esta investigación es analizar las diferencias en la educación entre los diferentes corregimientos de Colón. Vamos a estar buscando en la cantidad y la calidad de los centros educativos formales e informales accesibles para los jóvenes en tres corregimientos (Barrio Norte, Barrio Sur y Cativá). Nuestro objetivo final es crear un nuevo recurso educativo que se adapte a las necesidades de los corregimientos con un nivel de educación bajo, con la esperanza de hacer frente a la desigualdad educativa entre y dentro de los corregimientos de Colón.

2. Procedimientos

Se le pedirá que responda a una serie de preguntas sobre la educación y la desigualdad en general. La entrevista tomará la forma de una discusión abierta y está destinado a que comparta sus opiniones y experiencias sobre estas cuestiones. Una grabadora de audio se puede utilizar para grabar la entrevista y nos ayudará a recopilar información.

3. Molestias y riesgos

No hay riesgos en participar en esta investigación más allá de los experimentados en la vida cotidiana. Algunas de las preguntas pueden ser personales o sensibles y puede causar molestias.

4. Beneficios

Los beneficios para usted incluyen compartir y recibir sus opiniones y perspectivas, escuchado como parte interesada en un tema importante y desempeñará un papel activo para abordar la cuestión de la desigualdad educativa en Colón.

Los beneficios para la sociedad incluyen entender mejor la desigualdad educativa en general y trabajar hacia un sistema educativo mejor y más equitativo en Colón y en el país.

5. Duración

La entrevista de una sesión no va a durar más de unas pocas horas. Su participación en esta investigación se completará después de esta entrevista.

6. Declaración de confidencialidad

Su nombre y el título se pueden mencionar en nuestro informe final para fines de credibilidad. Su nombre y el título sólo se asocian con la información que ha compartido con nosotros directamente. Si se siente incómodo con la asociación de su nombre con alguna información que ha compartido con nosotros, vamos a tratar esta información como anónima. Si su nombre es mencionado en nuestro informe, le enviaremos una copia electrónica de nuestro informe final. Valoramos su opinión y creemos que su información será muy útil para abordar el tema de la desigualdad educativa en Colón.

Como una persona valiosa y depositaria del recurso del sistema educativo en Colón, ¿acepta usted que su nombre y su título se asocien con la información que proporcionó en esta entrevista?

SÍ NO

Si no, ¿acepta usted que sólo su título sea incluido en el informe?

SÍ NO

7. Derecho a hacer preguntas

Si tiene preguntas, inquietudes o quejas sobre esta investigación , o si usted siente que ha sido perjudicada como resultado de su participación en este estudio, por favor póngase en contacto con Justin Chisholm (justin.chisholm@mail.mcgill.ca) o Florence Tan (florence.tan@mail.mcgill.ca).

Si tiene preguntas sobre sus derechos como participante en este estudio o para discutir otras preocupaciones relacionadas con el estudio o quejas con alguien que no es parte del equipo de investigación, por favor comuníquese con la Dra Ana Spalding, Investigador Asociado en el Instituto Smithsonian de Investigaciones Tropicales , al + 507 212.8281 o al spaldinga@si.edu .

8. Participación voluntaria

Su decisión de participar en esta investigación es voluntaria. Usted puede parar en cualquier momento. Usted no tiene que contestar ninguna pregunta que no quiera contestar. Ninguna sanción o pérdida de beneficios estarán involucrados, si usted se niega a participar o retirarse de este estudio.

Firma del formulario de consentimiento

He leído (o alguien me ha leído) este formulario y entiendo que se me pide para participar en un estudio de investigación. Soy consciente de mis derechos para hacer preguntas acerca de este estudio y de negarme a participar o retirarme de este estudio en cualquier momento. Acepto voluntariamente participar en este estudio.

Yo no estoy renunciando a cualquier derecho legal al firmar este formulario. Se me dará una copia de este formulario.

Nombre del sujeto en letra de imprenta

Firma del sujeto

Fecha

Investigadores

Hemos explicado la investigación al participante antes de solicitar la firma de arriba. Nos hemos asegurado de que el participante comprenda plenamente sus derechos sobre este estudio. No hay espacios en blanco en este documento. Una copia de esta forma se proporcionará al participante para sus registros.

Nombre del investigador en letra de imprenta

Firma del investigador

Fecha

Nombre del investigador en letra de imprenta

Firma del investigador

Fecha

III.II – Template of Teachers Survey Questions

Cuestionario para maestras

PARTE A

1. ¿Qué tema(s) enseña? _____
2. ¿Cuánto tiempo ha estado enseñando (no limitado a esta escuela)? _____ años
3. ¿En promedio, cuántos estudiantes hay en su clase? _____ estudiantes
4. ¿Enseña clases compuestas de varios grados?
SÍ NO
 - a. En caso afirmativo, cuáles (circula los que correspondan):
Ciencias Inglés Español Matemáticas Historia Otro
5. ¿Cuántas horas por semana van los estudiantes a la escuela? _____ horas
 - a. De éstos, ¿cuántas horas por semana los estudiantes pasan dedicados al aprendizaje de las ciencias? _____ horas
 - b. ¿Hay un componente de su clase donde los estudiantes aprenden sobre el medio ambiente?
SÍ NO
 - i. En caso afirmativo, ¿en cuáles grados? _____
 - ii. En caso afirmativo, ¿cuántas horas por semana aprenden los estudiantes acerca del medio ambiente? _____ horas
 - iii. En caso afirmativo, ¿tiene este componente implicación sobre el medio ambiente local de Colón?
SÍ NO
6. ¿Utiliza métodos interactivos de enseñanza o los diferentes tipos de medios de comunicación en el aula (por ejemplo, películas, canciones, juegos, etc.)?
SÍ NO
 - a. En caso afirmativo, ¿cuántas horas por semana les utiliza? _____ horas
 - b. En caso afirmativo, ¿ha notado un mayor interés por parte de sus alumnos?
SÍ NO
7. ¿Sus estudiantes han asignado tiempo libre para hacer su propio aprendizaje en el aula (por ejemplo, tiempo de lectura, ejercicios de actividad abierta, etc.)?
SÍ NO
 - a. En caso afirmativo, ¿cuántas horas por semana? _____ horas

8. ¿Ofrece su escuela actividades extracurriculares para los estudiantes?

SÍ NO

a. En caso afirmativo, ¿qué tipo de actividades ofrece su escuela?

ARTES DEPORTES ACADÉMICO MEDIO AMBIENTE OTRO

PARTE B

9. ¿Cuántas veces por año escolar le da informe escrito de progreso a cada estudiante? _____
veces

10. En una escala de 1 a 10, donde 1 = NUNCA y 10 = REGULARMENTE, ¿con qué frecuencia habla con sus estudiantes sobre su progreso?

1 2 3 4 **5** 6 7 8 9 **10**
Nunca A veces Regularmente

11. En una escala de 1 a 10, donde 1 = NUNCA y 10 = REGULARMENTE, ¿con qué frecuencia discute con otros maestros sobre el progreso de sus estudiantes?

1 2 3 4 **5** 6 7 8 9 **10**
Nunca A veces Regularmente

12. En una escala de 1 a 10, donde 1 = NUNCA y 10 = REGULARMENTE, ¿con qué frecuencia usted comparte con otros profesores métodos y buenas prácticas de enseñanza?

1 2 3 4 **5** 6 7 8 9 **10**
Nunca A veces Regularmente

13. ¿Asiste a conferencias y talleres, con otros profesores en el país?

SÍ NO

a. En caso afirmativo, ¿cuántas veces por año? _____ veces

b. En caso afirmativo, ¿por cuántos años? _____ veces

c. En caso afirmativo, ¿de qué tipo de escuela son los otros profesores que participan?

PRIVADA PUBLICA AMBAS

14. ¿Con qué frecuencia realizan reuniones con los padres de sus estudiantes?

NUNCA 2-3 VECES/AÑO 2-3 VECES/MES MÁS A
MENUDO 1 VEZ/AÑO 1 VEZ/MES 1 VEZ/SEMANA

15. ¿Con qué frecuencia los padres de los estudiantes que asisten a esas reuniones?

NUNCA 2-3 VECES/AÑO 2-3 VECES/MES MÁS A
MENUDO 1 VEZ/AÑO 1 VEZ/MES 1 VEZ/SEMANA

16. ¿Con qué frecuencia se reúne con el/la director/a para hablar sobre el progreso de sus estudiantes?

NUNCA MENUDO	2-3 VECES/AÑO	2-3 VECES/MES	MÁS A
1 VEZ/AÑO	1 VEZ/MES	1 VEZ/SEMAÑA	

17. En una escala de 1 a 10, donde 1 = NO INVOLUCRADO EN ABSOLUTO y 10 = MUY INVOLUCRADO, ¿cómo siente que los padres están comprometidos en el aprendizaje de sus hijos?

1	2	3	4	5	6	7	8	9	10
No involucrado en absoluto			De alguna manera involucrado						Muy involucrado

PARTE C

18. ¿Usted ha acompañado a los estudiantes en giras escolares durante el año escolar?

SÍ NO

- a. En caso afirmativo, ¿cuántas veces en el último año? _____ vez/veces
- b. ¿Cuántos de estos viajes son a los parques nacionales, reservas naturales, u otros lugares que están relacionados con el medio ambiente? _____ viajes

19. ¿Conoce el Laboratorio Marino de Punta Galeta?

SÍ NO

20. ¿Alguna vez ha visitado el Laboratorio Marino de Punta Galeta con su clase?

SÍ NO

- a. En caso afirmativo, ¿cuántas veces en el último año? _____ vez/veces
- b. En caso afirmativo, ¿por cuántos años? _____ años

21. En una escala de 1 a 10, donde 1 = NADA ABSOLUTO y 10 = SUFICIENTEMENTE PERFECTO, ¿cuánto peso siente usted el currículo escolar da a la enseñanza relacionada con el medio ambiente?

1	2	3	4	5	6	7	8	9	10
Nada absoluto			Algunos, pero no lo suficiente						Suficientemente perfecto

22. En una escala de 1 a 10, donde 1 = NO CONSCIENTE y 10 = PERFECTAMENTE CONSCIENTE, ¿cuán conscientes son sus estudiantes de su relación con el medio ambiente global (por ejemplo, cambio climático)?

1	2	3	4	5	6	7	8	9	10
No consciente			Algún grado de conciencia						Perfectamente consciente

23. En una escala de 1 a 10, donde 1 = NO CONSCIENTE y 10 = PERFECTAMENTE CONSCIENTE, ¿cuán conscientes son sus estudiantes de su relación con el medio ambiente local en Colón (por ejemplo, salud de Manglares, inundaciones, y salud de los arrecifes de coral)?

1	2	3	4	5	6	7	8	9	10
No consciente			Algún grado de conciencia						Perfectamente consciente

24. Si pudieras tener un recurso educativo (que no es tecnológico) que te hace falta en este momento, ¿cuál sería?

III.III – Template of Interview Questions for School Principals

A. Información general

Nombre y apellido:

Organización o Escuela:

La Profesión:

¿Cuántos años le tienen trabajado como un director?:

El Lugar:

La Duración:

B. Información sobre la escuela

1. ¿Cuál es su trabajo , ¿cuáles son las responsabilidades que tiene esta posición?
2. ¿Qué le gusta de ser educador y trabajar con niños?
3. ¿Cuáles son sus principales objetivos para la escuela?
4. ¿Cuáles diría que son los costos generales para asistir a su escuela?
5. ¿Le ha enseñado en ningún otro lugar es Panamá? ¿Cómo era diferente de Colón/Cativá?
6. ¿Hay dificultades cotidianas que se encuentra en su puesto? Qué?
 - a. ¿Qué tipo de estrategias que utiliza para hacer frente a esto?
7. ¿Hasta dónde viven los estudiantes de la escuela? ¿Cómo consiguen aquí, en autobús, coche, a pie?
 - a. ¿Los niños de tu escuela provienen en su mayoría del barrio / corregimiento o ellos vienen de muy lejos?
8. ¿Quién decide sobre lo que se enseña en el aula?
9. ¿Quién tiene el control sobre (cómo) diferentes estrategias utilizadas para el aprendizaje?
¿Los profesores tienen cierta capacidad para utilizar métodos alternativos de enseñanza?
 - a. Por ejemplo, ¿tiene acceso a computadoras, videos, visitas especiales, viajes de estudios, u otras cosas como éstas?
 - b. ¿Existen obstáculos para su capacidad para utilizar métodos alternativos, como los mencionados anteriormente?
10. ¿Tiene una biblioteca? ¿Alguno de los estudiantes de primaria dado tiempo para hacer proyectos independientes que les permiten explorar sus intereses?
11. ¿Qué tipo de apoyo MEDUCA proporcionar a su escuela para ayudar el aprendizaje de los estudiantes? **COMMUNICATION**
 - a. ¿Se encontra con los miembros regionales del MEDUCA? En caso afirmativo, ¿qué se discute?

12. ¿Usted cumple regularmente con los maestros para discutir progreso de los estudiantes?
 - a. Los profesores enseñan un estricto currículo determinado por MEDUCA?
13. ¿Hay aspectos en el currículo de la escuela que enseñan sobre el medio ambiente?
 - a. ¿Desde cuando?
 - b. ¿Son estos aspectos se centró en el medio ambiental de Colon?
14. En su opinión ¿por qué es importante aprender sobre el medio ambiente global? Como cambio climático y los otros impactos global.
 - a. ¿Por qué es importante aprender sobre el medio ambiente aquí en Colon? Como la inundación y la salud de los arrecifes de coral.
15. ¿La escuela ofrece programas extracurriculares que ayudan al desarrollo educativo de los estudiantes?
16. ¿Usted sabe de programas extracurriculares para los estudiantes? Como grupos comunitarios y lugares informales para que los niños van a aprender.
 - a. En su opinión, ¿los estudiantes tienen oportunidades extracurriculares suficiente?
17. ¿Qué aspecto de la educación primaria usted quisiera cambiar? ¿Cómo?

III.IV – Template of Interview Questions for Community Centres

A. Información general

Nombre y apellido:

Organización:

La Profesión:

¿Cuántos años le tienen trabajó como en esto posición?:

El Lugar:

La Duración:

B. Información sobre el centro comunitario

1. ¿Cuál es su trabajo y cuáles son las responsabilidades que tiene esta posición?
2. ¿Qué le gusta de ser trabajar con niños?
3. ¿Cuáles son sus principales objetivos, su misión, para MUCEC/Aldeas/Casa Esperanza?
4. ¿En general, cuántos años tienen las niñas de MUCEC? Hay diferentes grupos para las niñas mayores y menores?
 - a. ¿Cuántos niños están en un grupo con uno miembro del personal y cuántos hijos en cualquier momento particular?

5. ¿Qué es un día típico para un niño aquí?
 - a. ¿Cuántas horas le pasa aquí?
 - b. ¿Cuántas horas se gastan en actividades educativas?
6. ¿Cuáles diría que son los costos generales para asistir ustedes?
7. ¿Le ha trabajado con los niños en ningún otro lugar es Panamá? ¿Cómo era diferente de Colón?
8. ¿Hay dificultades cotidianas que se encuentra en su puesto? ¿Qué?
 - a. ¿Qué tipo de estrategias que utiliza para hacer frente a esto?
9. ¿Hasta dónde viven los estudiantes de su organización? ¿Cómo consiguen aquí, en autobús, coche, a pie?
 - a. ¿Los niños de su organización provienen en su mayoría del barrio / corregimiento o ellos vienen de muy lejos?
10. ¿Qué tipo de apoyo le da a los niños, en términos de educación y en general?
 - a. ¿Les ayuda con la tarea? Si es así, quiénes exactamente lo hacen (cuáles son sus niveles de educación)?
 - b. ¿Tiene actividades sobre la cultura, la historia, las ciencias, etc.?
 - c. ¿Qué tipo de apoyo le da a los niños que tienen más dificultades de aprendizaje que otros?
11. ¿De dónde sacas sus útiles escolares? De las donaciones? ¿Recibe financiamientos del gobierno?
12. ¿Quién tiene el control sobre diferentes estrategias utilizadas para el aprendizaje? ¿Las hermanas tienen cierta capacidad para utilizar métodos alternativos con las niñas?
 - a. Por ejemplo, ¿tiene acceso a computadoras, videos, visitas especiales, u otras cosas como éstas?
13. ¿Tiene una biblioteca o un laboratorio de ciencias para las niñas? ¿Los niños tienen tiempo para explorar sus intereses?
14. ¿Hay una mayor autoridad de su organización? Como la iglesia o MEDUCA
 - a. ¿Cuál es la estructura interna aquí?
15. ¿Recibe el apoyo de las organizaciones o de los trabajadores de otros países? Si es así, ¿de qué manera?
 - a. ¿Recibe apoyo de universidades en Panamá y alrededor del mundo?
 - b. En su opinión, ¿qué son los aspectos que la educación informal lleva a los niños que la educación formal no lleva?
16. ¿Usted cumple regularmente con las madres de las niñas para discutir sus progresos?
 - a. ¿Habla sobre el progreso de los niños en el hogar, también?

17. ¿Los profesores a veces vienen aquí?
 - a. Si es así, con qué frecuencia?
 - b. ¿Comparten los métodos de enseñanza y estrategias con ellos?
 - c. ¿Le pide consejo o dar consejo para ellos?
18. ¿Tiene correspondencia con otras organizaciones, por ejemplo, Casa Esperanza o Aldeas Infantiles SOS? ¿Comparte las ideas, participa en los mismos eventos, etc. con ellas?
19. ¿Hay aspectos de su programas en relación con el medio ambiente?
 - a. ¿Desde cuando?
 - b. ¿Son estos aspectos se centró en el medio ambiental de Colon?
20. En su opinión ¿por qué es importante aprender sobre el medio ambiente de Colóny también de mundial?
21. En su opinión ¿cómo hace la educación informal, como MUCEC, trabajan con la educación formal, como las escuelas? (¿Cual es la relación contra los recursos educativo formal y informal?)
 - a. ¿Hace la educación informal toma parte con temas especiales, como el medio ambiente y salud personal, esa educación formal no puede?
22. ¿Qué aspecto de la educación primaria, formal y informal, usted quisiera cambiar?

III.V – Template of Interview Questions for ANAM Representative

A. Información general

Nombre y apellido:

Organización:

La Profesión:

¿Cuántos años tiene trabajando en esta posición?:

Lugar:

La Duración:

B. Información sobre ANAM

- ¿Cuál es su trabajo y cuáles son las responsabilidades que tiene esta posición?
- ¿Cuáles son sus principales objetivos, su misión, MEDUCA?

RECURSOS Y MÉTODOS

- En su opinión, ¿cuál es la importancia de incorporar componentes del medio ambiente en la educación de los niños, especialmente en el nivel primario?

- ¿Qué tan involucrado esta ANAM en el sistema educativo? **M&M & COMMUNICATION**
 - a. ¿Organiza charlas o presentaciones o talleres en la escuela para los niños y para los maestros para que tengan una mejor comprensión de su medio ambiente y su importancia?
 - b. ¿Organizan excursiones con las escuelas en lugares donde los niños pueden estar en contacto directo con su entorno local? Si es así, con qué tipo de escuela (público/privado)? Si no, ¿por qué?
- ¿Cómo cree que el aprendizaje del medio ambiente y/o ciencias ambientales a una edad temprana podría mejorar en Colón y en el país?
- ¿Tiene programas para jóvenes en el que los niños en la enseñanza primaria puedan aprender sobre el medio ambiente, como una actividad extracurricular?

COMUNICACIÓN

- ¿Conoce los centros, clubes o instituciones/organizaciones que ofrecen educación informal relacionada con el medio ambiente, como lo es Galeta?
 - a. ¿Les proporciona financiamiento? Si no, ¿por qué? Si es así, ¿cómo? (dinero, equipo de laboratorio, suministros, calificaciones, asistencia social, etc.)?
- ¿Cumple con otros departamentos regionales de ANAM para evaluar el sistema educativo en relación con el medio ambiente a nivel nacional?
- ¿Hay una colaboración activa entre la ANAM y MEDUCA para incorporar componentes del medio ambiente en el sistema educativo? Si no, ¿por qué? Si es así, ¿en qué sentido?

III.VI – Template of Interview Questions for MEDUCA’s Regional Director

A. Información general

Nombre y apellido:

Organización:

La Profesión:

¿Cuántos años tiene trabajando en esta posición?:

Lugar:

La Duración:

B. Información sobre MEDUCA

- ¿Cuál es su trabajo y cuáles son las responsabilidades que tiene en esta posición?
- ¿Cuáles son sus principales objetivos, su misión, en MEDUCA?

RECURSOS Y MÉTODOS

- ¿Hay diferencias entre currículo de primaria en escuelas públicas y privadas?
- ¿Hay diferencias en el currículo de primaria entre escuelas de la ciudad y rurales?
- De qué manera las escuelas siguen el plan de estudios? ¿Pueden las escuelas o maestros desviarse a su antojo del plan de estudios?
- ¿Hay un currículo especial para los niños con necesidades especiales?
- En Colón, el censo nacional de 2010, dice que Cativa tiene el menor nivel de educación y el menor número de graduados de secundaria? ¿Por qué cree que es esto?
- En su opinión, ¿cuál es el papel de la educación informal en el desarrollo, académica o no, de los niños?
 - a. ¿Está financiando centros de educación informal? Si no, ¿por qué? Si es así, cómo? (dinero, útiles escolares, computadoras, libros, etc.)?
 - b. ¿Existen recursos educativos informales accesibles, suficientes en Colón?
- ¿Conoce el Seminario Taller para Docentes que se dicta en Galeta? ¿Cree que es un recurso útil para los profesores?
- ¿El plan de estudios incorpora componentes sobre el medio ambiente y su importancia?
 - a. ¿Hay un énfasis en el medio ambiente de Colón?
 - b. En su opinión, ¿Qué es lo que no se encuentra en los aspectos ambientales del plan de estudios? ¿En las ciencias y otras materias?

COMUNICACIÓN

- ¿Ustedes discuten estrategias regularmente con las maestras y directoras de los niños?
- ¿Tienen convenios regionales o nacionales (u otras reuniones) para que los maestros asistan?
 - a. Si es así, son los costes sufragados por el gobierno o hacen que los profesores tengan que gastar su propio dinero?
 - b. ¿Cómo cree que puede ayudar a producir una educación más homogénea, de mayor calidad?
- ¿Tiene usted audiencias públicas para recibir comentarios de los padres y los lugareños?
- ¿Cumple con otros departamentos regionales del MEDUCA para evaluar el sistema educativo a nivel nacional?
- ¿Hay una colaboración activa entre la ANAM y MEDUCA para incorporar componentes del medio ambiente en el sistema educativo? Si no, ¿por qué? Si es así, ¿en qué sentido?

GOVERNMENT POLICY (MEDUCA)

- ❑ ¿Cuál es el nuevo programa donde los padres reciben una compensación por gastos si sus hijos van a la escuela? ¿Qué tan exitoso ha sido?
 - a. ¿cuáles son las iniciativas del MEDUCA para mejorar la educación pública?

- ❑ ¿Cree usted que hay diferencias en la calidad de la educación primaria entre los diferentes corregimientos / Distritos / provincias? ¿Por qué?
 - a. ¿Qué pueden hacer MEDUCA para reducir estas desigualdades?

III.VII – Template of Interview Questions for Kurt Dillon

A. General Information

Name:

Organization:

Profession:

How long have you been working at this position?

Location:

Duration:

Project Question: How can increased access to educational opportunities be used to improve the current quality of the primary educational system in the city of Colón?

B. Personal Questions for Kurt Dillon

Inequality

- In spite of the fact that the city center of Colón was declared a historic monument by the World Monument Fund in 2002, our observations tell us a different story.
 - In the 13 years since then, has there been visible/invisible progress in ‘preserving’ this monument?
 - In what ways has this designation improved or otherwise not improved infrastructure and investment in urban renewal in Colon?

Is there a problem of distribution of the benefits of the Canal to Colon, especially considering that ½ of its economic inputs ought to be attributed to the city of Colon?

How would you say infrastructure (i.e. roads, public buildings and spaces, water delivery, and sewage) changed since the turn of the 20th century?

- What do you think are the reasons behind these changes and when did they begin to take place?

Whose responsibility is it to address both present and future issues of inequality within the city of Colon? What is the role of the government, private corporations, NGOs, churches, in this?

When looking at inequality in urban spaces, what visible indicators do you look for?
What non-visible indicators do you look for?

What do you think determines where people live, specifically in the context of Colon?

- When comparing the City of Colón and the neighbouring corregimientos, such as Cativa or Brazos Heights, is there a disparity in terms of development (ease of transport, services provided, etc.)?
- Is there a disparity in services offered within these different corregimientos?
 - If so, why do you think there is?
 - Do you think the socio-economic inequality within the City of Colón could be reduced by better connecting the city to the other corregimientos?
 - For example, by trying to establish overlapping and cooperating community groups // public projects?

Is there a difference in the government's investment (public and private) between Panama City and Colón in terms of social development projects: such as fundings for youth programs or investment in infrastructure and services?

How do you think the port development projects affect the socio-economic development of the City of Colón and its neighbouring corregimientos?

- Does it exacerbate the inequality present in the city and in the region? Do you think the general population is benefitting from these projects?

Why and what impacts are felt by the development projects that are under construction and never completed (e.g. park by the coast)?

- How does political turnover every 4 years affect the socio-economic development of Colón -- on the level of municipal and national governments?

What do you think are the main issues surrounding inequality in Colon?

Education

- What role does education have in reducing prevailing inequalities?
- What do you think of the current state of the educational system in Colon?
 - Is there a difference in accessibility to a good education (informal and formal) with Panama City?
 - To what extent do you think one's socio-economic status is determined by where he/she lives?
 - If yes, to what extent does where he/she lives determines access to quality education (formal and informal)?

Appendix IV – Certificates of Completion of TCPS 2: CORE Course

