



## Eco-cities as an Assemblage of *Worlding* Practices

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### ABSTRACT

Eco-cities are gaining attention in policy and academic circles over the past few years. Yet they pose difficulties as objects of study since they have been diversely defined and implemented. This paper argues that eco-cities are better understood as an assemblage of *worlding* practices. Combining these two concepts foregoes the emphasis on the eco-city's physical structures and focuses more on its policy environment and its relations with other locations. The case study being examined is the Philippine's Clark Green, the country's first eco-city project. Its main proponent is an independent government agency, the Bases Conversion and Development Authority (BCDA), tasked with developing former military locations for civilian uses. Their vision is to create a world-class project built by international stakeholders in order to elevate the status of the Philippines and the Filipinos. They have chosen to emulate the Songdo International Business District in South Korea as their benchmark model. Not only are they adopting the ideas of a smart city but also similar strategies to enter the international education and logistics industries. The paper will show how the BCDA uses the eco-city idea as a tool to enter various national and international discourses that extend beyond the project's geographical boundaries. Yet the strategies and visions of an independent government-owned corporation are tempered by challenges from local stakeholders, conflicting national priorities, and failures from similar policies applied elsewhere. The paper highlights the need for *worlding* projects to be embedded in their own national context for greater policy coordination.

## 1. Introduction

Eco-cities have been diversely defined and implemented over the last few decades. Some scholars see it as a continuation of Howard's Garden City movement where the amenities of the urban are mixed with the landscapes of the rural (Low, 2013; Caprotti, 2014a). For some, it is the latest and arguably some of the largest manifestation of ecological modernization, where technology takes centre stage in solving today's environmental challenges (Caprotti & Romanowicz, 2014; Joss, Cowley & Tomozeiu, 2013). Scholars like Roseland (1997) even argue that eco-cities should be implemented differently at each location as a recognition of the local community's involvement in creating their own definition of sustainability.

What Roseland fails to elaborate upon though is who in the community gets to define the vision of sustainability for an eco-city project. Many of these large developments are recast as non-ideological, non-political, technical solutions to urban problems (Ong, 2011). In the case of eco-cities, they are framed as much-needed solutions for the compounding development challenges of climate change, rapid urbanization and economic growth. Yet the framing and visioning of any development project is a power-laden and political process that needs to be interrogated and assessed (McCann, 2011). Who was involved and who was excluded in the visioning process? How did they frame the problem and why did eco-cities become the desired solution? Why this form of

the eco-city? These are just some of the questions that need to be asked in order to understand what exactly is an eco-city.

Responding to a call by Caprotti (2014) for more critical research on eco-cities, this paper will examine the Philippine's new eco-city project, Clark Green City (CGC), primarily through archival analysis of publicly released plans, announcements and press releases. The CGC will be used to understand how an eco-city has been defined and what are the wider economic, political, and ideological contexts that it operates in. The project itself is still in its early stages where plans may change or never even materialize. The very act of defining and presenting a vision however, already affects and shapes how people perceive and act towards a project (Tait & Jensen, 2007; Huyssen, 2008). The goal of this paper is not to make definitive conclusions but to engage and make connections between what has been said so far. As such, only aspects that have had concrete steps taken will be examined.

This paper will first examine how current research has defined eco-cities. It will show that for eco-cities to be examined, they will have to be seen as an assemblage of *worlding* practices, a term derived from current research on global cities and the relationality of city building. A background on the Philippines and the CGC follows with a brief note on the methodology used for this study. The next four sections discuss the different aspects of the Clark Green City project, namely its regional and national visions, the involvement of foreign firms in its planning, its strategy to enter the higher education market, and the

building of an *aerotropolis*. The paper concludes with the argument that the eco-city project is a tool used by the BCDA to enter national and international discourses going beyond its geographical boundaries.

## 2. Differing Visions of Eco-cities

Current scholarship on eco-cities describes their fluid definition based on particular visions of their policymakers and proponents. Shwayri (2013) and Kim (2010) both looked at how the development of South Korea's Songdo International Business District (Songdo) has changed as policymakers respond to a shifting global environment, albeit from two different perspectives. The former discussed how Songdo was initially pegged as an international city for multinational companies and their expatriate work staff. Plans shifted as foreign investments failed to materialize leading to a "Koreanization" where Korean conglomerates stepped up to fill in the gap. Similarly, Kim focused on how the district has been framed and branded, changing depending on the target audience. Its ubiquitous or smart city elements are emphasized more for the mobile transnational professionals, while its inclusion in the Incheon Free Economic Zone is aimed towards business investors. What Songdo has is a multiplicity of visions, each one taking prominence at specific times for different audiences.

As studies on Songdo show the changing nature of what an eco-city is in one site in one country, Low's (2013) study on Japan shows the changing eco-city form within several communities in one country. Contrary to the new build model, Japan made financing available to communities to retrofit their existing urban environment. The vision was to develop eco-cities within cities using strategies that combined energy conservation, environmental preservation, urban planning, and sustainable transportation. Some of them focused on transitioning to renewable energies such as biomass fuel or wind power. Others invested in strengthening their transit network or developing a car-sharing system for plug-in hybrid cars. The localization of the national policy has resulted in multiple interpretations of what eco-city retrofitting means. On an international level, Blok (2014) observed similar differences when he compared the eco-city projects from three different countries, namely Kyoto, Copenhagen and Surat, India. Kyoto's implementation focused on retrofitting existing urban infrastructure through the use of local materials in order to reduce carbon emissions for building and maintaining a home. Copenhagen built a completely new district, similar to Songdo, with the goal of showcasing Denmark's entry into the knowledge economy. Social resiliency in the face of flooding was the primary goal for Surat. Local architects focused on creating new-elevated housing designs in order to minimize the effects of flooding.

In an extensive survey of eco-city projects around the world, Joss, Cowley & Tomozeiu (2013) primarily focused on eco-cities' physical differences in order to categorize the different projects. Projects like Songdo and Masdar are called new build, while projects in places like Japan are called urban retrofits. The third category is called urban expansion or developments at the edges of current urban settlements. The differing definitions and implementation of these projects are rooted in the contested nature of sustainable urban development and the ways to measure it. Landmark documents such as the UN World Commission Report on Environment and Development called *Our Common Future* (1987) and the International Union for Conservation of Nature and Natural Resources' *World Conservation Strategy* (1980) formed the basis of the most commonly accepted definitions of sustainable development, which sees balancing current needs without neglecting the needs of future generations. This broad definition has been seen to

encompass not merely environmental needs but also economic and social needs. International adoption has led to discourses on how this definition is going to be implemented and how has it been implemented so far, especially in urban areas.

This approach is what is commonly called the triple bottom-line, which addresses the economic, environmental, and social health of the city (Marcotullio, 2001; Ooi, 2009; Vojnovic, 2014). Where academics and policymakers differ is how they prioritize and give preference on one particular dimension over the others. Authors have called for a multi-scalar approach to urban sustainability where plans and actions must also be linked and integrated within broader global economic and ecological systems (Marcotullio, 2001). Much of this argument can be summarized with the commonly used adage of "Act Locally, Think Globally". Several groups focus on the physical attributes of the city to achieve reductions in their carbon emissions, paying particular attention to building materials, land-uses, and availability of open green space (Krueger & Buckingham, 2012; Dilworth et al, 2011; Kocabas, 2013). Some choose the economic and social resiliency of their communities in the face of market fluctuations or natural disasters (Blok, 2014; Kocabas, 2013; Childers et al, 2014). Projects such as built from scratch eco-cities give prominence to ecological modernization where technology is seen as the bridge between the environment and the economy (Caprotti, 2014a; Joss, Cowley & Tomozeiu, 2013; Shwayri, 2013).

Even if there are varying implementations of eco-cities and definitions of urban sustainability, new build projects can also be characterized as a showcase product for their proponents' broader national objectives in the global arena. Masdar City is a key component in Abu Dhabi's strategy to transition from having an economy that is highly dependent on oil to one that leads in the production and research of renewable energies (Rapoport, 2014). Caprotti (2014b) argues that the siting of eco-city projects in special economic zones enables policy makers to insert them within international capital flows with minimal government intervention and obstruction. For example, Songdo's siting within the Incheon Free Economic Zone is meant to attract foreign investors for South Korea's pursuit to develop new indigenously developed technologies. As part of this strategy, the project is planned to facilitate extensive ties between international corporations, research centres, and foreign universities (Songdo Global University). Blok (2014) observed that one of the primary drivers for the *Nordhaven* eco-city project is Denmark's desire to showcase their "green ambitions" before the 2009 United Nations climate summit. This is in addition to the previously mentioned desire to cement the country's position in the knowledge economy. For Japan, their eco-city program is motivated by the desire to promote international businesses in environment-related industries and foster an eco-tourism sector. Local government officials are sent to facilitate workshops to promote their innovations in the hopes that many of their projects will be replicated in other parts of the world (Low, 2013).

These strategies point to what Ong (2011) has termed as *worlding* practices. They are practices where different ideas and elements are assembled to create an alternative vision for a global urban place. Policymakers need to define a particular problem in order to deem particular solutions as appropriate. This act of defining a problem shapes a narrative of what the current situation is, while the act of proposing solutions in turn also provides a vision of what the future situation could be. Eco-cities are then the *spatialization* of *worlding* practices for countries to leave their mark on the world stage. Since these projects are framed to meet multiple policy objectives, the concept of assemblage is also helpful in understanding what eco-cities are. For Yap (2013), assemblage describes a process of composition where diverse elements

come together to create “emergent formations” that are both multiple and heterogeneous. They are inventions, as McFarlane (2011) argues, of different kinds of relationships between the material and social, the natural and the cultural, and the near and far. In his paper, he examined how housing in a Brazilian favela is a product of national housing policies, local sanitation conditions (or lack thereof), the available materials, and the local architectural vernacular interacting with one another. Described in a similar way, eco-cities are an assemblage of local interpretations of urban sustainability, ambitions to attract international attention and investment.

This paper argues that eco-cities can be understood as an assemblage of *worlding* practices because of its very nature as a showcase product for several national strategies to enter specific international flows. Combining the concept of assemblage and *worlding* practices enables not just the identification of policy visions for eco-cities but also the understanding of what policymakers are hoping to gain. They focus on how the wider policy context interacts with how eco-cities are developed thus affecting how they are ultimately defined and implemented. As this paper will show, the current plans and strategies for the Clark Green City is illustrative of an assemblage of *worlding* practices by the Philippine government. More specifically, it is targeted towards developing a new global Filipino, a world-class smart city project, global schoolhouse policy, and an *aerotropolis*. As more and more of these types of projects are announced and get built, there is a need to expand the sites of study outside the ones usually examined in the literature such as Masdar in the United Arab Emirates (Caprotti, 2014b; Caprotti & Romanowicz, 2013; Cugurullo, 2013) or China’s eco-cities. (Chang & Sheppard, 2013; Wu, 2012; Joss & Molella, 2013). By venturing out and going deeper into less studied sites, this paper will contribute to the understanding of what eco-cities are and their relationship with the wider social and economic scales that they operate in.

### 3. Case Introduction: The Clark Green City Project, Philippines

After many decades of sub-par growth, the Philippines is experiencing a renaissance under the Aquino administration. Over the last few years, the country has been growing at a rate over 6% and is expected to continue well past 2016 (World Bank, 2014; ADB, 2014a), slowly shedding the moniker “the sick man of Asia”. Much of the growth has been concentrated in the country’s urban areas in industries such as business process outsourcing, manufacturing, and other service industries. The capital of Manila and its surrounding metropolitan region generates and commands more than 36% of the national economy. The surrounding provinces that make up the greater Manila region add another 17% (Philippine Statistical Authority, 2014). The immense concentration of growth within a particular region has attracted many people from the rural areas seeking job opportunities in a country that still experiences high levels of poverty and joblessness.

Yet, the pace of investment in urban infrastructure has not kept up. The Japanese International Cooperation Agency (JICA) has estimated that Metro Manila loses \$53 million USD from the daily traffic gridlock, the lack of public transportation options and streets straining from overcapacity. Infrastructure investments are targeted to increase to 5% of GDP by 2016 but many of them will take a number of years before being fully completed (Guinto, 2014). Even with inadequate infrastructure, urbanization continues and cities will still have an important role to play in the country’s future.

Compounding these issues is the Philippines’ status as one of the most climate change impacted countries in the world. In 2009, Typhoon Ketsana poured 400 millimeters of rain in under 6 hours, caused almost \$250 million USD of damages and placed 30% of the country, including Metro Manila under a state of calamity (Olan, 2014). The UN has estimated that the Philippines lost \$730 million USD from floods and storms in 2011 (Singh, 2012), while 6.2 million people will be regularly affected by flooding (Aisch et al., 2014). As a result of increasing severity of natural disasters and economic losses, the Philippine government is focused on implementing a disaster risk reduction and flood control framework.

The desires to have more inclusive economic growth, decongest Metro Manila, and build more disaster resilient cities are the primary policy drivers behind the Clark Green City project. Its main proponent is the Bases Conversion and Development Authority, an independent government agency tasked with converting former military locations into civilian uses to fund the modernization of the Philippine military. The CGC will be the country’s first eco-city project located approximately two hours north of Manila. Located within a sprawling former US air force base, it straddles the border between the provinces of Pampanga and Tarlac in Central Luzon. The area itself is part of the larger Clark Freeport Zone, created to entice IT, logistics, and tourism companies through various fiscal incentives. Much of the land is currently occupied by small communities and used for agriculture. They are also a part of the ancestral homelands of the Aeta tribe, an indigenous group who mostly live in the nearby mountain ranges (Ayroso, 2014).

The recently developed master plan calls for the creation of 5 districts: Government District, Central Business District, Innovation District, Agri-Zone, and Wellness and Eco-Tourism Centre. As an eco-city it aims to “smart, green, and disaster resilient” (Reyes, 2014). Its smart elements are heavily reliant on the integration of information technology into the project’s infrastructure such as the creation of a control centre to monitor and control traffic conditions, sensors to monitor water usage and the extensive use of closed-circuit TV cameras. They also adopted 7 key indicators to measure their environmental performance, which focuses on characteristics of the compact city model, such as minimizing sprawl and supporting non-motorized transportation options. The CGC’s design includes flood control strategies such as retention ponds and permeable road surfaces. Development will be funded through a public-private partnership scheme where the national government will finance the basic infrastructure while the private sector will handle residential and commercial construction. The first phase of a potential three-phase timeline was opened for bidding and the construction of access roads has already commenced (Cervantes, 2014).

### 4. Methodology

Data for this paper primarily draws from the archival analysis of online Philippine news outlets, international coverage of the Clark Green City project, and publications and websites from Philippine government agencies. Google Alerts were setup since July 2014 using the phrases “Clark Green City”, “Bases Conversion and Development Authority”, and “Eco-city” in order to keep track of online articles that mention the project. Filipino news organizations tend to report on recent announcements from the BCDA, while coverage in foreign news outlets tend to give a more comprehensive overview of what has happened so far. The BCDA creates a bimonthly newsletter describing their different projects and activities. They also regularly write press releases, which

form the basis of many newspaper reports. Different stakeholder websites were used as sources for official documents such as bidding information and maps. The BCDA has also become more adept in using social media in order to promote its work and the CGC. They provide more up to date information that will eventually find their way into print media as well as activities not regularly covered by news outlets. From these sources, a narrative can be formed regarding the strategies, intentions, and visions for this new district in the Philippines.

## 5. Assemblage of *Worlding Practices*

### 5.1 *Regional and National Visions of a New Filipino*

The Clark Green City is a project of overlapping regional and national visions. It has garnered strong support from various branches of government, from the national to the regional level. During the most recent State of the Nation Address, President Aquino (2014) described the CGC as being the future center of commerce and industry not just for the region but also for the whole country. The House of Representatives (2014) even passed a unanimous resolution that expresses support for the project's master plan, something that rarely happens in the Philippines. Many infrastructure projects are usually deliberated during budget debates for the next fiscal year with attached funding as symbols of endorsement. At the local level, it has been reported that provincial governors and mayors of Tarlac and Pampanga are supportive of the project (PIA, 2014). The mayor of Mabalacat, Pampanga said that the BCDA has "hit the mark" with its plans for the CGC as he believes it will bring "unprecedented economic growth" and "More investments mean more income and employment" (Pavia, 2013).

It is also necessary to note how different parties are describing the vision and the significance of the CGC to the country's international ambitions. BCDA President Casanova, the project's biggest booster, has repeatedly described it as being revolutionary to the way Filipinos live and do business. He described it as "a portal to the world economy" for the Philippine's "next generation of global citizens" (PIA, 2014). Representative Cinchona Cruz-Gonzales, chair of the House of Representative Special Committee on Bases Conversion, said that the CGC showcases the country's skills in urban planning and sustainable development that is at the same level of cities from higher-income countries.

Casanova and Cruz-Gonzales's descriptions of the CGC points to a *worlding* desire to leave a mark on the world stage. They envision a future global city that is able to compete with the best in the world. There are clear aspirations about creating what Ong (2011) refers to as the creation of new solidarities or relationships. Describing the project as a portal, creates images that facilitates a connection between the local and the international. It projects a global relationship that extends not only to its location but also to its people. Filipinos will not only just be Filipinos engaging others locally but also be global citizens who have the same skills and abilities as their foreign counterparts.

Other authors have pointed out though, inherent in classifying a project or a city as world class also means defining what is not world class. As Goldman (2011) points out, describing previous land uses as unproductive and "dead capital" facilitates their conversion into capital and investor friendly uses. The land where the project will be constructed has been described as idle by the BCDA (2013b). Their goal is to unlock its value to generate more inclusive growth. Even

President Aquino, in the same State of the Nation Address, said that the once remote area would be filled with opportunities in the future. Yet the mayor of Capas, Tarlac, one of the cities to be most impacted by the project, has withdrawn his support. He fears that seven baranggays or communities, who mostly live on agricultural production, will be evicted from their current location without proper relocation or insufficient compensation. He describes the CGC as a "yummy cake" that his constituents will not be able consume (Malabanan & Gutierrez, 2014). The lack of education has excluded them from participating in most of the high-salaried employment that CGC is supposed to bring (Moss, 2014). An activist group has also called for the abolition of the project as early as 2013. They have accused the BCDA of creating a plan that would negatively impact the development of the surrounding municipalities. It would create a gated community by building resort and recreation complexes only for those who can afford them (Punto, 2013). Progressive members of the House of Representatives have also called for a probe on the project, especially in light of its impact on the Aeta community who hold ancestral domain titles for the area. Indigenous groups who hold Certificate of Ancestral Domain Titles have the exclusive right to the use of their lands. Converting the land from agriculture to commercial and residential uses takes away a vital source of food production without guarantees on their livelihood or participation in the project's future (Ayroso, 2014).

Displacement is a common outcome for many worlding projects where different forms of capital and investments are prioritized over others. Land is rarely "idle" in the sense that they have no productive uses. Local residents invest their human capital in agricultural production, building their communities, and assisting each other in the absence of national government support. They invest in markers of their existence through homes and farms but their tenure is unrecognized due to their lack of national and international connections (Ghannam, 2008). BCDA President Casanova has promised that there will only be minimal displacement but they are still assessing how much compensation to offer and how many people will be impacted (Moss, 2014). Worlding practices and visions intend to create global cities and global citizens but not everyone is able and is intended to take part.

### 5.2 *Internationally Made Showcase Product*

Visions of being world-class city also extend to the choices of who gets to participate in the planning of a project. One of the first steps taken by the BCDA was to tap foreign firms in planning the Clark Green City. They signed a memorandum of understanding with technology companies Cisco Systems International and Centios, a Korean firm. Cisco was asked to develop strategies on how to apply its "Smart + Connected Community" concept, while Centios performed a feasibility study. Both firms are also involved in South Korea's eco-city project, the Songdo International Business District and have been described by the BCDA as having the expertise in building "Intelligent Cities" (BCDA, 2012). The Urban Land Institute, an urban planning think-tank based in Washington, DC, was also invited to conduct an assessment and provide recommendations for the development of the Clark Freeport Zone and the CGC. Casanova has described them as "global leaders and experts in land use and city planning" (BCDA, 2013a). Some of their recommendations include committing to building an international gateway, place priority in airport development, and branding the whole area as a green development (Urban Land Institute, 2013). Many of these recommendations were later integrated in the master plan. Marketing for the project also draws

from the international arena. They had the Stephen M. Ross School of Business from the University of Michigan, one of the best ranked business schools in the world, develop a strategic marketing development plan (BCDA, 2014a.) The BCDA has also partnered with Apl.de.ap (Allan Pineda), of the pop group the Black Eyed Peas, to become its official endorser. His company in Singapore has also been commissioned the CGC's promotions as well.

By drawing on international companies and talent to build the project, the BCDA is creating a brand for the CGC that trades on reputations of the people who are asked to participate in its development. They can attach themselves to the professionals and experts in order to project credibility and possibility, especially for a high-risk and expensive mega-project. Their involvement is something the BCDA is able to mention repeatedly in their marketing materials to attract potential investors. For Ong (2011), this worlding practice is called inter-referencing where policymakers, projects and ordinary people reference other places in order to make their visions of what makes a good city tangible. By partnering with Cisco and Centios, the BCDA is creating expectations that the CGC's technology infrastructure will be feasible, deliverable, and most of all, world-class. In their marketing materials, the relationship with Songdo and South Korea is repeatedly mentioned in order to create a relatable image of what a smart city is. For example, in a sponsored article on an online news outlet, Songdo was described as one being of the most modern districts in South Korea, a country already known for its advanced technological capacity. Readers are then asked by BCDA President Casanova to imagine a fully automated system where traffic, weather, and disaster management are integrated and managed into one operation center (Garcia, 2014). This links the vision of what the CGC will be with what is already happening in Songdo, a project that is already in operation.

Marketing and branding are acts that craft a particular story by emphasizing or dramatizing some elements over others in order to tell the best possible story for their target audience. In this case, the image of a smart and technologically advanced Songdo being built by Cisco and Centios neglects to include the numerous challenges and delays it has faced. As Shwayri (2013) described, the technological system in place is highly hierarchical where various government agencies and private businesses oversee and manage different parts of the system. Each of them try to develop their own technology platforms that leads to fragmentation. Information is not shared between stakeholders resulting in a lack of collaboration and flexibility. Similarly, Arbes & Bethea (2014) recently visited Songdo and described it as an incremental change more than a great leap forward. They were shown various showcase technologies such as Cisco's telepresence system, a teleconferencing tool where residents can speak with "English tutors in Hawaii or take fitness classes from instructors elsewhere in Korea." BCDA President Casanova also envisions a similar tool in the CGC as he describes how lectures from Harvard can be "beamed live to a classroom" locally, enabling students to get a Harvard education in the Philippines (Floresca, 2013). Arbes & Bethea though see it as not being that much different from freely available video calling technologies like Skype. Cisco also has a "Global Innovation Lab" where experimental technologies are being displayed and pitched to Songdo officials but many have never been adopted.

*Worlding* practices such as choosing foreign experts and companies in order to plan and build a city gives particular visions a sense of credibility and pragmatism that enables them to become more salient

than others. They create stylized stories where success is already assumed to be a given thus securing a more receptive audience (Pow, 2014). In essence, they become more mobile, travelling from place to place, garnering interest from would be investors and stakeholders. At the same time, difficult elements of the stories are de-emphasized, obscured, and made immobile (Gonzalez, 2011). For the Clark Green City, it is a story assembled by global expertise, exuding a world-class image. Some elements of that story though may not be as stable as they seem, especially around the delivery of a smart city.

### 5.3 Taking Part in the Global Schoolhouse

One of the earliest announcements about the Clark Green City is the signing of the Memorandum of Understanding (MOU) between the Bases Conversion and Development Authority and the University of the Philippines (UP). The country's premier state university will be the first locator once the first phase of development is completed. UP has been expanding into other regions within the Philippines, especially to those areas without an established campus. The university's decision to build a new campus in the CGC is in part triggered by their desire to internationalize the curriculum by creating joint degree programs, attracting more international students, promoting faculty exchanges, and facilitating collaborative research (University of the Philippines, 2014).

The new campus will be located in the CGC's Innovation district, intended for national and international academic institutions. Described as a university town, dormitories, residences for academic and non-academic staff, recreational and commercial facilities. In its May-June 2014 newsletter, the BCDA has claimed that Central Luzon will become the country's "Brain Capital" with the creation of UP's new global university. They are envisioning the creation of a new educational hub in order to attract more foreign students to come, citing the Philippine's advantage as an "English speaking nation". Part of this educational hub strategy is attracting "Ivy-league schools and top European schools" to develop an international branch campus there. All of these fall into the overall goal of framing the CGC as "an intellectual hub for science and technology education and research" (Rosales, 2014).

International branch campuses, joint degree programs, and attracting international students are strategies to take part in the international higher education market. Many East Asian countries have developed internationalization strategies for their higher education sector with the explicit goal of becoming educational hubs. The region already hosts 20% of all international students in the world. Places like Malaysia, Singapore, and South Korea are already in 9th, 10th, and 12th place in terms of the top destination for international students in their pursuit to be "centers for student recruitment, education, and training and in some cases research" (UNESCO 2014; Knight 2014).

These strategies are not only meant to attract international students but also retain domestic students who are thinking about studying abroad. Education plays a key role in developing a highly skilled workforce in order to nurture and support state-selected industries through various academic and research links. Developing and newly industrialized countries encouraged students to pursue post-graduate studies abroad through various scholarships and partnerships as an investment in their own economic development (Nilan, 2005). They have proven to be successful where almost a million students from China, India, South Korea, and Malaysia go abroad for their higher education (UNESCO, 2014). For some policymakers though, the success in student mobility needs to be moderated since some students choose to stay in their host country, instead of going back to contribute to their home countries.

These highly educated professionals are an essential component to facilitate their home country's transition into the information/knowledge economy. International branch campuses are believed to provide the much sought after foreign degree from a reputable school while staying home (Knight, 2014).

Yet, UP and the BCDA through the Clark Green City project are entering a highly competitive market where successes are still few and far between. They will be competing with much more highly ranked universities in Singapore, Japan, and Hong Kong for international students. International branch campuses are also proving to be unsustainable ventures for both countries and universities due to some notable failures over the past few years. More than 10 international branch campuses have so far been forced to shut down, citing low student enrolment and an unsustainable financial model (Wilkins and Huisman 2011). Students who chose to attend these schools are concerned about their future. What will happen to them if their school does decide to wind down operations? They won't be able to finish their studies in the same place, some may need to transfer to another institution, others may eventually just go abroad. This has led international branch campuses to have a reputation of being unstable turning off many potential students.

Modeling as a *worlding* practice is not just about drawing out a developing model from one's own experiences. It is also about policymakers emulating what they see and experience in other countries. In this case, the BCDA emulated policies from other countries that have similar urban environments with what is envisioned for the Clark Green City. They emulated places like Songdo and Singapore by having plans to develop its own global campus with international branch campuses. Emulation is not necessarily just creating a building but is also the desire to transfer the glamour, talent, and entrepreneurialism that are suppose to stimulate cities and economies (Ong, 2011). The challenge is to understand the extent of the emulation since it is also important to understand both the successes and failures of a given policy.

#### 5.4 Building an Aerotropolis

South Korea's Songdo International Business District was chosen as the benchmark model for the CGC. According to BCDA President Casanova, one of the reasons was its similarity in terms of access to an airport. Songdo is less than an hour away from Incheon International Airport, which has been named the World's Best Airport in the past. Many of Songdo's publications and online presence repeatedly mention how it is less than 3 hours away from many major Asian cities such as Shanghai, Beijing, Taipei, and Tokyo. It is positioned as a gate way to 1/3 of the world's population making it an ideal place for business to locate, professionals to live in, and students to study (Songdo IBD, 2014). The Clark Green City follows the same path. In a BCDA sponsored infographic, one of the interactive elements highlights how the project is less than 4 hours away from any capital city in the Asia-Pacific through its proximity to the Clark International Airport (Garcia, 2014b). Casanova has mentioned that the airport is world-class infrastructure that will attract global trade and investments to the project. It will also serve as a key component to the success of its Agri-Zone district as a way to transport the agricultural products to both domestic and international markets (BCDA, 2014b). Casanova also traveled to Taiwan in order to foster a relationship with the Taoyuan *Aerotropolis* project, an urban renewal project around Taiwan's main airport. He hopes to learn from Taiwanese expertise in high-technology agricultural production as well encourage investment in the CGC (Yeh, 2014).

What these two projects show is that their *worlding* practice is tied up with the idea of an *aerotropolis*. It is a concept where an airport increasingly dominates the development of a city as a transportation and industrial hub (Charles, Barnes, Ryan, & Clayton, 2007). They are an essential instrument in gaining world-city status, as they become the primary entry and exit point for the movement of both goods and people between the local and the international arena (Addie, 2014). As much as the Clark Green City is an eco-city project, the current vision is to also develop an airport city through its relationship with the Clark International Airport (CIA). It is now the aviation hub for Central Luzon, mainly served by regional and budget airlines that fly a limited number of domestic and international flights. The Clark Freeport Zone is also the home of another BCDA project called the Global Gateway Logistics City. It is a mixed-use project that focuses on logistics and business process outsourcing. By integrating these two projects, the BCDA aims to fully develop an *aerotropolis* in the Philippines.

Yet the challenging with building an *aerotropolis* is the need to integrate national and international concerns into the local planning sphere (Addie, 2014). Airport strategies and constructions are complex and expensive processes that need years of planning and coordination with multiple stakeholders. In order to facilitate the growth of the CIA, regional policymakers and business have been pushing for designating it as the country's new main gateway, moving away from Manila's Ninoy Aquino International Airport (NAIA). The aging airport has been named one of the world's worst airports numerous times and has been operating over its design capacity for decades. The CIA will however, be competing with other airport proposals under consideration. A Japan International Cooperation Agency funded project recommended that another airport be built in a former US Naval Base in Sangley Point, Cavite. Compared to the CIA, the Sangley Point airport will be located just forty minutes away from the NAIA and will serve a larger population in the CALABARZON region that has higher project growth rates as well (Philippine Statistics Authority, 2012). San Miguel Corporation (SMC), one of the Philippine's a largest conglomerate, also presented an unsolicited proposal for a \$10 billion USD new airport just by Manila Bay in Pasay City. According to reports, SMC is also working with SM Holdings, the country's largest real estate developer, and Cebu Pacific Airlines, the country's largest airline, in order to realize the project (Moss, 2014). The Department of Transportation and Communication (DOTC), the government ministry in charge of the country's airports, has also been order by President Aquino to commence construction on a third runway at NAIA (Camus, 2014). Lastly, a key component to make CIA a viable alternative is the construction of high-speed railway that connects the airport to Manila. Unfortunately, the so-called North Rail project has been plagued by anomalies and charges of corruption stemming from when it was award during the previous government of Gloria Macapagal-Arroyo. (Mendez, 2014). A new express rail line is being proposed, funded through official development assistance from the Japanese government. There have been reports that it will be a new bullet train system but it has been described as too expensive, costing around \$6 - \$7 billion USD to build (Periabras, 2014).

World cities are synonymous with the airports that service them. London has Heathrow, New York has JFK, Paris has Charles de Gaulle. For the BCDA, the success of *worlding* the Clark Green City project partially lies in the success of the Clark International Airport. This strategy though is challenged by many factors outside the BCDA and other regional stakeholder's control such as competing airports and anomalous rail contracts. There has been a perception that the current administration does not place as much importance in the CIA.

During a recent House of Representative hearing, it was learned that the DOTC does not actually have a “dual airport system” policy in place (Orejas, 2014). This creates uncertainty in the future development of the airport and the projects that surround it such as the Global Gateway Logistics City and the CGC.

## 6. Conclusion

This paper has explored the current developments of the Philippines' first eco-city project called Clark Green City. It is a showcase project not only for the Bases Conversion and Development Authority, the main proponent, but also for the Philippines, a country wanting shed its moniker as the sick man of Asia. It is the result of multiple strategies and visions aiming to create a world-class project that can be used as a symbol of the country's entry in the global arena. What these strategies and visions are examples of what Ong (2011) termed as *worlding* practices where images creatively shape and propose alternative visions for the urban environment that currently exists. They are also an assemblage, the act of putting elements to create a heterogeneous and emergent whole (McFarlane, 2011). Through archival analysis, this paper has shown that *worlding* the Clark Green City transforms the eco-city as a tool that enters itself into various national and international discourses extending beyond the scope of its geographical boundaries. These discourses though can challenge what is being planned for the project's future.

Firstly, it is a project that's being used to transform what it means to be a Filipino. National and regional leaders believe that the CGC will stimulate economic growth both for Central Luzon and for the country as a whole. It will also be a catalyst to create a new breed of world-class Filipinos as global citizens, engaged with the international community, showcasing its own model of development. This transformation though does not currently include the peasant farmers and the indigenous peoples who are currently living and occupying the land. Their supporters and representatives have now either refused to give their support or have called for an investigative probe that may delay the project.

Secondly, the project has drawn from foreign experts in urban planning, information technology, marketing, and promotions in order to give credibility to the project's future. The BCDA is using the reputation and experience of these organizations like Cisco and the Urban Land Institute in order to create a story of assured success. It is a process where particular elements are emphasized, becoming more mobile, while other ones are obscured. The expected success may be delayed or may never materialize resulting in a situation where projects over-promise but under-deliver.

Third, the CGC is being positioned as a strategy to develop an international educational hub in the Philippines, similar to the ones found in Singapore, Malaysia, and South Korea. The BCDA is envisioning the creation of international branch campuses from foreign universities. The University of the Philippines desires their internationalization through the construction of a new campus where student exchanges can be facilitated together with cutting-edge research. What both visions are entering though is a highly competitive environment with more established and well-funded countries and universities have been participating for a number of years. The international branch campus model has seen some setbacks as well with the closure of several of them across Asia.

Lastly, the CGC's fate is tied with the development of the nearby Clark International Airport. Its marketing materials and strategies emphasize

the importance of the CIA to the project. Stakeholders have pushed for the airport to be designated the Philippines' international gateway, taking over or sharing the role with Manila's congested Ninoy Aquino International Airport. Yet, the creation of an aerotropolis where air transportation-facilitated industries are dominant is challenged by the need to integrate national and international concerns in the local planning process. In this case, there is unclear policy direction at the national level. The CIA's distance from Manila is also proving to be an obstacle, leading to other much closer locations to be considered as alternative.

Eco-cities were originally conceived as a more ecological approach to city building (Roseland, 1997). Yet as each new eco-city project is built, their form and process responds to local desires, visions, and contexts but also interacting with the international arena. Seen primarily through their built form, they will remain contested and difficult to define. Framing them as an assemblage of worlding practices though provides researchers with analytical boundaries focusing more on its contextual environment and relationality with other places.

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