

“Assembling Costa Rica as a ‘Small-Green-Giant’: When the non-urban/non-human take over”

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1. Introduction.

Any complex theoretical model or paradigm is built through the sum of meticulous experimentation, debate, reflection, synthesis and re-shuffling of various sorts of data all performed intensively by collective groups of actors over the course of time (Callon 1986, Knorr-Cetina 1983).

Even though these processes of construction are hardly ever exonerated of contestation, disagreements and negotiations, both on a human and non-human level (Knorr-Cetina 2001), certain theoretical complexities can become more or less stabilized in order for them to become familiar to a broader range of actors. In so doing, it can suddenly give the appearance of unity, simplicity, timelessness, and in some cases even of common knowledge. Examples of these *punctualized* (Callon & Latour 1981) complexities in the field of urban planning are the inherent ‘goodness’ of citizen participation (as opposed to top-down planning), ‘governance’ (as opposed to government), ‘sustainability’ (as opposed to un-sustainability) and more recently ‘smartness’ (as opposed to technological ‘bruteness’ perhaps?).

It may be fair to state that the later concept itself is precisely undergoing a process of construction that has been characterized by a certain degree of uncertainty and debate. Nonetheless, the present theoretical discussion does not try to define the concept of ‘smartness’ as such, nor does it focus on the ongoing debates that have taken place in its particular formulation, but concentrates on several formative preconceptions that ground current paradigmatic constructions such as ‘smart city’ itself. More precisely, I examine the umbrella concepts of ‘sustainability’ in which the concept of ‘smartness’ is embedded. This is done by placing this ‘construction’ under scrutiny using the analytical devices of Actor-Network Theory and other post-structural stands.

Accordingly, I firstly argue that the taken-for-granted concept of ‘sustainability’ is neither as monolithic, stable, unbiased nor universal as it appears, and that these characteristics are passed down or ‘inherited’ by the troublesome definition of ‘smartness’; and secondly, that ‘sustainability’ –and consequently ‘smartness’– are not constructed in a political vacuum. Instead, these are embedded in *neoliberal governance* (McCarthy & Prudham 2004, Castree 2009), which in turn means that certain *trade-offs* of this market-driven model are ultimately embodied as specific urban and regional governance policies and practices built on taken-for-granted knowledge constructions. Therefore the relevance of these discussions go well beyond the simple quest of

defining one particular concept or another, but intend to contribute to the understanding of the sorts of *agencies* (Callon 2004) and power relations behind some of urban planning's leading *black boxes*.

Finally, these discussions are examined in the specific case of Costa Rica, a country commonly understood as a state-of-the-art 'sustainable' example for its longstanding environmental conservation tradition and more recently for its multiple successful *green* industries. All of which are, however, necessarily held together precariously.

In that particular examination, I make three main arguments. Firstly, that 'nature' is neither just 'socially' constructed, nor is it a single monolithic construction; secondly that the nation's leading 'green' Actor-Networks prioritize 'non-urban' and 'non-human' development discourses and entities over their 'urban' and 'human' counterparts respectively. Thirdly, this means in turn that the *a-priori* assumption that cities are necessarily the 'motors of regional and national economic development' may well be a broadly *taken-for-granted* generalization that could potentially limit our ability to grasp certain controversies of regional-governance.

Lastly, I argue that these heterogeneous constructions of prioritized 'non-urban' and 'non-human' entities may eventually suffer network disruptions if those 'green' discourses are not constructed through the assemblage of heterogeneous materials and non-materials simultaneously. Or said differently, if an 'abstract' discursive claim is not backed up by according 'concrete' material implementations, than the necessary gap between them may lead the network to breakdown.

1.1. Reading code:

In order to ensure a more fluid and comprehensible flow in the several discussions and argumentations made from this section forward, the decision was taken to use 'single quotation marks' to mark out complex ideas that are often taken-for-granted in our modernist understanding of the world. Although attempting to bracket out such modernist roots would probably lead to having to use a different code of communication altogether, the present paper will make use of the mentioned resource simply in attempts to enrich the discussion.

On the other hand, the use of *italics* is employed much in the same way, yet this time to mark out complex concepts derived from the different theoretical and methodological devices used in the present work such as Actor-Network Theory.

2. Greening of a fluid and precarious development.

This section will seek to shed some light on some elemental concepts found in planning theory, which have been so systematically mobilized by both academics and practitioners that they have gradually become understood almost as controversy-free facts of current environmental governance within and beyond Costa Rica. These *taken-for-granted* facts are constantly mobilized not only among circles of 'experts' and

'detractors', but have globally been incorporated in the day-to-day environmental jargon by 'non-experts' alike.

As will be discussed, networks of capital productions and accumulation have also incorporated the use of these terms and concepts as a strategy to re-invent themselves behind a 'greener' face and offer 'greener' products to satisfy an equally increasing demand for 'greener' experiences and goods.

The importance of the largely unchallenged term of 'sustainability' is central to all these issues and as such will be closely examined in this section. Part of this discussion consists of examining what some scholars call the inherent *trade-offs* of sustainable development, which are at the same time intermingled with its very political roots.

Finally, this section will establish some relevant links between the notions of 'sustainability' and 'smartness' as the latter is continuously being assembled over the foundational stones of the former; and as such, some of the inherent *trade-offs* of *sustainability* are likely to be embodied in 'smart cities' themselves.

2.1. Expert's standards and calculations

With the global advent, rise and consolidation of different *industrial* and *post-industrial* (Fletcher 2010) 'green' actor-networks –such as 'sustainable tourism' and 'ecotourism', 'bio' and 'environmentally friendly' products, 'clean' and 'renewable' energies, 'sustainable' architecture and design, and so on– it has become increasingly evident that these niches constitute a perceived 'novel' market sector that at the same time is highly profitable. Increasingly, the term 'sustainable' and all of its derivative tags are used by countries, cities, corporations and industries alike in order to provide their products with a market differentiator that suggests an image of an ethically and morally sound business, product or space that is essentially 'environmentally friendly'. Therefore, the need to determine what constitutes a 'green' or 'sustainable' product and to devise a system of 'standards' has increasingly become apparent in order to validate and legitimize claims and that way avoid the practice of *greenwashing* (LePree 2009).

For these schemes of 'standards', and virtually for anything to become an *Obligatory Passage Point* (Callon 1986) in the global environmental governance arena, there must be a certain measurement that essentially 'backs up' any claims within a determinate range of quantitative and qualitative *heterogeneous calculations* that are constantly (re)negotiated within each specific actor-network. Henceforth instead of an omnipresent standard scheme, each 'green' network has its own system *constructed* for its specific 'market' needs. This explains why some standards carry the form of eco-certifications and eco-labels¹, while others are more as a sort of minimum requirement checklists for specific purposes².

¹ For certifications in ecotourism see Haaland & Ass. 2010; LePree 2009 and Blackman, et al. 2014; and for forest certifications see Klooster. 2010 and Eden. 2009

² See Lansing 2012, 2010 on the quantification involved in Carbon Offsetting markets in Costa Rica, and Rice 2011 on minimum sustainable attributes as required in Building Regulations and Planning Laws in the U.K

Still, taking for granted the ‘objective’ nature of these quantitative standards may be over simplistic as any report or standard is always understood in relation to a framing field of other similar statements, thus cannot exist in isolation (Lansing 2011, following Foucault). In the specific case of carbon offsetting calculations –Lansing’s case study–, he states “...the ability of the carbon calculations to emerge as discursive statements that can be *evaluated as* true or false comes from their relation to a historically embedded set of discursive rules...” (Lansing. 2011: 744, original accents). Thus in simple terms, no calculation, standard or claim can ever be made in a political vacuum. They are on the contrary, always subjective and biased, regardless of their ‘objective’ appearance. Furthermore, Latour (1998) adds that “Scientific knowledge continues to remain, with extremely rare exceptions, a blackbox in the eco-movements, where the social sciences rarely serve as a point of reference for opening controversies between experts.” (Latour. 1998: 10). With that, he concedes that the positivist smokescreen of scientific objectivity is not limited to elite ‘experts’ or ‘top-down’ *macro actor-networks*, but can just as likely be found in discourses of grassroots movements and activist groups.

The appearance of scientific objectivity of both ‘experts’ and their ‘expert knowledge’ may ultimately be a mechanism mobilized to deliberately limit non-expert participation in debates of modern environmental governance (on subjects such as ‘climate change’, ‘sustainable urban design’ and consequently on ‘smart cities’) by imposing considerable constraints on public debate (Blok, 2013).

2.2. *Black-boxing Sustainability*

Lastly, there undoubtedly seems to be a broad consensus on the use of a specific term that appears time and time again in global environmental governance in general –and in the specific case of Costa Rica– regardless of its actual understanding, application and political embedding, as will be argued later on. That is the systematic mobilization of the ‘sustainability’ or ‘sustainable development’ concept.

Perhaps the most known definition of this concept derives from the 1987 World Commission on Environment and Development (WCED) report –or the Brundtland Report– where sustainable development is defined as “...development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED. 1987). This phrase is so commonly used that for example, while applying interviews for a current research project on carbon neutrality and sustainable tourism certifications in Costa Rica, two out of a total of 19 of my informants (one of each sector) literally recited the exact sentence –or its translation in to Spanish– when describing their industries.

The use of the term ‘sustainability’ has been so successfully *black-boxed* in contemporary environmental governance discourses, and so systematically mobilized, that in rare occasions one is able to find voices resisting or disagreeing with it not only amongst environmental activism, but in critical academic literature in the urban

planning field as well. It has become such an unchallenged term that it also became particularly 'difficult to resist' (Blok 2013, Fletcher 2010).

Michael Gunder (2006) goes a step further by arguing that the two concepts that are especially easy to defend in 'society' are literally 'motherhood' and 'sustainability'. He holds that "protecting the environment for current and future generations—is at present situated readily on this pedestal of unquestionable goodness for most of society, just as social justice for the collective good previously was situated positively before the demise of the welfare state." (Gunder. 2006: 213).

Following Jacobs and colleagues, Yvonne Rydin argues that black boxes such as 'sustainability' fulfill important functions within networks of urban development as "...a black box can grow in status and become part of the collective 'taken for granted'. It can become mobile so that 'a diverse range of end-users readily accept and deploy it unquestioningly'" (Jacobs et al. in Rydin. 2012: 39. Original accents). By end-users in this particular case, Rydin is not making reference to what is commonly known as 'city users' in particular, but to all entities enrolled in the ever-present process of *assembling the urban* (Farías & Bender 2009) where planners themselves play an important role. Subsequently, the planning education networks also play a role in the black-boxing of sustainability where it has become a core concept.

Gunder (2006) argues that even at the core of planning education, sustainability appears to remain an undefined ideal "with the contemporary educational literature's consistently having difficulty defining what exactly was meant by the concept and especially how it should be operationalized" (Gunder. 2006: 211).

2.3. Sustainability and green capitalism

Arguably less known than the Brundtland Report's famous sentence introduced in the previous section, the concept of sustainability was coined in that same document as a necessary condition to respond to "...a new era of economic growth that is forceful and at the same time socially and environmentally sustainable." (WCED. 1987). From this description, the 3 elemental 'pillars' or 'dimensions' of sustainability were first identified: the economic, the social and the environmental. In principle, many often identify the above definition as an invitation to somehow balance these three pillars in order to achieve sustainability; nevertheless, much general academic criticism has gone towards addressing this second dimension of the principle as essentially a market-driven *trade-off* (Fletcher, 2012) rooted in its very fundamental core.

More specifically, 'sustainability' often leads to an inherent unbalance between its three elemental pillars where the environmental and the social dimensions of 'development' are only secondary to safeguard a constant economic growth. This does not mean however that the 'social' and the 'environmental' dimensions of sustainability are downgraded to an equal second degree of importance. Cook and Swyngedow (2012) for

instance argue that “...despite the calls to bring together the three apparently supportive pillars of sustainability, the economic and, to a lesser extent, the environmental imperatives nearly always take priority over the inherently political issues of social justice and cohesion, which are at best an afterthought, at worst ignored.” (Cook & Swyngedow 2012: 1962).

Nevertheless, keeping in line with the elemental anti-positivist notion that there is no such thing as a ‘nature’ *out there* which can only be measured through techno-scientific knowledge and universal laws; the environmental imperatives of sustainability and ‘nature’ itself are in fact imagined, scripted and symbolically charged conceptual constructions (Escobar 1996, Latour 1998, Castree 2003). Escobar adds, “In the sustainable development discourse nature is reinvented as environment so that capital, not nature and culture, may be sustained.” (Escobar 1996. 328).

In sum, not only are sustainable development’s environmental imperatives not constructed for the sake of ‘preserving’ or ‘saving’ the materiality of ‘nature’, but the fundamental belief that nature requires salvation is in fact a politically charged construction on its own right. (Cook & Swyngedow 2012).

Although a certain consensus can be found on critical environmental governance literature pointing towards the overreaching influence that *neoliberalism* has played over the prioritization of the ‘economic’ over the ‘environmental’ and ‘social’ dimensions of ‘sustainability’ as an instrumental and philosophical *black-box*, two slightly different views can be found.

Some hold that current conservation and environmental governance models that lay under the discursive umbrella of sustainability are irremediably destined to reproduce economic, social and environmental disproportions because they are embedded within the very ideological discourses of neoliberalism that precisely promote those inequalities (Fletcher 2012).

Others believe that “Neoliberalism is a powerful set of ideas and supporting institutions that shapes thinking in policy circles, presumably transforming its main contender, ‘sustainable development’ into various versions of lite-green capitalism” (Klooster. 2010: 119). In other words, through the influence of neoliberalism, ‘sustainability’ was gradually stripped away from its original critical-analytical power into a market-driven technocratic approach to “greening” capitalism (Cook & Swyngedow 2012). On this same line Blok (2013) adds that “Contrary to the anti-capitalist denunciations of earlier political ecology, eco-modernist story-lines of the 1980s onwards cast the ecological problematic as a spur to new ‘green’ markets, equipped with ‘eco-products’, ‘eco-managing’ firms and ‘eco-conscious’ consumers – all in keeping with the new spirit of capitalism” (Blok 2013: 499-501. Original accents). In the domain of planning in particular, Blok (2013) claims that ‘sustainability’ offers a vivid illustration of what a ‘green’ inflection of what he calls “the new spirit of capitalism” looks like in which ‘urban sustainability’ emerges as a “...green attractor by usurping the surplus

authenticity of nature - and by casting it in the attractive grammars of projective-green worth" (Ibid. 503).

'Sustainability' has become a solid added value that renders any 'eco', 'green' or 'sustainable' tag as a powerful sales-pitch which attracts actors to enroll in specific 'green' networks, and/or to consume 'green' products, oftentimes regardless of the products actual materiality and mode of production. Additionally, 'sustainability' has been so successfully *black-boxed* in the gospel of global environmental governance that it remains hugely unchallenged among so-called planning 'experts' and 'non-experts' alike. Almost as if it were a 'moral' stand too powerful to resist.

Finally, more than simply an instrumental or philosophical concept, 'sustainability' persists as a sort of discursive mantra in the extent that it is hugely and systematically mobilized in discussions of planning, governance, politics, etc. and yet it remains as an undefined ideal, as a discursive term, as an operational tool as well as a hypothetical model. This however is not necessarily to be seen as a weakness; Gunder (2006) on the contrary suggests that the inherent fuzziness of the 'sustainable development' concept is precisely part of the reason of why it has become that strong. What is more, he contends that the concepts whose meanings are in fact a mystery to planning practitioners actually ensure the discipline's homogeneity as "no one knows what they really concisely mean, but everyone assumes that all others do." (Ibid: 211). In this particular issue, what goes for 'sustainability' seems to be the very same thing that goes for 'smartness'.

2.4. Sustainability-and-Smartness

Just like 'sustainability' before it, 'smartness' remains a porous concept that has advanced in planning and governance theory without having any real definition or even the most basic or vague manifest such as the Brundtland Report for 'sustainable development'. Yet these two terms have been so skillfully *punctualized* (Callon & Latour 1981) –intentionally or non-intentionally– that they both give the appearance of being robust, monolithic and homogeneous despite their sharp socio-technical *heterogeneous* and *precarious* nature.

Nonetheless, these issues are by no means the only coinciding points between 'sustainability' and 'smartness' for the simple reason that this second concept is precisely constructed on top of the foundational *black box* of 'sustainability'. Therefore, the same *trade-offs* and 'social', 'economic' and 'environmental' asymmetries found in the neoliberal-embedded ideal of 'sustainability' will irremediably be found in the derivate concept of 'smartness' at the very least.

Finally, 'smartness' may eventually tend to project the appearance of 'objectivity' under the shield of technological triumphalism much in the same way that 'sustainability' has done so under the shield of an alleged scientific purity embodied in for example,

sustainable standards and calculations. However, as was discussed earlier in this paper, no claim or implementation can ever be made in a *political vacuum*; and often, these technocratic discourses may be in fact mobilized to deliberately silence-off any uncooperative or unaligned actors and entities avoiding that way the proliferation of controversies for the sake of a so-called ‘common good’.

3. Costa Rica

Costa Rica is a small country in Central America with a land area of 51,100 km², and with a total population of roughly 5 million inhabitants from which approximately 60% live within the urban conurbation known as the Great Metropolitan Area or GAM³ that includes the capital city of San José as well as the country’s remaining three most populated cities.

However, aside from the nation’s excellent socio-political reputation –partly for its abolished military in 1948, its strong social welfare system, and its political stability–, Costa Rica has arguably been known internationally mainly as a ‘green-paradise’ for its huge share of protected biodiversity, for its large natural conservation areas and landscapes, and for its several pioneering environmental protection policies.

The following segment draws a brief review of three of the nation’s main facets. The first being the nation’s well known environmental triumphs; the second being a description of the country’s less than ideal urban planning culture; and finally the third being a description of some key environmental consequences caused at least in part by the second facet, and representing a straightforward contradiction to the first.

3.1. ‘Green’ Costa Rica

Up until the late 1960s, the Costa Rican government heavily subsidized agricultural expansion by stimulating peasants to engage in forest clearing on land considered ‘worthless’. Consequently, clearing was considered a way to ‘improve’ those ‘unused’ lands. This essentially meant that the state officially institutionalized the colonization of the forest ‘frontier’ (Brockett & Gottfried, 2002: 13).

Silva (2003) states that since the 1950s, concern had steadily grown regarding the effects that deforestation had on the preservation of the country’s high diversity of flora and fauna, on watersheds, and on soil erosion. This resulted in the establishment of the 1969 Forest Law (No. 4475) that ultimately led to the foundation of the National Park service.

³Acronyms in Spanish for Gran Area Metropolitana

By the 1990s, the state's National Park service had already accomplished gathering over one quarter of the total surface of the country under a strict protection format of several national parks, mainly inland areas, that had been made available through expropriation. Therefore, most of the remaining deforestation at that time was occurring on privately owned land, although similar privately owned initiatives had already started to purchase land for establishing private wildlife reserves as early as 1973 (Fletcher. 2013a: 157).

In 1996, the state launched a renovated Forestry Law (No. 7575) which for the first time introduced the notion of sustainable development as a key driving concept (Silva 2003: 98). Besides the later conceptual incorporation in the nation's conservation discourse, the new forestry law introduced two other significant components which to this day heavily determined the conservation practices of the country: the ban of all illegal deforestation; and the creation of the 'Payment for Environmental Services' program or PSA⁴ The PSA program in particular represented a groundbreaking implementation for its time that partly emerged as a response to influence land-use choices on private property for conservation purposes.

Very much in the same conceptual line of the PSA program, the Costa Rican state created its own tradable GHG compensation credits or 'Costa Rican Compensation Units' or UCC⁵. In fact, as early as 1996 the Norwegian state paid 2 million USD to its Costa Rican counterpart in exchange for 200,000 hectares of tropical forest destined to offset the former's carbon emissions (PEN. 2015: 214).

Perhaps the internationally consolidated association of Costa Rica with a recognizable 'green' image is partly the result of a strong tourism industry that has steadily grown since the late 1980s. However, unlike the previously introduced conservation milestones, tourism –or more specifically eco-tourism– was initiated in the country in the hands of private foreign investments and not by the national welfare state (Fletcher 2013b; Horton 2009).

The extensive use of hydropower in Costa Rica has also contributed to boost the nation's internationally acclaimed 'green' prestige. This source of energy generated 98.95% of the country's energy supply during 2015⁶. This source of energy is widely considered as being the flagship example of 'clean' and/or 'renewable' energy.

In 2007, the then-president Oscar Arias announced that Costa Rica had the intention to become the world's first carbon-neutral country by 2021; this way coinciding with the nation's 200-year celebration of independence from the Spanish Empire. This bold self-

⁴ Acronyms in Spanish for Pagos por Servicios Ambientales

⁵ Acronyms in Spanish for Unidades de Compensación Costarricenses

⁶ See Cole Mellino, press release, 24th of December 2015.

proclaimed goal has found much criticism in academia and in national and international press as many doubt that administration's –as well as the following ones– actual implementation methods to reach *carbon neutrality* at all, and their impacts on the ground (see Kowollik 2014, Fletcher 2013a, Baltodano 2008, Grössling 2009, PEN 2015, and Tim Rogers press release October 10th, 2010).

3.2. 'Gray' Costa Rica

As briefly commented earlier, the GAM is the central urban conurbation located in the central valley of Costa Rica, which is also situated in the center of the country. It is an area with an approximate extension of over just over 3.8% of the total surface of the country (1.967 km²) and yet it holds over 60% of the total population. It is conurbation that sums together the capital of San José, alongside the cities of Heredia, Cartago and Alajuela (the four largest cities in Costa Rica).

The Urban Planning Law (No. 4240) of 1968 appointed INVU⁷ the 'urgent' task of designing a grand urban regional master plan for the GAM in order to respond to its population 'boom' of the 1950's. 16 years later, the **Plan-Gam 1982** was delivered. This plan was to be implemented for the following 30 years up until it was to be replaced by an updated version in 2002. To this date, such replacement plan has not been delivered, despite the development of two full projects (PRUGAM⁸ and POTGAM⁹) which were both ultimately scrapped causing the literal loss of millions of dollars in the process and decades of work; not to mention the significant decrement of INVU's prestige and perceived image. Although a third attempt named **Plan-GAM 2013** was officially issued in April 2014. It has been widely contested in the press and in courts ever since due to alleged environmental inconsistencies, unsustainable practices and legal vices. The future of this plan is not at all clear, as it is currently stands withheld due to a recent lawsuit in the national constitutional court (see Diego Bosque, press release, July 18th, 2015).

The Plan-Gam 1982 consists of a strategic plan that intended to regulate urban growth in the GAM by setting a range of methodological, conceptual and legal constraints that were intended to orchestrate all planning at national, regional and local scales. The two first scales are the responsibility of INVU, while the remaining local scale is the

⁷ National Institute for Settlements and Urbanism INVU (for its acronyms in Spanish, i.e. "Instituto Nacional de Vivienda y Urbanismo") as the state entity responsible for urban planning, management, governing and monitoring of the GAM.

⁸ PRUGAM: "Plan Regional y Urbano de la Gran Área Metropolitana" or Regional and Urban plan of the Great Metropolitan Area. Developed as a multi-institutional effort combining both state and non-state actors as well as professional and financial support from the European Union between 2002 and 2009. Scrapped in 2009.

⁹ POTGAM: "Plan de Ordenamiento Territorial de la Gran Área Metropolitana" or Territorial Ordering Plan for the Great Metropolitan Area. Developed singlehandedly by INVU in three months in 2009. Scrapped in 2012.

responsibility of all the 31 local municipalities that conform the GAM. Municipal planning was to be administrated by making use of **local regulation plans** (LRP) which were to be designed by each municipality within the parameters of the Plan Gam 1982.

33 years later, 20 out of 31 of the Municipalities in the GAM have an approved LRP (see Diego Bosque, press release, October 6th, 2014). More specifically, non-compliance to minimum-required **environmental impact** studies¹⁰ has meant the rejection of **64%** of the presented LRP projects (see Manuel Sancho, press release March 10th, 2014).

The Plan Gam 1982 did not (nor was it meant to) regulate the infrastructural development in Costa Rica, as this plan was limited to provide mere general guidelines as to where urban infrastructure 'should' develop towards in a strategic sense. In short, INVU has no authority over any of these whatsoever. One of these urban infrastructures not strictly regulated by the plan, and one that has received large amounts of attention both nationally and internationally, is the country's **poor transport infrastructure quality** which some believe has played a central role in diminishing the nation's international competitiveness (see Schwab 2015: 33).

Accordingly, the latest 'Evaluation Inform about the Paved National Road Network in Costa Rica', LANAMME¹¹ concluded that 62.05% of the country's national road network possess 'deficient' to 'severely deficient' regularity standards while only 4.51% qualifies as being in 'good' conditions. Moreover, the evaluation concludes that this important deterioration in Costa Rica is associated with high costs of automotive operations for its users, slow speeds of operations, large levels of traffic congestion and finally high levels of environmental pollution (LANAMME 2015: 105).

3.4. Two sides of the same coin

This section has tried to condense a general understanding of two sides of Costa Rica that are hardly ever discussed simultaneously in academic research: the country's image as a sustainable green country, and the country's image of a fairly 'unsustainable' urban metropolitan core.

Costa Rica's 'State of the Nation program'¹² has established a direct relation between the two 'realities' and has concluded that the lack of sound planning practices has not only triggered environmental degradation within the GAM, but has also meant a series of 'social', 'environmental' and 'economic' associated costs to an ongoing "urban

¹⁰ Designed and evaluated since 1995 by SETENA, the National Technical Environmental Secretariat

¹¹ LANAMME: National Laboratory for Materials and Structural Models of the University of Costa Rica. In 2013, the national parliament of Costa Rican Republic ordered both the Ministry of Public Development and Transport (MOPT) and the National Council of Viability and Infrastructure (CONAVI) follow all professional observations and recommendations given by the LANAMME in each of their so doing.

¹² Acronyms in Spanish for Programa Estado de la Nación

growth without planning” (PEN. 2015: 304).

The last PEN inform (2015) concluded that “The environmental impact of a disordered urban growth is multidimensional: it affects aquifer sourcing and recovery, causes waterproofing and loss of quality soils, the rate of forest cover, generates solid waste and residual water that end up polluting rivers, among many other [issues]...” (Ibid: 311. Author’s translation).

Some of the negative impacts of the overall urban planning negligence in Costa Rica are significantly worrying precisely in environmental terms, and have unraveled to equally preoccupying scales. For instance, the latest PEN (2015) states that an alarming **95.8% of all wastewaters generated in Costa Rica are dumped at rivers mouths** or base levels of other natural formations while only a marginal 4.2% is directed to water treatment facilities. The latter figure actually means an improvement from an even lower 3.6% that was maintained without any variation during the last 10 years (Ibid: 51). Additionally, the PEN identifies the slow pace of this improvement as a threat on its self because of the negative impact it represents on the nation’s scarcely protected water sources (Ibid: 180).

Similarly, the lack of consistent state-policies regarding the integral planning of urban transport infrastructure, plus the absence of efficient public transport systems, has sparked the sharp increase of the car-fleet in the GAM.¹³

At the same time, this has prompted an equally increased consumption of fossil fuels and the correspondent degrees of GHG¹⁴ emissions that grows at a rate of 14 million tons of carbon equivalent per year (Ibid: 179), and that shows no tendency to be reduced.

Finally, the PEN (2015) concludes that “because there are no restrictions to energy consumption, the use of energy [in Costa Rica] is indiscriminated...The case of fuel consumption in the transport sector is particularly serious and, for example, puts into question the viability of the challenge assumed by Costa Rica to reach ‘carbon neutrality’ in 2021.” (Ibid: 210. Author’s translation. See also Kowollik 2014, Fletcher 2013a, Baltodano 2008, Grössling 2009 and Tim Rogers’ press release October 10th, 2010).

Although it is not the purpose of this article to find the reasons behind the reluctance of researchers to engage in a discussion that simultaneously addresses the non-correspondence between what I here have called the ‘green’ and the ‘gray’ Costa Rica, nor to establish any quantitative measurement between the scales of these two tendencies, it may be found that the greater circulation of the ‘green’ discourse ultimately responds to a well-orchestrated strategy of place branding intended to

¹³ More precisely, car-fleet has duplicated in the last fifteen years, while the population only grew 23.4%. And shows signs of further growth as it alone increased in 5.0% between 2013 and 2014 (PEN. 2015: 171).

¹⁴ GHG: Green House Gas emissions.

attract foreign investment, tourism and so on. A strategy that may also –deliberately– conceal the overall ‘dysfunctionality’ of the GAM. Likewise, it may also be argued that these tendencies are hardly exclusive to Costa Rica or any other country or region internationally acknowledged either as *green, smart, sustainable*, etc.

The following section will discuss the processes in which Costa Rica is constructed performatively as was described throughout this section yet in much more theoretical terms. The analysis in this section will be drawn on the conceptual and methodological devices of Actor-Network Theory as well as other post-structuralist theories focused on neoliberal environmental governance that enable the discussion of how places may be constructed and stabilized as socio-technical heterogeneous networks through the deliberate mobilization and assembling of certain entities and discourses over others.

4. (Re)constructing *Green* Costa Rica

Although so-called city-regions are commonly acknowledged as the modern-day ‘motors of regional and national economic development’, this widespread generalization –like many other modernist generalizations discussed in this paper– does not necessarily fit all molds of socio-economic development worldwide. Some countries in fact perform their development strategies by following the very opposite of such approach. As this section will show, this is precisely the case for Costa Rica where the process of *(re)construction* of place development strategies and the overall regional-governance model are in fact assembled by prioritizing *non-human* and *non-urban* entities and discourses over their *human* and *urban* ‘equivalents’ or ‘counter-parts’.

Perhaps the clearest sign of such statement –discussed in the previous section– is the fact that the mobilization of the nation’s ‘green’ discourse has been so successfully *stabilized* worldwide by enrolling more actors worldwide than its ‘gray’ counterpart has. This also seems to be the case even within critical academic networks where the amount of research available on the historically weak urban planning practices in Costa Rica is significantly scarce. Let alone research on how this poor planning culture has impacted on the nation’s praised ‘environment’.

This section of the paper will show that the success of the ‘green’ narrative to enroll a broader range of actors is neither ‘natural’, ‘apolitical’ nor ‘fixed’.

4.1. Nothing ‘singular’ or ‘social’ about the construction(s) of nature(s)

Actor-Network Theory and other post-structuralist stands contend that there is no such thing as a ‘world of objects’ or a ‘nature’ *out there* measurable only through techno-scientific knowledge and universal laws. The ‘natures’ we see and work with, according to Cook & Swyngedow “are necessarily imagined, scripted and symbolically charged as

nature.” (Cook & Swyngedow. 2012: 1972). This is true not only for the often-mobilized form of ‘nature’ as ‘adjective’, but also as ‘substantive’. In other words, to claim that a certain object’s trait or behavior is ‘natural’; and to claim that a certain object *IS* ‘nature’ or a part of it, are both symbolically charged constructions that, according to these authors, are always inadequate as they irremediably maintain a gap between the *materiality* of ‘nature’ and its *inscriptions* (Ibid: 1972).

Nevertheless, Escobar (1996) believes that this positivist notion of an objective nature is far from being considered a conflict-less believe even among those social scientists who believe that nature is –as he and many others put it– ‘socially constructed’ (Escobar. 1996: 340). It is in that precise respect that post-structuralist scholars essentially differ as tags such as ‘social’, ‘natural’ and ‘economic’ represent *a-priori* categorizations of differentiated ‘realms’ of separate ontological ‘essences’. Noel Castree (2003) for example states “...one wonders why the fascination with social construction – and its limits – remains. However subtly one tries to trace the causal arrows and feedback loops, to say that there is a nature that is socially constructed implies that there is a something (society, social interests, social power etc.) doing the constructing of or on a something else (nature)” (Castree. 2003: 205).

Instead of a ‘social’ construction, ‘nature’ is a *heterogeneous* construction of multiple materials, discourses and technologies arranged socially. But ‘socially’ is to be understood here as an *effect* of the process of assemblage, and not as an ontological pre-condition. Briefly, the ‘social’ is nothing other than the emerging result of patterned networks of heterogeneous materials (Law, 1992); and as such it is in no position to construct anything else.

Castree (2003) invites us to go beyond the question of how nature is ‘socially’ –or otherwise– constructed by suggesting the far richer question of ““what kinds of “nature” are subject to what kinds of “constructions” and with what consequences?”” (Castree. 2003: 205. Original accents). This introduces three additional and very interesting analytical levels to the subject that may at the same time transcend these questions from a purely ontological-philosophical debate (not that such a debate lacks relevance in any way). Namely, the non-singularity of ‘nature’; the *performative negotiations* behind these constructions; and the specific impacts resulting from each ‘kind’ of construction.

Once again, parting from the notion that there is no such thing as a ‘nature out there’ but instead that ‘it’ is a symbolically charged *heterogeneous* construction, it seems highly artificial to believe that there can even exist a *single* imagined script called *nature*. Therefore, there is no monolithic ‘nature’ but an endless amount of *nature(s)* – in plural form– which are permanently being negotiated among themselves and among each other, and that are by no means “timeless categories existing before material, semiotic and political practices.” (Asadal. 2008: 126).

In Costa Rica for example, Fletcher (2010) shows how the Pacuare River can simultaneously *afford* (Harré 2002) to be a source of energy for a hydroelectric power plant and a source for whitewater rafting tours. Both of his studied activities will *construct* that river as a 'nature' regardless of their confronted definitions and *agencies*. Similarly, that same river can also be scripted in a variety of ways through a process of *signification through signifiers* (Knorr-Cetina 2001) that actually misrepresent the thing they articulate to make up for new needs through *displaced* 'representations'. Thus, besides the above *constructions* of the Pacuare River, it is at the same time a picture on a tourism guidebook, a luminous line on a digital hydrographic map, a group of graphs and charts in a graduation thesis and so on. The materialization of the river becomes inseparable from its static representations, and these at the same time become *inscriptions* and *calculations* that are ultimately the 'useful thing' (Lansing 2011) for specific Actor-Networks.

These 'useful' *inscriptions*, which may be embodied as words, photographs, charts, diagrams, etc. are the result of a process of *enmapping*. Rice (2014) describes this process as the action of transporting a myriad of actors into fixed static representations. These representations or *en-maps* do not 'replace' the objects materiality, but instead they represent their reality as a more stable or fixed equivalence. At the same time, the limits of their materiality are redrawn because their limits are extended through the circulation of reports, maps, websites, etc. (Lansing 2012). In sum, these representation or *en-maps* are essentially a heterogeneous assemblage of both *material* and *non-material* entities.

In the field of urban planning, the debate over whether a 'city' consists of either a certain built environment, the human population that lives in it or their performances, a drawing on a map, an experience, a discourse, etc. is a longstanding one, and not the purpose of this paper. Nevertheless, the mere debate sees the mobilization of a wide range of materials and non-material entities but not necessarily at the exclusion of one another. For example, Instead of defining the 'city' *only* as the material-built environment or as its non-material experience, the different arguments debate on the *order* (Law 1992) that these entities should have in the definition of city, in other words, how they should be *prioritized*.

4.2. *Inverted models: non-city regions as 'motors' of national development*

Now the point of assembling the 'city', a 'river' or 'Green Costa Rica' through heterogeneous elements –discourses, laws, scientific knowledge, moral prescriptions, technological devices...– is not for their own respective sakes, but to render these as *governable* and *improvable* spaces (Li, 2007) in the Foucauldian sense. Therefore, to render 'Green Costa Rica' governable, the *ordering* of its heterogeneous assemblage must *prioritize* some entities over others in the general process of *translation* (Callon 1986) "during which the identity of actors, the possibility of interaction and the margins of maneuver are negotiated and delimited." (Callon. 1986: 6).

By systematically and consistently assembling and mobilizing the many –and equally heterogeneous– discourses of ‘Green Costa Rica’, its simultaneous reputations of being among ‘the vanguard’ of climate change mitigation (Fletcher 2013a), of being ‘ecotourism’s poster child’ (Honey 2008) and the greenest, happiest country in the world (Ashley Seager, press release, July 4th, 2009) have all been successfully *black-boxed* (Callon & Latour, 1981). All of these examples of the nation’s prestige share only one single element of common ground; they all *prioritize* non-human and non-urban entities, discourses and materials over human and urban ones.

This *prioritization* is not simply a matter of state and non-states actors will to invest in Costa Rica’s different ‘green’ actor-networks over others; nor is it only a matter of the former network’s ability to enroll a wider range of heterogeneous materials situated anywhere around the globe as opposed to the later; the very process of *translation* used by these ‘green’ networks mobilizes prioritized ‘non-human’ and ‘non-urban’ discourses and entities in the deliberately decrement of ‘human’ and ‘urban’ ones; particularly in the stage of *interessement* and *enrolment* (Callon 1986).

When discussing the impacts that eco-tourism has had over the local culture of ‘Tortuguero’ –a community located in Costa Rica’s northeastern Caribbean coast and the country’s third most visited National Park for its large variety of biological diversity– Campbell (2002) found that visiting tourists’ interest in local biological diversity is matched by their lack of interest in [the local] people; and that this *prioritization* of ‘non-human’ entities is in fact a calculated construction where “Resource manager, hotel operators, and tourists all believe that local culture and history are the least important features emphasized in Tortuguero’s tourism development” (Campbell 2002: 310). Campbell concluded that ‘social’ and ‘political’ impacts of eco-tourism were emphasized as the least important by her key informants on that particular study.

A very similar finding was made by Cotreel, et al. (2004) when their informants –tourists visiting the Manuel Antonio National Park in Costa Rica– identified ‘ecological’ dimensions as the most important dimension of sustainability over the ‘cultural’ and ‘economic’ ones; and ‘pollution of environment, water and air’ and ‘loss of rare plants and animals’ as the most negative impacts of tourism on that site.

Horton (2009) goes a step further by showing how ‘nature’ in the Osa Peninsula in southwest Costa Rica –a hot spot for both ecotourism and ‘green’ real estate networks– is being *negotiated* through the *performative* mobilization of confronted constructions of ‘nature’ between ‘local’ and ‘non-local’ actors: “...expatriates and eco-tourists have brought to the peninsula a conceptualization of nature as a space of adventure, risk, aesthetic enjoyment, and leisure activity while representing local practices and ways of life as environmentally destructive”(Horton. 2009: 102).

The author also believes that this process of (re)construction of ‘nature’ through the introduction of a ‘non-local’ discourse is nothing in the region, and neither is it exclusive to neoliberal embedded *post-modern* (Fletcher 2010) conservation actor-networks. Instead, he argues that the ‘National Park system’ in its time was also an introduced

discourse, but that instead was a 'top-down and undemocratic' imposition that responded to the previous Costa Rican welfare state model (Ibid: 96).

However, all this does not mean that 'human' entities are either 'bracketed out' of Costa Rica's 'green' actor-networks, or that they are enrolled in these networks as entities stripped away from any *agency*, or that they carry no potential *value* in a broader sense. LePree (2009) holds that the tourism industry markets tropical environments to clients by transforming landscapes and cultures into products and commodities (Ibid: 70). In other words, for Costa Rican sustainable tourism networks, both 'non-human' and 'human' entities indistinctively represent opportunities to generate economic profit.

This condition is not limited to the nation's tourism networks but that it extends to the carbon-offsetting actor-networks as well. Lansing (2010) argues that literally everything becomes subject to calculation and measure in terms of productivity, power, resources, and energy. And that this in turn results in the thorough (re)construction of humanity which is itself reduced to objects that are readily subject to ordering and manipulation. "This is a technological orientation that derives from efforts to manage the atmospheric commons-efforts that have extended their purview to not just the atmosphere, but to living biomass, humans, and even the space of the Costa Rican state itself." (Lansing. 2010: 721).

Once again, the purpose of assembling 'humanity', 'carbon' and 'Costa Rica' through heterogeneous elements such as calculations, discourses, scientific knowledge, etc. is to (re)construct these as *governable* and *improvable* spaces and entities (Li 2007) ready to be commodified. Literally all entities become *valuable* in the extent that they are reduced as a 'standing reserve' made ready to produce or generate something else, whether that is carbon offsets, tourism, etc. Hence, as Lansing argues, the *values* of things are never found in the things themselves but rather in a reductively understood notion of their usefulness.

4.3. *Discourses vs. practices: gaps, confrontations and precariousness*

The nation's triumph in branding itself as a 'small green giant' has clearly eclipsed its severely collapsed Great Metropolitan Area, which has not only suffered from nearly 35 years of inconsistent planning practices and political negligence; but as a result has directly impacted on the nation's praised environment. It is also difficult to ignore how even though both the 1968 Urban Planning Law (No. 4240), and the 1969 Forest Law (No. 4475) are contemporary and both essentially mark the beginning of urban planning and environmental conservation in Costa Rica respectively, the nation's '*green*' actor-networks have claimed successes over and over again, while the '*gray*' actor-networks are unable to develop the most elemental planning documents and policies for the GAM during that same period of time. But how 'concrete' are the nation's 'green' claims?

When asking the question of “*What would you identify as the most urgent environmental issue to solve in Costa Rica?*” to active members of different ‘green’ actor-networks in Costa Rica¹⁵, all of my informants –without any exception– identified the nation’s collapsed urban transport sector as the most pressing issue to solve. While some of the informants focused on the non-regulated growth of the urban car-fleet and its consequent greenhouse gas emissions, others focused on the lack of comprehensive infrastructural planning or on the lack of environmentally efficient transport technologies; all of them coincided that the Costa Rican state had simply not taken seriously the particular goal of reaching carbon-neutrality in 2021.

Below is an extraction of an interview with a board member of the National Chamber of Eco-Tourism when asked the above-mentioned question:

Interviewee: *hmm... but... I mean it is [urban transport planning] a real challenge, but one that I believe the government has not taken seriously. If we had a more efficient public transport, one of better quality, then people would maybe dare to leave their cars at home.*

Interviewer: *hmm...*

Interviewee: *...and stop using that type of transport and use public transport and obviously that these would hopefully be [-giggles-] electric transport systems and... more efficient and so forth. But no, they have not taken it... I mean, they have not given the subject the urgency that it deserves despite the challenge that we have of the goal [of reaching Carbon Neutrality] and that its [-giggles-] on 2021 [-giggles-].*

Although earlier on this section it was discussed that *en-maps* are essentially heterogeneous assemblages of both material and non-material *inscriptions* rendered as ‘useful things’; and as Lansing (2012) argues, carbon-offsetting calculations in Costa Rica in particular are an example of these, Fletcher (2013a) and Kowollik (2014) hold that these the bold self-proclaimed goal of reaching carbon-neutrality in 2021 largely consists of a *branding* type discourse (in the strictly rhetoric sense) without hardly any actual ‘on-the-ground’ implementation strategy whatsoever. In other words, the goal to become a carbon-neutral nation by 2021 heavily relies on a very abstract and non-material discursive core, and by so doing jeopardizes its ability to ensure network robustness by not enlisting a wider range of *durable* heterogeneous materials (Callon & Latour, 1981). This example consists of the typical scenario in which *discourse* and *practice* are not conceived as integral *actants* of a network, henceforth the gap between the network’s *materiality* and its *inscriptions* will irremediably cause the network to breakdown.

Nevertheless, this does not mean that ‘discourse’ and ‘practice’ are always two separate constituents of an Actor-Network, or that ‘discourses’ are essentially rhetoric and abstract things as opposed to concrete ‘practices’. On the contrary, in a Foucauldian and

¹⁵ As part of an ongoing research regarding the country’s available carbon neutrality (C-Neutral) and sustainable tourism (CST) certification programs.

Deleuzian post-structuralist perspective, a 'discourse' is an inevitable part of the process through which a heterogeneous network comes into being. According to Escobar (1996) "...there cannot be a materialist analysis which is not at the same time a discursive analysis... Post-structuralism focuses on the role of language in the construction of social reality; it treats language not as the reflection of 'reality' but as constitutive of it." (Escobar. 1996: 326). In short, not only do *discourses* (myths, concepts) and *practices* (tools, instruments) mutually constitute each other within the process of construction of reality and knowledge(s); but also the boundaries between these two is a permeable, mutable and ever changing one (Haraway 1991).

4.4. Confronted constructions of 'nature(s)'

Regardless of how successful, stable and monolithic any given 'green' actor-network may appear to be, it is always held together *precariously* (Law 2007) through a constant process of negotiation of often irreconcilable heterogeneous actors. This is not limited to negotiations between the heterogeneous constitutive entities within a single network –as discussed in the former subsection–, but extends to the negotiations between mobilized actor-networks that are commonly irreconcilably contended.

Although some of these confrontations are apparent –such as the confrontation between Costa Rica's carbon-neutralization network and the nation's urban planning and governance sectors– other confrontations may require a much closer look to spot. This last subsection will focus precisely on the latter group, namely the confrontation between nation's leading 'green' actor-networks of hydroelectricity (as clean or renewable energies), ecotourism (as sustainable tourism practice) and carbon-neutralization (and its calculations), all of which are readily assumed to be 'good' for Costa Rica.

Fletcher (2010) shows that despite the existence of an ongoing critical debate regarding the actual 'social' and 'environmental' impacts, hydropower has gradually become considered the embodiment of climate change mitigation through a carefully orchestrated process of *greenwashing* where it has consequently become 'morally' and 'politically' *difficult to resist*. He also argues that this (*re*)*assembling* process has been so systematic and widespread that hydro dams are currently comprised as the single largest project type in the CDM¹⁶ portfolio. One might conclude, that it has taken important steps to become an *Obligatory Passage Point* for future 'sustainable' environmental governance.

Nevertheless, the author grounds this analysis in reviewing a controversy that saw the confrontation of 'clean energy' industry (hydroelectricity) and 'ecotourism' (whitewater paddlers) as these two 'green' actor networks compete for the same 'natural' source (the Pacuare river). Thus, these two 'green' actor-networks consists of two confronted

¹⁶ CDM: 'Clead Development Mechanisms' as condensed in the Kyoto Protocol.

efforts to construct 'nature' by *commodifying* water within what he identifies as two different regimes of capital accumulation, a modern and industrial one –hydropower– and a postmodern and postindustrial one – ecotourism– .

Additionally, Fletcher also argues that although hydropower has been globally *black-boxed* as a flag ship example of clean energies, it does in fact carry along considerable socio-environmental negative impacts. Surprisingly, one of these impacts is none other than large greenhouse gas emissions produced both in the construction and in the normal operations of hydroelectric power plants and their water dams – the latter being particularly important in tropical environments where submerged vegetation tend to release large amounts of (primarily) methane during reservoir drawdown or spill-over (Fletcher 2013). In Costa Rica, this represents yet another confrontation between two leading 'green' actor-networks: hydroelectricity and carbon-neutralization.

The paradox is that nation has largely bet on hydroelectricity as its main source of 'clean energy' in order to reach the self-imposed goal of becoming a carbon-neutral country in 2021 precisely by reducing 'carbon' emissions. Ultimately, the author holds that "These emissions, however, are neither measured nor taken into account in calculating Costa Rica's carbon balance." (Fletcher. 2013a: 168).

Finally, Grössling (2009) introduces a third conflict in which two 'green' actor-networks are contended in a controversy in Costa Rica. This time the carbon-neutralization and the sustainable tourism 'green' actor-networks. He believes that destination countries mobilize 'carbon-neutral' tags essentially as a marketing strategy to attract 'eco-concerned' tourism, which he identifies as a fast-growing industry. The contradiction between the two networks occurs when the increasing demand for 'sustainable tourism' and particularly for 'carbon-neutral' destinations also means a growing demand for international flights to and from these destinations. Finally, the increasing amount of flights equals a growing amount of greenhouse gas emissions globally. Grössling argues that at least in their present form, 'carbon neutrality' approaches are neither credible nor efficient, and that they may in fact be understood as discourses created to "...justify business-as-usual tourism development with a view towards self-regulation, and might in practice even prevent the implementation of serious climate policy measures." (Grössling. 2009: 33).

Much like Fletcher argued in the case of hydroelectricity, greenhouse gas emissions produced by the rapid growth of energy intensive travelers are also ignored in the calculation of Costa Rica's carbon balance only this time because according to the distribution of tasks in the 2007 Davos Report, destination countries can only be responsible for the emissions produced during the tourists' stay (See UNWTO 2007).

5. Conclusions.

This paper has sought to discuss how the widespread *a-priori* assumption that 'city-regions are modern-day motors of regional and national economic development' is

essentially a modernist generalization that fails to explain how some countries –such as Costa Rica– heavily bet on prioritizing *non-human* and *non-urban* entities and discourses in the construction of their development strategies and regional governance models. Additionally, I have argued how this grand oversimplification is constructed on the modernist/positivist understanding of ‘nature’ as essentially being a passive standing reserve of things ‘out there’ waiting to be used. In this respect, I have discussed how there is no monolithic, singular, objective or fixed thing called ‘nature’ waiting to be ordered; and at the same time that ‘nature’ is not just simply ‘socially’ constructed. Instead I have argued that there exist multiple *constructions* of ‘nature(s)’ that are perpetually held together precariously as they are simultaneously under constant negotiation within their own actor-networks, and among other networks’ own *constructions*.

I have examined how even among Costa Rica’s leading ‘green’ actor-networks, conflicts are common and can in some cases even be irreconcilable regardless of the fact that all of them are performatively being constructed under the same umbrella concept of ‘sustainable development’, which essentially *commodifies* ‘nature’ by reducing it to a ‘stock’ of materials, spaces and entities to be ‘sustainably’ disposed of for the purpose of generating economic profit indistinctively if whether they are ‘extracted’ or exploited ‘in situ’.

Although I hold that ‘human’ and ‘non-human’ entities alike are rendered as usable materials or assets for ‘sustainable’ actor-networks, they are perhaps not the relevant actants in the precise market niche that Costa Rica has specialized in –ecotourism, national parks and natural conservation areas, carbon-offsetting markets and clean energy production among others–. Consequently, this may partly explain why these entities have received far less attention and interest from both state and non-state actors. The same can be concluded about the overall neglecting of the country’s Great Metropolitan Area –where no other than 60% of the nation’s human population resides– precisely since Costa Rica took its first step towards ‘greening up’ the country in the late 1960’s.

Regarding the global consolidation of the ‘sustainable development’ discourse, I attribute part of the success of this market-driven concept to the fact that ‘experts’, ‘politicians’, ‘non-experts’ and finally ‘detractors’ alike *mobilize* the term as if it were a ‘universal’ truth charged with unbendable ‘moral’ principles regardless of whether they fully understand the concept (and its embedded neoliberal capital roots *and* socio-economic *trade-offs*) or not.

Accordingly, in the process of assembling the ‘sustainable development’ discourse, both ‘human’ and ‘non-human’ actants –*punctualized* as the ‘social’ and the ‘environmental’ dimension respectively– are (re)defined and (re)constructed to serve a certain role within any given ‘green’ actor-network in order to ultimately assure the prevalence of exponential capital growth – punctualized as the economic. In other words, ‘sustainability’ will ultimately (re)produce power asymmetries between and beyond the

modernist 'human' and 'non-human' divides by incessantly prioritizing 'capital' over any 'social' or 'environmental' considerations.

Additionally, I have argued that the same *trade-offs* and power asymmetries found in the 'sustainable development' concept will irremediably be found in the derivative concept of 'smartness' as the latter is embedded precisely on the former. What is more, I believe that much in the same way that 'sustainability' has done with the alleged scientific purity –as found in its own sustainable standards and calculations–, the concept of 'smartness' may eventually start to mobilize its discourses of technological triumphalism towards projecting the image of technological objectivity which may further justify global power asymmetries while silencing off its potential detractors.

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