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Eco-friendly business or environmental injustice?

International energy investments and indigenous struggles in Oaxaca, Mexico¹

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*“Dicen los compañeros: - ‘vamos, vamos compañeros a tomar el palacio, para que se haga justicia’-.
Ahí empezó el movimiento”*

Introduction

It is widely recognised that indigenous peoples have become important political actors in many Latin American countries. Their political relevance has emerged when their struggles for economic, social, and cultural recognition were politically articulated. This is the case of social movements that indigenous communities have orchestrated against mega-projects, particularly those that involve displacement and appropriation, exploitation and commodification of natural resources and landscapes, which has been detrimental for their communities' capabilities.

In Latin America, it is possible to observe different waves of natural resource extraction dating back from colonial times. In the last thirty years the dynamics of extractivism has lead capitalist forms of production to further expand into new territories looking for gas, oil, metals, minerals (copper, gold, silver, pewter, bauxite, zinc, among other), food (corn, soya, wheat, palm) and bio-fuel to be sold to distant or 'global' markets. The urge to foster economic growth is increasingly leading emerging economies to commit violations of national and international legislations and agreements.

In diverse countries of the continent, environmental transformations -and the injustices connected- have traditionally been studied in the case of extractive industries, such as mining, oil or agriculture. However, in the present study we want to discuss these concerns in the context of mega-projects that are commonly considered in tune with "sustainable development". Renewable, clean or green technology is not usually framed as 'extractive'. We argue here that in some contexts largescale wind-parks might be working against sustainable development, when producing environmental injustices and generating social discontent and protest.

We argue that expansion of capital into new regions results in an unequal distribution of environmental transformations and conflicts within regions in a country and between countries. The relocation of capital (in most cases, large-scale capital) has resulted in another form of marginalization and exploitation of local communities creating unequal geographies of development and socio-ecological or environmental injustices. In the struggles against such

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inequalities and injustices, the participation of international actors, such as multinational corporations (MNC) and the role of economic elites became more obvious and questioned.

This is paradoxical since there exists nowadays -more than ever before- international legislation and guidelines that seek to regulate MNC operations and legitimize their investments around the world. There also exists jurisprudence -such as 1989 ILO Convention No. 169 on Indigenous and Tribal Peoples- that takes into consideration the traditional use communities give to natural resources (nature) within their lands and territories, and its relevance to their identity and wellbeing. According to Fuentes (2017) “the indigenous peoples’ rights to communal property over their traditional land and natural resources is recognised as protected by the American Convention on Human Rights”.

The Free, Prior and Informed Consent (FPIC) safeguard has been created to allow national state interventions in indigenous territories, but only -supposedly- with active participation of the communities involved. The notion of FPIC has been incorporated by other international organizations, such as financial institutions (e.g. Inter-American Development Bank) in their investment policies as strategies to be conducted to be granted loans (Deruyttere, 2004).

In this context, we ask the following questions: (a) which are the environmental transformations that large-scale wind energy production is producing? (b) when such transformations are considered injustices and by who? And finally (c) does FPIC offer possibilities of greater environmental justice? We wonder as well whether FPIC is being used in most of the cases as a way to legitimize neoliberal development by promoting participation in ‘eco’business as usual exploitative projects of development.

We seek to answer these questions using as a case study an energy project in the Isthmus of Tehuantepec in Oaxaca, Mexico. The study presented here is field-based and it explores and discuss how local communities in the Isthmus experience the Mareña Renovables wind energy project. It is an analysis of secondary and primary data collected in a longitudinal (2013-2017) manner. Secondary data has been collected from a variety of studies, donors, companies, banks and NGO reports and academic articles and chapters.

We propose to use an environmental justice approach in order to understand why the Zapotecas and Huaves communities are opposing the wind energy park project, or ‘clean energy’. We understand environmental justice in its threefold dimensions. The first dimension (distributional justice) refers to justice in the distribution of environmental goods and bad, namely, who suffers the negative or positive aspects of environmental transformation. The second one (procedural justice) refers to the participation (in its different levels) of different social groups in those policies that affect them and their environment. The third dimension (recognition justice) refers to recognition of the diverse understandings that different social groups have about ecological and social (environmental) transformations. The later also takes into consideration diverse conceptualizations of justice and what fair or not fair is.

We aimed at exploring and discussing different ways in which eco-friendly projects or green energy investments result in (re)new environmental injustices. We conclude that at least two dimensions of environmental justice seemed to have been mainly violated in the planned wind-park project: those refereeing to participation and recognition.

In this sense, our study helps to critically discuss politics of (a) international development motorized by MNC and legitimized by FPIC, and (b) green energy investments in the name of sustainable development.

The manuscript is organized as follows. In the next section, we introduce the Latin-American context of extractivism and how we understand this is connected to environmental transformations and conflicts and the reproduction of injustices. After that we present our analytical and methodological framework, followed by the different approaches to the international legislation that guides that regulates indigenous communities focusing on the safeguard of Free, Prior and Informed Consent (FPIC). Later, we discuss the Mareña Renovables project in the context of wind energy production in Oaxaca. We show here that ‘expert’ knowledge about wind dynamics in the region have been instrumental for the allocation of international investment, and that knowledge and livelihoods of local communities have not been taken into consideration when planning energy investments. In the section on environmental transformations and justice, we present the ecological, economic and socio-cultural changes resulting as a consequence of the pre-construction phase. We use data from other parks in the region as a reference to speculate on possible changes, but above all, to understand why some of the local communities are opposing this wind-mill project. Once presented the local and regional environmental transformations we discuss them in light of the environmental justice approach proposed here: how goods and bads are distributed among the local communities, which procedures have been put in place for the participation of local communities in the megaproject, and whose knowledge has been taken into account or marginalized in such project.

We finally conclude asserting that the so call eco-friendly business should not be automatically associated with sustainable development and social justice. We argue that the environmental transformations it generated in the Isthmus, with its connected social, ecological, political and cultural dynamics, can be considered an environmental injustice.

Latin American extractivism and the reproduction of socio-environmental injustices

Current trends of capital relocation are exacerbating in many cases structural and historical injustices in Latin America, though with some modifications. For example, Svampa (2008:77) argues that since the end of the 1980s, there has been “new modalities adapted by the logics of the capital in those spaces considered strategically in terms of natural resources”. Svampa refers to David Harvey’s notion of accumulation by dispossession to explain that these new modalities of capital penetration in the continent need to be understood within the new regime of capital accumulation, which has generated new displacements and appropriations. This is the case for instance of large-scale corporations that do not longer need to buy or lease land in order to carried on economic activities over large portions of territories.

Peasants, farmers, rural workers, women, native communities and indigenous’ groups, who used to have the right to access nature in an autonomous way or who have seen their livelihoods threatened, have organized themselves to claim for their rights facing the increasing expansion of the modernization frontier commanded by international corporations into their territories and

communities (Kay, 2004; Cohn *et al.*, 2006; Martínez-Torres and Rosset, 2008; Borrás *et al.*, 2008, among others).

According to Martínez Alier (2014:239) “in their struggle to preserve their own livelihoods against mining companies, hydroelectric dams, biomass extraction and land grabbing, and oil and gas exploitation, peasant and indigenous communities have been since the 1980s and 1990s the backbone of the global environmental justice movement”.

In Latin America and the Caribbean diverse local struggles led by peasants, small-scale farmers, indigenous activists, among others, have shown that certain globalization trends, such as investment in mining and green-energy projects will not go uncontested. Civil society, and particularly indigenous peoples, are resisting new capitalist forms of production which, according to them, are threatening their livelihoods, their landscapes, and the natural resources they rely on. In fact, some argue that the penetration of market economy and ‘modernity’ in new territories is also threatening communities’ own understanding of nature, human beings and wellbeing.

This is the case for instance of wind energy promoted as sustainable development (Dincer, 2000 among others). If we observed and analysed the ecological, economic, political and social transformations resulting from such mega investments (e.g. onshore or offshore wind parks) then we start wondering who is defining sustainability and who is to be sustain with this development model. Bakken *et al.* (2014:93) assert that “[c]limate change and the needed reductions in the use of fossil fuels call for the development of renewable energy sources. However, renewable energy production, such as hydropower (...) and wind power have adverse impacts on the local environment by causing reductions in biodiversity and loss of habitats and species”. Subramanian (2012) argues that in Spain there are about 18.000 wind turbines that may be killing 6 million to 18 million birds and bats annually, according to the Spanish Ornithological Society.

We propose to explore, understand and discuss current indigenous struggles as social and environmental struggles, and struggles for justice. Communities are resisting to transform their environments in ways that will eventually weaken their capacities to have a dignified life, or in detriment of their wellbeing, be it material or spiritual. In most of the cases, they understand such transformations as an injustice.

Environmental justice: political discourse and analytical framework

Schlosberg (2013: 39) states that “[f]rom the start, the environmental justice movement brought indigenous perspectives on the relationship between human beings, non-human nature, and culture into conversation; the very first principle of environmental justice affirms the ‘sacredness of Mother Earth, ecological unity, and the interdependence of all species’”.

We argue that the importance of studying a specific struggle and resistance at local level from an environmental justice perspective lays in the fact that help us to critically analyse -and give evidence to- the ongoing development trends of capital globalization in the continent. In this sense, Sikor and Newell (2014:151-52) propose to think of (global) environmental justice “as a lens to make sense of place-specific environmental struggles in their relation to the sorts of

broader political economic processes which are often identified as intensifying or accelerating the production of environmental injustices”.

At the beginning of the decade, Holifield *et al.* (2009: 594) affirmed that “[e]nvironmental justice scholarship has also begun to investigate spaces of environmental injustice generated by the unique historical geographical dynamics of colonialism and the oppression of indigenous populations”. This is the case for example of studies conducted with Mapuche communities in Chile (Schlosberg and Carruthers, 2010).

We posit that an environmental justice approach might be useful to shed light into (a) the processes of globalization and expansion of capital/ism into new territories and its connected (re)new social and environmental injustices, (b) the politics of ‘development’ motorized by MNC and national governments in Latin America and the Global South in general, and (c) the possibilities and impossibilities of moving towards more social and environmental justice by using international legislation and guidelines, such as FPIC or guiding principles on business and human rights.

The understanding that environment, equality and equity are articulated dimensions that reproduce inherited structures of discrimination has increasingly been used to motorize a political concern. Socio-environmental movements in diverse rural areas have succeed in articulating their demands and claim to access natural resources (distributional equity) with the right to participate in political decisions over such distribution (procedural equity). Scholars and practitioners argue that social-environmental movements have succeeded in bringing to the front a third dimension of (a non-liberal) justice: the recognition of social groups (and their own understandings of justice and wellbeing) that have been historically oppressed and excluded from policy making. Carruthers (2008:6) states that “[a]s a framework for analysis and as a discourse for political action, environmental justice reveals new insights and reframes important questions about Latin America’s inherited problems of inequality and injustice”, concerns that are presented and discussed in the following section in terms of distribution, participation and recognition.

Distribution, participation and recognition

Early studies of environmental justice focused on the uneven distribution of environmental bads, which “refers to a broad category of things or events that primarily endanger or damage environmental ecosystems” (Pólvora, 2011:276) and argued that such unequal distribution is very much linked to racism and socio-spatial discrimination. However, scholars and activists advance this argument by suggesting that it is not enough to think about injustice in terms of distribution. In fact, would it be more just or fair if all members of a given society would be exposed to environmental bads, such as water contamination?

Walker (2009:2003) critically assesses that the unequal distribution of an environmental bad or the spatial inequalities of conflicts where environment features are not necessary a matter of injustice or inequity: “[m]any geographers working within this framing have assumed that injustice is self-evident and unproblematic. That evidence of spatial-distributional inequality can be simply equated with injustice; that it is wrong in some way, without needing to explain for what reason(s) (...) Patterns of difference and inequality are not directly (patters) of

injustice”.

It is therefore necessary to observe how inequality turns into inequity, by focusing on how power is exercised to oppress or to marginalize certain groups of peoples in diverse contexts of space and time. This calls for a broader notion of justice that moves beyond distribution, and incorporates other dimensions, such as participation, definition, or control, and to question who is defining and distributing justice and how it is done. According to Schroeder *et al.* (2008: 553-53) “[t]he concept of procedural environmental justice was originally developed as a direct response to, and critique of, earlier approaches that were narrowly defined in terms of burden=benefit distribution and race (...) procedural justice interventions pinned the question of environmental equity on matters of choice, access, control, and participation”.

Moving beyond then from mere distribution of injustices, and considering other dimensions, Schlosberg (2004:517) claims that the demand of justice by global environmental movements is threefold: “equity in the distribution of environmental risk, recognition of the diversity of the participants and experiences in affected communities, and participation in the political processes which create and manage environmental policy”.

Consequently, it is a matter of values and worldviews or institutional logics on how different groups understand and organize their economy, politics, and nature valuation and appropriation. Cultural aspects of production are central to understand environmental conflicts. Sikor and Newell (2014: 152) agree with Martinez Alier (2014) when they state that poor people’s claims “are not only about the distribution of environmental goods and bads, but also about whose visions of the environment are recognized, who participates in environmental decision-making and democracy, and what kinds of values come to matter – all of which are central matters of justice”.

The relevance of recognition justice in the discussion and promotion of ‘sustainable’ and ‘development’ is therefore central. Martin (2013:98) asserts that recognition justice is “about power and respect: about whose culture and knowledge dominates or is dominated, and the social and economic structures that reproduce discrimination”.

We agree with Martin (2013:99) when he states that “any system of justice should protect those who most need protecting” and that “it is the capacity of a justice analysis both to render inequities visible and to be critical of them”, so we can work to change them.

Schlosberg and Carruthers (2010:18) affirm that “[i]ndigenous leaders [...] articulate environmental injustice as a set of conditions that remove or restrict the ability of individuals and communities to function fully—conditions that undermine their health, destroy economic and cultural livelihoods, or present general environmental threats. The overall emphasis is on the health of the environment, the protection of local economies, and the preservation of local and traditional cultures and practices. Specific demands focus not only on religious, cultural, and traditional capabilities, but also on the political freedoms and the self-determination that enable community functioning. By fighting for autonomy, land, respect, or political voice, indigenous activists are fighting for the capabilities necessary for their communities to function fully”.

These concerns are traditionally discussed in relation to extractives economies such as those

related to mining industry. Nevertheless, Zografos and Martinez-Alier (2009:1728-9) argue that “[t]he wind energy literature abounds with suggestions to consider more participatory planning processes in order to avoid conflict (...) power issues also seem to be relevant here as one basic matter concerns who has access and ownership of land and wind property rights”, which might be challenging in territories where indigenous people do not have land titles.

We agree with the authors mentioned above when they argue that “environmental conflicts over cost and benefit redistributions from landscape change tend to be part of larger gendered, classed, and raced struggles (...) that is, struggles over some kind of broader discrimination” (ibid:1729) such conflicts appear to be marked with environmental (in)justices, which are presented in the following section.

Studying environmental (in)justices in the Isthmus of Tehuantepec

We define environment in a broad sense, as all that that surrounds people. In that sense, it is much more than the ‘natural’ environment, but also for instance, the social, the cultural environment, the organizational, the political environment, etc. It means that it takes into consideration the interaction of people and that that surrounds them (e.g. Scott, 2014). Therefore, it is an obvious question to ask: whose environment? If we aim at understanding environmental injustices, then the above question must be answered. This is relevant to analyse the second part of the concept: justice. The existence of justice / injustice will depend on the subjects who claim it. We understand there is an injustice when communities are excluded from the means to have a dignified life. When power is exercised in a way that prevent them from accessing the (natural) resources they previously have access to, or when they are not part of the politics and strategies that have been created to transform their environment.

Consequently, it is necessary to ask another question: is it always the case that an environmental transformation is an injustice? If not, when can be considered that an environmental transformation is unjust or unfair? The study of environmental transformations under focus in this paper are those ecological, economic, social and cultural transformations that results as the construction of wind parks mega-projects.

As mentioned above, our analysis is based in the following dimensions/concerns (a) which are the environmental goods and bads and how they are distributed (e.g. when, how and who are the affected ones by the environmental transformation), (b) how local communities have been included to participate in the politics around the mega-project, and (c) how indigenous worldviews (e.g. knowledge about local ecosystems, nature valorisation) have been recognized and taken or not into consideration.

Since the wind park is not constructed (given social mobilizations and legal disputes, which will be discussed later), we can only speculate in the concrete and material environmental transformations, by considering how different people understand the possible changes in the environment and how they will transform their economic, social and cultural life. In this sense, the analysis of distributional justice will be done considering how different understandings among indigenous people, governmental officials and firms’ representatives are competing regarding ecological, economic and cultural possible transformations.

Wind parks have been constructed in Oaxaca since 1994 (Juárez-Hernández and León, 2014) which have been marked by social mobilizations and disputes. These are some of the questions that will be discussed:

- What environmental changes have been already produced as a result of the construction of wind parks and its connected infrastructure in the Isthmus of Tehuantepec?
- How do these changes affect the functionality of local ecosystems?
- Does this have an impact in the economic activities that communities depend on?
- What are the changes that take place in the access and use of natural resources? If there is land use change, for instance, how does this affect the labor market, local people's livelihoods, food security, etc.?
- Who are benefits and who lose from these transformations?
- As a result of environmental transformations, do structures of control of resources and land change in any way? How?

The analysis of procedural and recognition justice will be done focusing on the politics of participation in the wind park project. Here, we will consider the FPIC strategy and the strategies that the MNC (Mareña Renovables) have created (or not) in order to implement the project together with the local communities. The following questions will guide our analysis:

- Are there institutional spaces created for local communities to be involved in the project?
- Who has created those spaces?
- How is this involvement? Who takes decisions? Are local communities consulted in already taken decisions?
- Are FPIC strategies set up in place? How is this done? Why?
- Who participate? How are participants selected? Are communities treated as homogenous entities or are there representatives?
- Which legislations are considered when motorizing participation?
- Are there values and ideas about how society and nature work that are under dispute? If so, which are those? Whose ideas are considered?
- Do these values collide with foreign investments? How?

The analysis that follows then will try to shed light into the environmental conflicts around an MNC intervention in territories and communities of Oaxaca, Mexico. This is paradoxical and relevant, because it takes place within a context of national and international legislation that protects the rights of indigenous communities to their lands and despite existing investments guidelines such as those demanded by international banks to those MNC that are granted loans.

Indigenous communities and international legislation and guidelines: FPIC

According to Fuentes (2017) “[t]he right of indigenous people to traditional lands and to natural

resources become wide protected under international law”. Fuentes finds examples in the 1989 ILO Convention No. 169 on Indigenous and Tribal Peoples (Articles 13 to 19) and in the 2007 UN Declaration on the Rights of Indigenous Peoples. According to UN Declaration on the Rights of Indigenous Peoples article 26(1) “[i]ndigenous peoples have the right to the lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired”, adding that that recognition shall be a legal one, and shall be conducted with “due respect to the customs, traditions and land tenure systems of indigenous peoples concerned”.

Fuentes (ibid) focuses on jurisprudence that emanates from the Inter-American Court of Human Rights and states that such legal recognition and protection is very much linked to the access of a dignified life. According to such legislation, there is a relation between communal property and the right of self-determination and wellbeing.

Nevertheless, legislation protects indigenous rights only in relation to the lands and the resources above the surface that they use, that are needed for their wellbeing, and this should be as long as it is linked to their identity as different peoples. Therefore, according to Fuentes (2017) the Inter-American Court has acknowledged that the article 21 of the ILO convention “should not be interpreted in a way that prevents the State from granting any type of concession for the exploration and extraction of natural resources” in those lands that are used by or property of indigenous communities. The national state remains the only sovereign over its territory and resources. Sovereign implies that private and public official should comply with the right of indigenous people “to give or withhold their free, prior and informed consent to actions that affect lands, territories and natural resources” (Colchester & Ferrari, 2007:1), known as the right to FPIC, which is presented in the following section.

Free, Prior and Informed Consent (FPIC)

According to Owen and Kemp (2014:92) “[p]resently there is no singular or universally accepted definition of FPIC, no agreement on what a FPIC process must entail, and no functional clarity about what constitutes ‘consent’”. There is a difference between the compliance of legislation and voluntary policy, since not all countries recognized indigenous rights to communal lands and territories in their domestic legislation.

The national states however need to justify the entrance into indigenous territories showing that there is a major imperative or pressing social needs “and as long as do not amount to a denial of their traditions and customs in a way that endangers the very survival of the group and of its members” (Fuentes, 2017). The Inter-American Court has identified three safeguards to secure indigenous communities’ self-determination is not undermined: “(a) effective participation of the involved communities, according to their own traditions, in any investment or development project within their lands; (b) the shearing of reasonable benefits with these communities in each project; and (c) the elaboration of prior and independent environmental and social impact assessment” (Fuentes, 2017)

The paradox between increasingly recognition of indigenous rights by international organizations and corporations and neoliberal development has been recognized by Sawyer and Gomez (2008:iii) who state that “despite the burgeoning number of international charters, state constitutions and national laws across the world that assert and protect the rights of indigenous

peoples, the majority find themselves increasingly subjected to discrimination, exploitation, dispossession and racism”. On the other hand, O’Faircheallaigh (2013) argues that indigenous peoples can make use of such legislations but there is “need for political mobilisation if they are to take advantage of these changes”.

This is important to bear in mind because it is not always the case that the interests of MNC are at odds with those of indigenous communities (Anaya, 2013). There are cases in which communities have taken advantage of participatory procedures contemplated in legislation in order to obtain benefits that otherwise would not be able to have. According to Owen & Kemp (2014) the notion of FPIC can be a key mechanism to re-address inequalities since it opens up the possibility for indigenous communities to participate in decisions over those natural resources they rely on and at the same time continue with their particular cultural identity.

We will therefore analyse in the case presented here how the FPIC process have been put forward by the MNC involved. This will allow us to understand how the participatory and recognition dimensions of environmental justice have been taken into account (or not).

“Eco-friendly energy and green investments” in Oaxaca, Mexico

Turning wind into energy... and money

The Isthmus of Tehuantepec region located in the state of Oaxaca, Mexico has attracted during the last two decades foreign direct investment (FDI) in ‘eco-friendly’ or green energy, particularly in the La Ventosa (*The Windy*) area. The ‘rediscovery’ of La Ventosa in terms of wind-energy was developed by the Mexican Government, the United States Department of Energy (DOE) and the United States Agency for International Development (USAID) in a wind-energy research to accelerate the widespread use of wind energy technologies in the Mexican state of Oaxaca. The outcome of the research was the publication of a wind energy resource atlas report for Oaxaca (Elliott *et al.*, 2003). The report attracted promoters within the Mesoamerican Wind Energy project, which covered the states of Southern Mexico as well as countries in Central America and the Caribbean, known as Plan Puebla-Panama. It aimed at meeting the energy needs for the Mexican states of Oaxaca, Veracruz, Tabasco, Campeche and Yucatan by 2020.

The wind energy resource atlas report shows different areas in the Isthmus of Tehuantepec region that are estimated to have good-to excellent wind resources (wind power classes 4 to 7, with 7 being the highest). The best wind resource areas in Oaxaca are concentrated in the south-eastern region of the state, primarily in the southern part of the Isthmus of Tehuantepec, in the La Ventosa area in the city of Juchitán, and in the coast of the Gulf of Tehuantepec, around the *Laguna Superior* lake in the cities of San Mateo del Mar, San Dionisio, and Álvaro Obregon. San Mateo del Mar region presents more than excellent wind resource potential, which is estimated to have Class 7+ wind resources, measured on > 800 wind power density at 50 m w/m² (Elliott *et al.*, 2003).

The former Mexican President, Felipe Calderón (2006-2012), stated in 2010 that he was working to further promote wind energy development projects in Mexico (SENER, 2010). The Mexican government through the Ministry of Energy (SENER, Spanish acronym) suggested

that the Isthmus of Tehuantepec would be an optimal site for the installation of wind parks (SENER, 2012). According to the Mexican Association for Wind Energy (Asociación Mexicana de Energía Eólica), La Ventosa area -which has plenty of plain coastal terrain- could “harmoniously integrate” the land activities of the Zapotecas and Huaves, indigenous people with the installation and operation of the wind power turbines (PROMÉXICO, 2013).

However, according to a former leader of the Zapotecas community, wind-energy projects were not required, as the energy demands of Mexico’s southern states had already been met and growth in demand was not expected. Given these discussions and the ongoing street demonstrations and other social protests that had taken place since 2004, the Mexican government changed its discourse in 2005, thereafter promoting the idea of selling wind energy to Central America and the United States (MIDP, 2013).

As of 2017, there are 22 wind parks located in the Isthmus of Tehuantepec region.

Indigenous peoples and communities in the Isthmus and the Mareña Wind-Energy Project

The Isthmus of Tehuantepec is one of the most important multicultural regions in Mexico in terms of indigenous people, language and traditions. Wind has been associated with the identity of local people, mainly in La Ventosa, a name related to wind (and with feminine connotation).

The main indigenous people of this region are the Zapotecos, Huaves and Zoques. Zapotecos live in the area of La Ventosa, mainly in the city of Juchitán in the municipality of the same name. Zoques live in the cities of Santa María and San Miguel Chimalapa, which used to be a municipality of Juchitán. Huaves are also known as *mareños* (related the sea and with masculine connotation) people who lives by the coast of the Gulf of Tehuantepec. Agriculture, raising cattle, fishing and commerce are main activities of the indigenous people of the Isthmus of Tehuantepec.

Mareña Renovables is the name of a wind energy project that was started in 2004 by the Spanish renewable energy developer Preneal (McGovern, 2012). In February 2012, Preneal sold its affiliate in Oaxaca to the Mareña Renovables consortium, which was owned until 2015 by Mexican and international business groups, including Fomento Económico Mexicano, S.A. (FEMSA), Macquarie Infrastructure Fund Mexico (FIMM), Macquarie Capital Society, the Mitsubishi Corporation, and the Dutch pension fund PGGM (Preneal, 2011; Rojas, 2012). Mareña Renovables consortium was the responsible for executing the Mareña Renovables project (Mareña Renovables, 2013).

The electrical power produced by the Mareña Renovables project would be purchased by the beer producer Cuauhtémoc Moctezuma, which is an operating company of Heineken NV and a subsidiary of FEMSA (a Mexican consortium) under a 20-year power-purchasing agreement.

On November 23, 2011, the Inter-American Development Bank (IDB) approved a loan of 74.99 million US dollars to the consortium Mareñas Renovables to build the wind-park. The contract was signed on February 23, 2012 (IDB, 2013). However, by 2012 there were no regulative laws and procedures in Mexico to develop wind-farms projects to commercialize electricity in Mexico and taking in consideration indigenous peoples’ rights for self-determination according to their customs and systems of decision making, known as *usos y costumbres* (customs and

traditions).

In March 2012, Wind-North a European green-energy firm announced that it had signed a contract with Mareñas Renovables to provide 132 V90-3.0 MW turbines for the Mareñas Renovables project. The deal encompassed a range of services associated with building a wind energy park, including the provision of turbines; civil and electrical work; and the supply, installation, and commissioning of the turbines, and a 10-year service and maintenance agreement.

Environmental transformations and justice

Environmental transformations

In this section, based on primary data collected during our fieldworks (2013-2017) and secondary data, we present the ecological, economic and socio-cultural changes resulting from territorial transformations linked to 22 wind parks already operating and the one focused in the present analysis, the Mareña Renovables. We use data from other similar cases as a way to speculate on future environmental transformations resulting from the Mareña Renovables wind-park project in the Isthmus of Tehuantepec and understand some of the local responses toward this mega-project.

According to different local stakeholders, the ecological changes in wind parks' areas are important, not only at the local, but regional scale. For the construction of each wind-mill, there are large number of tons of soil that are removed. In addition, it is necessary to calculate the soil removed for the connected infrastructure (roads, lines to transport energy, energy stations, harbours, etc.). Closely linked to this, land clearing (e.g. forests, trees, stones, etc.) can be detrimental for ecological functionality. Vegetation is a key factor in dune ecosystems because they prevent sand to blow away, and allows the development of poor soils by fixing dunes. Without vegetation, the wind will blow away the soil and there will processes of local erosion and sedimentation in other areas.

In other wind parks in the region and elsewhere (e.g. Spain) killing of birds have been reported. This is particularly relevant in this region since it is a North-South migration road for many different species of birds. In this sense, not only vegetation but fauna activity is altered as a result of such mega-projects. According to local stakeholders, not only terrestrial fauna is impacted but in the case under study, sea fauna might be greatly affected. The noise, according to some, will have an effect on sea life. Local fishers think that this will scare away fish and shrimps' shoals, which are detrimental for their livelihood.

Finally, soil pollution should also be taken into consideration since there has been reports of oil liking in the fields as a consequence of mill functioning.

In relation to economic changes, local communities rely on local agriculture and close shore shrimp and fish fishing as their main livelihood. The change of land use from agriculture to industrial (windmills) might have a highly significant impact on their food security and sovereignty. Local communities will have to rely on food from other regions.

In addition, the decrease in agriculture activities will mean that farmers will no longer farm and

that unemployment might increase. This might force local people to look for jobs outside the region, unless other local income activities are provided.

Even if mills will not be located on the sea, local fishers claim that the ecological transformation will impact sea life in different ways. One is related to the displacement of land vegetation. It is claimed that leaves and other parts of vegetation eventually reaches the sea. By removing vegetation, the waters might not be as nutrient as before. This will affect fishes and seafood quality. Eventually, this turns into an economic problem and a food insecurity concern for local families.

Distributional justice: goods and bads

In this section we focus in the following questions: who benefits with the wind parks? Who loses? How fair is the distribution of bads and goods?

There are a number of goods created as a consequence of investments in wind parks. Taking into consideration wind parks in the region, some of them could be (a) increase of energy production, (b) ‘eco-friendly, clean or green’ energy produced, (c) creation of jobs for the construction and maintenance of the wind park, (d) construction of communication infrastructure, (e) creation of carbon credits (green bonus), (f) good marketing strategy: clean energy = clean image for the Mexican government and connected companies and (g) MNC increase participation in carbon credits market.

There are also a number of bads created resulting of the abovementioned goods, or as a consequence of how such goods will be distributed according to the approved project: (a) local communities will not access energy, (b) land use change from agriculture to industrial (windmills) will decrease local food production, (c) not enough jobs to mitigate jobs lost due to the decrease in agricultural activities, (d) carbon credits create speculation in the global market and eventually, increase ‘global’ pollution, (e) ‘eco-friendly energy’ produced goes directly to MNC and corporations, (f) reconfiguration of local production activities and labour market in detriment of the majority of local people, (g) disruption of ecosystems functioning might affect biodiversity and economic activities.

In addition, local communities believe that once the park is constructed they will no longer be able to use the sea as before. Therefore, they see their access to sea restricted, they fisheries production decreased:

“Porque se opone el pueblo Huave, porque se opone el grupo de pescadores, porque se opone el pueblo de San Dionisio del Mar? Para nosotros el mar es sagrado (...) aquí en esta área paralela a la barra de Santa Bárbara se alimenta los pueblos Huaves, los pueblos Zapotecas” [“Why is the Huave people opposed? Why is the group of fishermen opposed? Why is the town of San Dionisio del Mar opposed? For us the sea is sacred (...) here in this area parallel to the bar of Santa Bárbara the Huaves villages and the Zapotec villages get food from”].

“Aquí vivimos más de miles de pescadores que estamos trabajando aquí en la mar. Ese es el banco de nosotros. Si no vamos, no ganamos. Todos somos pescadores aquí” (Eduardo Toledo Orozco, pescador, Álvaro Obregón). [“Here we live more than

thousands of fishermen who are working here at the sea. The sea is our bank. If we do not go, we do not win. We are all fishermen here”]

Procedural justice: whose politics, which legislation?

One of the main issues of the conflict was related to a land dispute in the Isthmus of Tehuantepec region (Rueda, 2011). According to a Mexican law passed in 1975, any industrial use of indigenous land in Oaxaca had to be approved by indigenous groups known as communal assemblies (Jaramillo and Borja, 2004). The San Dionisio assembly, which mainly consisted of Zapotecas and Huave fishermen and farmers, claimed that the district mayor, Miguel López Castellanos, had signed (in 2004) the building permit for the wind project without:

- 1) the approval of the Assembly (López-Bárceñas, 2012),
- 2) taking into consideration the Convention 169 ILO particularly in terms of consultations with the indigenous communities (Article 15), and in relation to land use (Article 17), and
- 3) considering the Agrarian Law (Ley Agraria, 2012), articles 23 (sections VII to XIV), 16, 26 and 75. The article 26 states that “for the valid installation of the assembly when it convenes upon first call, must be present at least half plus one of the *ejidatarios* (men or women land rights holders, Article 12), unless for the discussion of issues specified addressed in sections VII to XIV of Article 23, in which the assembly must be present at least three quarters of the *ejidatarios*”.

The sections VII to XIV of article 23 regulates, among other issues, how a change in the use of land should take place, for example from agricultural to industrial use. In this case, the industrial land use where the wind park ‘La Venta III’, was planned to be built, should have been done in agreement with that article. However, Miguel Lopez Castellanos stated: “I had to sign the permit for the land use, because the authorities had signed the agreement at the state and federal levels””. This means that the Agrarian Law was not considered when passing a municipal law to change land use.

A community spokesman stated that the assembly was also filing legal documents to rescind the land lease agreement entered into with Preneal in 2004. The Huaves and Zapotecas claimed that the company had misinformed the native people with respect to the project’s impact on the local community. However, Preneal denied such accusations in the press, adding that it promised the municipality to pay 1.4% of the wind farm’s annual income – plus \$500,000 annually – for the land to build the wind-park (McGovern, 2012).

In January 2012, the IDB in the report entitled: ‘Mareñas Renovables: Environmental and Social Action Plan’ 2012) (IDB, 2012) stated that the 33 consultations that the ‘client’ (Mareñas Renovables) made with the communities in Oaxaca were ‘satisfactory’. However, as presented above the mayor López Castellanos had signed a building permit already in 2004. This IDB report indicates that a total of 800 people attended the consultations that the company Mareñas Renovables made in the region between August 2011 and August 2012. Nevertheless, the IDB (2012) report also states:

“Consultation activities have mainly focused on land acquisition; communities were not fully informed about the construction program, or project-related impacts that may affect

them” (IDB, 2012:2).

Additionally, another IDB report, the Environmental and Social Management Report stated in sections 64 and 65 that:

“...to date, the consultation process did suffer from a lack of a systematic process to register issues, concerns and feedback of affected people. However, it is important to underline that usufruct agreements with Santa Maria and San Dionisio were publicly discussed in communal assemblies; minutes of such assemblies were attached to agreements signed before a Public Notary” (section 64) (IDB, 2011:28).

“...In the case of San Dionisio del Mar, three communal assemblies to the same end were called before obtaining the necessary audience requested by law for the assembly to be legal (an attendance of at least 50%). Consultation during this process was carried out in compliance with Mexican Law and Bank’s directive” (section 65) (ibid).

However, according to Article 23 of the Agrarian Law, in the communal assembly ‘must be present at least three quarters of the *ejidatarios*’, and not 50% as the IDB reported. On the other hand, the IDB’s reports on the project (N° ME-L1107) do not state that their client (Mareñas Renovables) has taken into consideration the language (zapoteca and huave), and cultural specificities of communities, as the *usos y costumbres* (usages and traditions), in the 33 consultations performed.

A leader of the Zapotecas and other representatives of the community questioned how the IDB and the Mexican Government had approved a wind project covering some 8,000 hectares without the Zapoteca and Huave residents being properly informed (interviews and focus groups). One representative of the local community indicated that there had been no consultation and that the foreign investors had violated international law regarding the protection of indigenous rights, particularly concerning the Convention 169 (ILO).

Alejandro von Gustedt, Director of the European Office of the IDB, said in an interview: “I am surprised of such statements, because the Bank has many filters to decide lending. But I know there is a conflict, and we are fixing it”.

A Zapoteca representative argued in an interview that although European companies had traditionally been present in Mexican industries and were among the most experienced wind developers in the world, ‘their capitalist model’ failed to take ‘the spiritual and social’ ties between the indigenous rural communities and the land into account. According to different newspaper articles, for the residents the basic problem was a clash of cultures. Nevertheless, some newspaper articles point that Adela Santos Angeles, leader of the National Chamber of the Transformation Industry (CANACINTRA, Spanish acronym) in Oaxaca angrily responded that these were fake leaders, and she demanded that the government apply the full force of the law against the indigenous people of the Isthmus of Tehuantepec who were opposed to wind energy companies, which would help to develop the region.

Recognition justice: a dispute over whose knowledge counts

Some of those who oppose the project and member of the scientific community state that there is not enough information in relation to the environmental changes that the wind park will entail. Even though stipulated, there was not an environmental impact assessment done.

Nevertheless, local people who might see their livelihoods affected contest that they know there will be environmental transformations that will affect their economic and subsistence activities. Local communities consider their land and sea very valuable. They value the sea as their ‘mother’, the place where to get food from and the place that gives life:

“Este es el mar Santa Teresa. Este es donde trabajan los pescadores. Solamente el mar es lo que da la vida a la gente. Solamente el mar es la empresa de nosotros. Solamente el mar es la madre de nosotros” [This is the Saint Teresa sea. This is where the fishermen work. Only the sea is what gives life to people. Only the sea is our company, enterprise. Only the sea is the mother of us]

“Es una amenaza para nuestro lugar sagrado (...) Nosotros tenemos que cuidar, y los de afuera también” [It is a threat to our holy place (...) We have to take care and those from outside also should]

This turns into a dispute about who knows better, whose knowledge counts, and whose knowledge is considered to have the final say. Some of the local leaders argue that that politicians and MNC are imposing their knowledge to them. It is expert knowledge that they do not have. They know different. This, we argue, is a way to exercise power and to marginalize people, both from their territories and from the policies that affects them.

“Por más que sean estudiosos, nosotros nacimos del mar. Por eso lo sabemos” [Even though they are people with studies, we were born from the sea, and therefore we know]

“Han recibido cientos de miles de pesos para que digan que el parque eólico es beneficioso y que no va a significar algún deterioro en los recursos naturales (...) La empresa Mareña Renovables les ha pagado para que digan lo que hayan dicho. Nosotros conocemos más que ellos sin haber ido a la universidad. (Alejandro López, Asamblea en Defensa de la Tierra y el Territorio) [They have received hundreds of thousands of pesos to say that the wind park is beneficial and that it will not mean any deterioration in natural resources (...) The company Mareña Renovables has paid for them to say what they have said. We know more than them without having gone to university]

As a result of the conflict over the mega-project, local communities started to re-value their traditional government system. In this sense, the social struggle became an opportunity and space for nurturing indigenous identity:

“La lucha organizada en contra del proyecto eólico asume las formas de usos y costumbres, donde todas las decisiones se toman en asamblea. Esta experiencia los ha llevado a valorar el sistema tradicional de gobierno porque defiende sus derechos y los representa”. [The organized struggle against the wind project assumes the forms of uses and customs, where all the decisions are taken in assembly. This experience has led them to value the traditional system of government because it defends their rights and represents them]

Eco-friendly business or environmental injustices?

“De ninguna manera es energía verde. Estamos dañando un ecosistema entonces no es energía verde. Además, por las cantidades, no podría considerarse... es intensivo. Es un uso intensivo finalmente” [There is no way this can be considered green energy. We are damaging an ecosystem, so it is not green energy. Also, for the amounts, it could not be considered... it's intensive. It is an intensive use, eventually]

Even if local indigenous communities in the Isthmus of Tehuantepec are not using the environmental justice framework in their struggles and for the defence of their territories and lands, we can consider that such frame has allowed us to understand the different injustices resulting of large-scale investments in wind energy mega-project such as the one planned by Mareña Renovables.

We observe how environmental injustices are re-produced by the Mexican government in its different levels and the MNC involved when not considering and marginalizing the importance given by local indigenous communities to their lands, their sea, that is, their environment and livelihoods. The government in its different levels is not taking into consideration the effect of land change in the functioning of terrestrial and maritime ecosystems, so it is misunderstanding the implications of ecological changes in the economic activities that local communities rely on.

In addition, the government does not respect local forms of government and participation and violates international legislation in relation to consultation and participation (FPIC) in megaprojects.

The MNC involved have chosen not to recognize that there are different levels of power and that in countries such as Mexico, the federal or the state government does not always represent local indigenous communities. And this is twice dangerous since they marginalize indigenous communities even further, by not knowing their colonial history of oppression and marginalization by the national states.

Local communities observed that there are violations of their rights; an injustice committed and to be further deepen. They understand that the land change will produce in the future ecological transformations that will weaken their autonomy over their territories and livelihoods. They will no longer control portions of their lands and their economic activities that depend on natural resources will decrease. They will be dependent on food from outside the region, decreasing therefore they autonomy and food sovereignty. Their revenues will come from land leasing. But they believe that money is not as good as the natural resources that they put under production. From the land and the sea *“sale el producto, que comen y venden. El dinero no dura.”* The sea is not only their bank, but their ‘mother’.

All these transformations (ecological, economic and socio-cultural) bring changes that can be positive or negative, depending on how local communities experience this and the impacts in their autonomy in relation to the market and capital. MNC are controlling such changes and imposing communities to change their relationship with their natural environment.

We conclude that with these investments and environmental transformations local communities are losing power over their territories and their capabilities to have a dignified life. We argued

however, that in case of indigenous communities, it is not only a matter of who owns what, or the property rights, but who has right to decide who has rights.

It is not only about how a given community values the environment, but the whole understanding of nature and people and/or people in nature, this is, how the identity of local people is formed and transformed by that ‘environment’ and necessary for their reproduction as such.

It remains to explore the implication of these transformations in gender relations and ethnicity. The reconfiguration of the local labour market has implication in the re-construction of gender relations. This translates in future struggles for better salaries and access to land and sea. Indeed, there are other socio-cultural changes linked to the environmental threats and transformations that need further exploration. For instance, the transformation of gender roles very much linked to economic activities. Fishers and farmers are mainly masculine activities. Any transformation in these activities will have an effect on gender relations. “*We are all fishers here*”. However, it is mainly men who do fishing.

Even more problematic it can be when an ethnical group has constructed its identity in relation to a livelihood. If they see their livelihood disappearing as a consequence of not accessing natural resource they rely on, or as a consequence of market changes, they feel they are ‘disappearing’ as well:

“*Los que nos deberían defender, como autoridades, nos están discriminando. En todas formas. Nos quieren desaparecer*” [Those who should be defending us, such as the authority, are discriminating us. In all the ways. They want us to disappear]

“*Nos están quitando la razón de ser de los Huaves. Pescadores.*” [They are taking away our reason of being Huaves. Fishermen]

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