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THE POLITICS OF WIND ENERGY IN THE ISTHMUS OF TEHUANTEPEC: WIND, LAND AND SOCIAL DIFFERENCE

GERARDO A. TORRES CONTRERAS

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Author's declaration

I hereby declare that this thesis has not been submitted,
either in the same or different form to this or any other
University for a degree.

Signature:

Abstract

This dissertation examines the following research question: **how, why and by whom is wind energy contested in the Isthmus of Tehuantepec, Mexico?** By comparing the two biggest wind farms in Latin America, Eurus and Eólica del Sur, the dissertation sheds light on the politics of wind energy that arise at the local level in Mexico as a result of wind energy investments. The goal of this research is to contribute with a nuanced account on green energy transitions by emphasising the analytical relevance of the wind-land-energy nexus as wind energy investments expand in the Global South.

By drawing on ethnographic methods and over 80 interviews, the dissertation argues that the political and social dynamics of opposition to and support for wind energy in the Isthmus of Tehuantepec can be found across three dimensions: land tenure context, indigenous identity and the politics of benefit distribution. The first dimension refers to the different standpoints *vis-à-vis* wind energy that are generated because of contrasting landownership systems in the region. Indigenous identity makes reference to the idea that one of the reasons that motivate reactions for or against wind energy is whether individuals or groups consider themselves indigenous. Finally, the third dimension refers to the winners and losers resulting from wind energy expansion according to local-based histories of extracivism, exclusion and dispossession.

The earthquakes that shook the region in September 2017 and the subsequent relief efforts act as a moment of rupture in wind energy development by affecting the three dimensions of support or opposition to wind power. While bearing in mind that the reconstruction process will take at least a decade to be finalised in the Isthmus of Tehuantepec, the research seeks to answer how the three dimensions might reconfigure contestation to wind energy after the disaster.

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Acronyms

APIITDTT	Indigenous Assembly of the Isthmus of Tehuantepec in Defence of the Land and Territory
APOYO	Articulation of Indigenous People of the Isthmus in Defence of the Territory
APPJ	Popular Assembly of the People of Juchitán
APPO	Popular Assembly of the Peoples of Oaxaca
CDM	Clean Development Mechanism
CEMDA	Mexican Centre of Environmental Rights
CEMEX	Mexican Cements
CFE	Mexican Energy Commission
CJNG	Jalisco New Generation Cartel
COCEI	Coalition of Workers, Peasants and Students of the Isthmus
DOF	Official Journal of the Federation
EDF	<i>Électricité de France</i>
EZLN	Zapatista Army of National Liberation
FPIC	Free, Prior and Informed Consent
FUNDAR	Centre of Research and Analysis
IACHR	Inter-American Commission of Human Rights
IADB	Inter-American Development Bank
ILO	International Labour Organization
INEGI	National Institute of Geography and Statistics
NREL	National Renewable Energy Laboratory
PGGM	<i>Stichting Pensioenfondszorg en Welzijn</i> -Dutch pension fund-
PRD	Revolutionary Democratic Party
PRI	Institutional Revolutionary Party
PROCEDE	Certification Programme to Ejido Lands
RAN	National Agrarian Registry
RCROTIT	Regional Council for the Reconstructions of Our Towns in the Isthmus of Tehuantepec
UCIZONI	Union of Indigenous People of the North of the Isthmus
USAID	United States Agency for International Development
WB	World Bank

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Glossary

Bienes Comunales	Communal land that was repatriated to indigenous communities after the Mexican Revolution
Comiscal	Clay oven used for food preparation in the Isthmus of Tehuantepec
Ejido	Large holdings of land divided up and returned to farmers after the Mexican Revolution.
Ejidatario	Member of the ejido
Ejidal Assembly	Ruling body of the ejido
Guarandaracanee	The process of mutual help between families or households
Ikootz	Indigenous people living in the south of the lagoon area
Narcomanta	Message left by organised crime groups on cloth banner
Tequio	Mandatory work inside the community
Totopo	Basic cereal in local people's diet. It is made with processed maize and toasted in a comiscal
Zapalote	Heirloom endemic corn in the Isthmus of Tehuantepec

The answer, my friend, is blowin' in the wind

BOB DYLAN

The land is the answer, the land is the cause

DAVE LIPPMAN

*Cuando tenga la tierra
La tendrán los que luchan
Los maestros, los hacheros, los obreros¹*

MERCEDES SOSA

¹ When I have the land
It will belong to those who fight
The teachers, the axemen, the workers

*A las personas en el Istmo de
Tehuantepec que luchan por un mejor mundo²*

² To the people in the Isthmus of Tehuantepec who fight for a better world.

1. Introduction

In 2016 I was hired as a consultant for Oxfam Mexico to conduct research on inequality in three of the most deprived municipalities in the Isthmus of Tehuantepec: Juchitán de Zaragoza, Salina Cruz and San Mateo del Mar. One of the recurring themes that came to the table while talking to my informants was the uneven outcomes and social conflicts resulting from wind energy expansion in the region. The Isthmus, recently signalled as one of the regions with some of the best wind resources in the world, has experienced a wind rush that can be tracked back to 1994, when the first wind farm in Latin America was built in the town of La Venta. I could not help wondering why local communities were expressing such levels of discontent and contestation to an industry that in appearance represents a different logic to fossil fuels. While in the region, I heard a lot of answers ranging from their aversion to social development to the fact that they were seeking money through road blockades or verbal protests. However, one of the most interesting answers and, most likely, the one that made me engage with this topic for my doctoral degree came from an opposition member in San Mateo del Mar. When I asked her why local communities were expressing such levels of opposition to wind energy projects, she told me that although enterprises had approached communities with the promise of money, employment and social development, what local people wanted was *Monapakuy*. This concept refers to an indigenous idea of the good life in which the sea, the wind and the community are essential for well-being. I then understood that hostility to wind energy expansion has to do with politics of knowledge, ideas of the territory and the local history of the Isthmus of Tehuantepec.

In effect, while wind energy expansion aligns with global drivers such as notions of green growth or the need to meet the targets established in international and national climate regulations, it is often local politics that modify and re-shape wind energy pathways. This is observed in the case of Mexico and the Isthmus of Tehuantepec. Wind power is expected to play a significant role in Mexico's energetic transition towards the development of domestic renewable energy production systems. It is estimated that the country has approximately 12,000 MW of economically viable wind resources, which represents an investment between 13-15 billion dollars in the near future (AMDEE & PwC 2014). The outlook is so ambitious that, according to the Law for Climate Change, by 2045 at least 35 percent of electricity will be produced from clean energy sources³ (Chamber of Deputies 2012). Although wind energy represents a minimal share of the country's renewable potential, around 12 percent, the vast majority of wind energy development – almost 90 percent – is concentrated in the Isthmus of Tehuantepec, the narrowest point in Mexico

³It is important to mention that by clean energy, the reform makes reference to other sources, like oil, nuclear, and gas.

between the Pacific Ocean and the Gulf of Mexico, where 25 wind farms operate. While these mitigation investments are meant to reduce environmental degradation related to fossil fuels, ensure energy security, and foster economic growth and social development, the high levels of hostility that are present in the Isthmus of Tehuantepec question the narratives portraying green energy as an industry generating win-win-win scenarios.

The Isthmus of Tehuantepec is a resource rich area with some of the highest levels of social marginalisation and multi-dimensional poverty in Mexico. Because of its geographical conditions, this region has always represented a key area for the national government in terms of trade and energy. This can be traced back to the installation of a trans-Isthmus railway in the nineteenth century and to the construction of an oil refinery in the south of the region (H. Campbell 1993; Glick 1953). More recently, however, the Isthmus has been signalled as one of the regions with some of the best wind resources in the world, following assessments made by the Mexican government, the United States Agency for International Development (USAID) and the National Renewable Energy Laboratory (NREL) (Elliott et al. 2003). Again, and in line with other projects, wind power has been portrayed as an industry that will finally bring the elusive promise of social development to the region. However, the interplay of investments with local politics, landownership, indigeneity and local histories of exclusion and marginalisation has proved to be contentious and has seemingly exacerbated patterns of social differentiation and local conflicts within and across local towns. It is salient, therefore, to keep track of these investments in order to understand how local politics modify and shape their pathways.

Study Goal and Research Questions

Wind energy expansion in the Isthmus of Tehuantepec is probably one of the most explored cases in existing scholarship on low carbon transitions in the Global South. Scholars have looked at different dimensions of wind power investments in the Isthmus of Tehuantepec. Sheinbaum, Huesca-Perez and Köppel's (2018, 2016) work, for instance, engages with some of the social impacts provoked by this industry as well as the regulatory framework that has allowed its expansion in Mexico since 1994. In a similar vein, Howe and Boyer's (2016; 2015; 2015; 2011, 2019; 2019) work makes use of anthropological methods to show the different interpretations of wind energy between local populations and government officials. Dunlap's (2018a, 2017a, 2017b, 2018b) work, along the same lines, engages with the contestations, inequalities and issues of domination and neo-colonialism arising from this industry vis-à-vis indigenous populations. More recently, another set of scholars have analysed diverse facets of wind energy expansion from the epistemological enclosures required to harvest wind (Sellwood and Valdivia 2018) or the production of emancipatory alternatives from opposition members (Avila-Calero 2017). In Spanish, Salomon Nahmad, Langle and Nahón's (2014) work is probably the most influential so far. By interviewing a different range of stakeholders, they elucidate the challenges arising from

wind energy expansion for subgroups like landowners, enterprise officials, and bureaucrats, among others.

Although these papers are insightful, there are two main shortcomings in the recent literature on wind energy expansion in the Isthmus of Tehuantepec. On the one hand, the scholarship presents a clear bias towards the study of opposition groups and their strategies to antagonise renewable energy projects in the region. Scholars, in consequence, have shown little interest in the uneven outcomes resulting from these projects at the local level. Experiences and attitudes towards wind energy tend to be highly differentiated within and across local communities. This is because, for instance, it is not the same to be a landowner leasing land to wind investors as it is to be a landless person working temporarily on a wind farm construction site. The reasons for supporting and opposing this industry will vary as we look at the different position of each group or individual within the community. On the other hand, scholarship touching on wind energy expansion in Mexico has not analysed the role wind energy expansion is playing in agrarian change and has not yet analysed thoroughly its role in land dynamics, social differentiation and the agrarian question of labour. However, because of the way in which wind energy operates, this is a salient aspect. Bearing in mind that wind energy infrastructure only occupies between 5 to 7 percent of the total extension of leased area, land remains productive while windmills start harvesting energy. As windmills operate, therefore, local dynamics are modified, uneven outcomes come to the fore, and dispossession and exclusions begin to be articulated.

This dissertation seeks to contribute to these gaps by positioning this research at the intersection of Political Ecology, Critical Agrarian Studies and low carbon transitions. By drawing on recent works on renewable energy expansion and the enclosures and dispossessions associated with this expansion (Baka 2016; Rignall 2015; Fairhead, Leach, and Scoones 2012; Stock and Birkenholtz 2019; Huber and McCarthy 2017), this dissertation poses the following overarching question: **how, why and by whom is wind energy contested in the Isthmus of Tehuantepec?** To answer this question this dissertation highlights the importance of looking at the relationship between land and wind, class formation and different reactions on the ground vis-à-vis wind energy expansion and local histories of mobilisation in the Isthmus of Tehuantepec. Ancillary questions support this interrogation by looking at different moments in the construction of wind as a resource to be harvested in the Isthmus of Tehuantepec. By asking *how wind energy is construed as a resource to be harvested* the dissertation queries the materiality of wind energy in relation to land and the space requirements for such industry. The question concerning the *implications of wind power along dimensions of class, ethnicity and gender* seeks to deconstruct the notion of indigenous people as homogeneous entities and advances the importance of understanding renewable energies in relation to agrarian change. The question on the *different reactions on the ground resulting from wind industry* seeks to shed light on why some people resist these

investments and others support them while bridging wind politics with local-based mobilisation. Finally, the sub question on *how wind investments are implemented in the Isthmus of Tehuantepec* elaborates on how the interplay between global narratives of wind power and local politics modifies wind energy pathways.

The guiding argument of this dissertation is that the political and social dynamics of opposition to and support for wind energy can be understood by looking at three main themes that are present in the Isthmus of Tehuantepec: landownership, indigeneity and the politics of benefit distribution. Landownership sheds light on the need to understand wind energy expansion from the different claims around land as well as from the socio-material arrangements related to wind power. Secondly, indigeneity underscores the importance to understand wind expansion in relation to different knowledge, value systems and mobilisation. Finally, the politics of benefit distribution illuminate the winners and losers in the context of the wind energy industry at a local level. These three themes provide a snapshot of how wind energy is reconfiguring rural areas in Mexico and, more specifically, the state of Oaxaca.

Multi-site Case Study

To answer the question, the dissertation will look at the divergent pathways experienced by two wind farms in the region: Eurús and Eólica del Sur (see table 1). Eurús wind farm started its construction process in 2009 in the *ejido* of La Venta, land that was redistributed on a collective basis after the Mexican Revolution of 1910. The landownership scheme means that claims over land in this case are well defined, especially after the landholders decided to regularise their land with the Certification Programme to Ejido Lands (PROCEDE) in 1998. Eurús was, until 2019, the biggest wind farm in Latin America combining Mexican and Spanish capital in order to provide one of the biggest Mexican companies, Mexican Cements (CEMEX) with 25 percent of their total energy consumption. By occupying an area of 25 square kilometres, Eurús wind farm has been portrayed as the ideal wind farm in the region because it was awarded with an international prize by the Inter-American Development Bank (IADB) in 2015 for positive social and environmental impacts (Acciona Energy 2015). Eólica del Sur, on the other hand, is now the biggest wind farm project in Latin America amounting to a generation capacity of 396 MW (Secretariat of Energy 2016). The implementation pathway of this project has been contested since the project's investors first tried to install windmills in the south of the Isthmus in the early 2000s and the project has been suspended by Mexican authorities on two different occasions. Just like Eurús wind farm, Eólica del Sur combines Japanese, Australian and Mexican capital in order to provide FEMSA Mexico – in charge of Coca Cola Mexico – with clean energy. Unlike Eurús wind farm, the landownership situation upon which this wind farm was developed is contested by contradictory claims that hover between small-ownership schemes and collectivisation of land. This element has proved to be essential in disrupting Eólica del Sur's implementation pathway.

Table 1. Eólica del Sur and Eurus Wind farms

	Eurus	Eólica del Sur
Date of construction	2009	2019
Wind Turbines	167	132
Land extension (km2)	25	53.32
Installed Capacity (MW)	250	396
Investors	IADB long term-loan to Acciona and CEMEX	IADB long-term loan to FEMSA
Energy reform	Before	After
Reputation	Awarded for good environmental and social practices	Controversial project since the beginning
Land tenure	<i>Ejido</i>	Land claims hovering between individual and collective claims

Source: Own elaboration

The observation and analysis of the two projects through a multi-site case study allows us to examine wind energy expansion through various and divergent representations, such as different patterns of landownership, identity and distributions of benefits from wind energy. This multi-site case study, therefore, provides us with the opportunity to obtain a richer and deeper understanding of wind power in the Isthmus of Tehuantepec by developing cross-case comparisons from a variety of perspectives (Reilly 2012). In this sense, by interrogating their different implementation pathways accordingly, the two cases provide us with insights to answer the overarching research question.

Dissertation Structure

This dissertation comprises seven chapters plus the introduction and conclusion. Each chapter engages with a different moment of the research question and the analytical themes provided by the guiding argument: that the political and social dynamics of opposition to and support for wind energy can be understood by looking at three guiding themes that are present in the Isthmus of Tehuantepec: landownership, indigeneity and the politics of benefit distribution. In this subsection, I will describe the main question guiding each chapter as well as the argument they offer.

Chapter two, Research Design and Methodology, details the methods and strategies I used to collect data in the Isthmus of Tehuantepec. It elaborates on the process whereby my initial research design was modified as a result of the strongest earthquake of the last century in Mexico that shook the region in September 2017. It also analyses the serendipity I came across after the disaster and the ethical dilemmas associated with my participation, along with community members opposed to wind energy, in reconstruction efforts in a project seeking to rebuild kitchens in communities affected by extractivist projects.

Chapter three, entitled *The Politics of Wind Energy*, provides an analytical framework to capture how, why and by whom wind energy is contested in the Isthmus of Tehuantepec. The chapter refers to five analytical moments in the construction of wind as a resource to be harvested, ranging from the construction of wind as a resource to the multiple reactions on the ground provoked by this industry. This framework allows for the exploration of wind power as it cuts across scales and stakeholders. The key take-away from this chapter is that wind expansion ought to be understood in relation to land politics playing out in the Isthmus of Tehuantepec.

Chapter four, *Power-Resistance Relationship in Wind Energy Development in the Isthmus of Tehuantepec*, analyses how the interplay of reactions from above and reactions from below in different landownership systems led to different implementation pathways in the two case studies. By tracking the evolution of these projects since negotiations were undertaken with agrarian authorities, this chapter argues that as wind energy projects started to expand from a context of land certainty in the north towards an area affected by land uncertainty in the south, opposition strategies shifted from demanding a better deal for wind energy companies towards the defence of collective land ownership and indigenous systems of life. At the same time, the strategies of those supporting wind energy development also shifted from the classic divide and conquer strategies towards a managerial approach of opposition groups. This chapter, therefore, highlights the importance of landownership schemes for wind energy development.

Chapter five, *Twenty Years Under the Windmills: Social Difference, Land and Change in La Venta*, investigates the process whereby patterns of social differentiation in La Venta have been accelerated as a result of wind energy investments over the last two decades. By drawing on more than 40 semi-structured interviews with landowners and data on regularised land in the *ejido*, the chapter argues that wind energy has accelerated patterns of social differentiation in two respects: among landowners and between landowners and landless people. While landowners with more than 20 hectares are able to combine wind rents⁴ with investments in agriculture, those with less than 20 hectares of land barely manage to survive. By contrast, those without land have benefitted from wind investments, depending on their engagement with the urban economy fostered by the wind industry. This chapter, hence, shows that wind energy development has resulted in different material and social relationships between local people and wind energy with actors benefitting (or not) in various ways, which is in turn linked to patterns of social differentiation. This chapter sheds light on the long-term evolution of wind investments in a landownership context with well-defined claims over land.

⁴ Wind rents refer to the money paid by wind enterprises to landowners or ejidatarios who decided to lease their land for wind energy farms.

Chapter six, Mobilisation, Land Tenure and Citizenship in Eólica del Sur Wind Farm, engages with the different reactions on the ground resulting from wind energy development in a context where different political groups claim ownership over land. The chapter argues that the diverse reactions to Eólica del Sur wind farm rest on contrasting interpretations of who owns the land in the region and are connected, at the same time, to variegated claims around citizenship, authority and state-making. While proprietors consider that land should be held under small-ownership schemes, opposition members believe that land is collective and should be governed according to indigenous systems of governance. At the same time, those who neither oppose nor support the investments consider that a popular vote should define what to do with the project. This chapter, hence, shows the importance of linking agrarian questions around the ownership and use of land with wider debates on renewable energy expansion.

Chapter seven, Post-relief efforts in the Isthmus of Tehuantepec, engages with the broader politics of relief efforts in the Isthmus of Tehuantepec after the 2017 earthquakes in relation to wind energy expansion. By drawing on ethnographic methods related to my participation in kitchen reconstruction in collaboration with opposition members, this chapter argues that the seismic tremors were used in the interest of different actors according to their position vis-à-vis wind energy investments. While for government and the wind companies the disasters were a tool to advance a territorial re-arrangement in the region in order to prepare the social terrain for the next wave of wind farms coming to the region, for opposition groups to this industry the disaster was an opportunity to articulate collective processes of resistance in towns that have hosted or that will host wind energy investments. This chapter, therefore, presents insights on the relationship between disaster reconstruction and wind investments.

Finally, chapter eight, Eurús and Eólica del Sur Wind Farms: Social and Political Dynamics of Opposition to Wind Energy Projects in the Isthmus of Tehuantepec, brings together the analysis across the two cases by exploring how, why and by whom wind energy is contested in the Isthmus of Tehuantepec. By analysing the previous empirical findings, the chapter argues that three elements varying across the two cases influence opposition to and support for wind energy in the Isthmus of Tehuantepec: land tenure system, indigeneity and the politics of benefit distribution. After analysing each one of the themes, the chapter also argues that the earthquakes and subsequent post relief efforts modified the social and political dynamics after the sense of urgency had declined and dynamics were getting back to normal. The chapter, therefore, provides insights on how the earthquake might reconfigure each theme while taking into account that the entire reconstruction process in the region will take at least a decade. This chapter, hence, acts as a conclusion by drawing the findings together and providing an answer the overarching question of **how, why and by whom is wind energy contested in the Isthmus of Tehuantepec?**

2. Research Design and Methodology

As mentioned in the introduction, this dissertation asks the following question: how, why and by whom is wind energy contested in Oaxaca, Mexico, and with what implications? In order to answer this question, I compare two major wind farms in the Isthmus of Tehuantepec, associated with different pathways of project implementation: Eólica del Sur and Eurus. The former is now the biggest wind farm in Latin America, installed in the context of a complex landownership situation with high levels of contestation and resistance. The latter, on the other hand, was completed in 2009 and was established in the context of a well-defined, private land tenure system with relatively limited levels of contestation. The comparison of the two projects enables us to understand different moments in wind energy expansion in the Isthmus through a multi-site case study (Reilly 2012).

In this chapter, I present the research design and methodology I drew upon to conduct data collection. To this end, the chapter comprises three sections. First, it explores the effects of the biggest earthquake in the last century on my research and the process whereby my approach was modified because of the disaster. Second, it depicts the methods and fieldworks conducted from 2016 to 2019 in the Isthmus of Tehuantepec. Finally, this chapter elaborates on the dilemmas and debates on positionality and reflexivity resulting from my collaboration with a social movement opposing wind energy expansion in the region.

Locating the research in a disaster-affected area

On September 7th 2017 the strongest earthquake in the last century, with a magnitude of 8.2 on the Richter scale, struck the south of Mexico, concentrating most of its destructive impact in the Isthmus of Tehuantepec (UNAM 2017). In the three municipalities, which contain over 1,500 windmills, more than 70 percent of the dwellings were affected by the tremor. In the morning of September 23rd, a second earthquake, with a magnitude of 6.1, struck the region, intensifying the crisis created by the previous disaster (UNAM 2017). Although the magnitude of this second earthquake was lower than the previous one, its epicentre was just a few kilometres away from one of the main cities in the Isthmus, Ixtepec. Therefore, this increased the level of destruction in the region and as such, there was widespread public opinion that the second tremor was stronger than the previous one. As a result, those dwellings that had not collapsed, but that were affected, ended up as uninhabitable. These September earthquakes heavily affected my doctoral research and the process of data collection since 2017.

These earthquakes took place while I was preparing my fieldwork phase. Having spent approximately one year researching the background of wind energy expansion in the region, I was suddenly under the impression that going to the Isthmus to research wind energy and social resistance was irrelevant because there were other priorities and other necessities in the region

related to post-relief efforts. This resonates, for instance, with the fact that the Isthmus of Tehuantepec was declared a zone of humanitarian crisis right after the disaster (Villegas, Malkin, and Semple 2017). In this context, I started to wonder whether choosing another case study would actually make more sense. However, before taking any decision, and after having discussions with a few of my informants in the region, I decided to conduct a “pilot” fieldwork for ten days in the Isthmus of Tehuantepec. The goal would be to check the landscape, to assess whether transportation between communities in the region would be possible in the future and to evaluate whether it was pertinent to engage in conversation on wind energy with informants. Without a place to stay and with a tent and three changes of clothes I decided to make my way to the Isthmus of Tehuantepec.

A couple of hours before getting on the coach to the Isthmus, I came across a call for help on the World Wind Energy Association webpage by Yansa Mexico⁵. In this call for donations, Yansa was asking for wind turbine manufacturers to donate part or all of the equipment required for a community-owned wind farm. In particular, they were looking for wind turbines in the range 1.5-3.5 MW and financial donations for construction or commissioning (Yansa 2017). With nothing to lose, I decided to email Yansa’s director to offer my labour rather than a financial or technological donation. This was a moment of serendipity as Yansa was just planning a project with local organisations in the area and were looking for people to participate in the project. To put it in Shulman’s words, this was a happy accident; it was finding a sought-after object in a place or manner where it was not at all expected (Shulman 2011, xiv). In collaboration with the Indigenous Assembly of the Isthmus of Tehuantepec in Defence of the Land and Territory (APIITDIT), Yansa was seeking to participate in post-relief efforts through the reconstruction of kitchens and *totopo*⁶ ovens with two objectives in mind. On the one hand, by seeking to rebuild ovens they were trying to enable the hearth of the house to rise from the rubble. Since the *totopo* is the base of the diet in the Isthmus, kitchen reconstruction would enable people to establish a new relationship with the territory and, therefore, with projects coming to the region. On the other hand, kitchen reconstruction sought to re-activate the local economy of the towns of the region. This is because in order to bake and sell *totopos*, people need endemic maize and thus the work of small-scale farmers in the region. Once the *totopo* is cooked, people in the local communities would start buying this product and money would start circulating.

⁵ Yansa Mexico is an initiative trying to install the first community-led wind farm in Mexico and Latin America. For further insight into the initiative and the challenges they have faced in the Mexican context, check the following references: (Hoffmann 2012; Oceransky 2010b).

⁶ Totopo is the basic cereal in local people’s diet. It is made with processed maize and afterwards toasted in a clay oven called “*comisca*”.

One of the key elements of the project is that APIITDTT's work in the region has revolved around the opposition to wind energy and other extractive projects – including mining and oil refineries (Ramírez Miranda, Cruz Altamirano, and Marcial Cerqueda 2015). As a consequence, the communities targeted for the project fell under two broad categories: those that had been affected by wind energy investments in the past and those that would be the target of new wind energy investments in the future⁷. The first stage of the project involved conducting regular visits to seven communities⁸ in order to assess their needs for resources and to see what material and labour were needed for the reconstruction. In order to conduct such assessments, APIITDTT and Yansa would hold meetings and workshops with over 50 women in each of these towns. These workshops would facilitate the identification of key female leaders in the towns and would enable the construction of collective meaning around notions of territory, extractive projects and food systems. At the same time, these workshops not only allowed me to determine whether it was pertinent to engage in conversations on wind energy projects with local community members but also facilitated my ability to build a relationship of trust with them through my association with the APIITDTT.

The opportunity to participate in this project allowed me to establish a strong rapport with informants mobilising against wind energy that I would not have been able to contact under different circumstances. In this sense, during the workshops, I would ask the organisations' members to suggest individuals whose experiences could be insightful for my research and I would identify informants as well. Most importantly, however, is that this experience allowed me to see how post-relief efforts were being coordinated by a different variety of actors, ranging from government, NGOs and wind companies to these more local grassroots organisations opposing wind energy. Once I had visited the community three or four times, I would try to have a chat with them in order to explain my research and ask whether they would like to participate. If they agreed, I would come back to the community on my own over the weekends or on a different day, as I would like to diminish the degree to which I would be associated with the two organisations. During the interviews, I would try to focus my questions and the conversations on wind energy and not on the disaster or the reconstruction project. By doing this, I would try to minimise the risk of exposing some of my informants to a traumatic event or to put them in distress. In addition, I would ask for their opinion on how to deal with this research in that space and whether they had any advice on who else to approach in the community.

⁷ They knew these communities would be targeted by wind energy investments because leasing contracts had been signed between land authorities and wind companies in order to reserve land.

⁸ The seven towns are: Santa Rosa de Lima, Juchitan's 7th section, Chicapa de Castro, San Francisco del Mar, San Dionisio del Mar and Huamuchil. See Appendix 2 for the location of these towns on a map.

This long process, as it required three or four visits before conducting an interview, allowed me to establish contact and to conduct interviews with a wide variety of actors mobilising around Eólica del Sur wind energy project. As for the Eurus project, the earthquake did not affect the town to the same extent as other municipalities in the region. As a consequence, my contact with land authorities and landowners in the town of La Venta was not as extensive as with the Eólica del Sur case. After establishing contact with the main stakeholders in the town through the APIITDTT, I conducted snowball sampling to get in touch with a diverse range of actors in the town: landowners, land authorities, municipal authorities and wind energy enterprise officials. Challenges in this case study were not related to the effects of the disaster as much as to building relationships of trust with my informants. Since the town has a reputation for wealth because it has been hosting wind farms for the last 20 years, landowners are suspicious of outsiders. As a result, I had to follow specific measures when approaching the inhabitants of La Venta. First, I would always introduce myself with my student ID from Sussex University. Second, I would immediately detail the scope of my research. I would tell them that none of my questions had to do with the amount of money they were receiving from wind companies and would not relate to their opinions about the land authorities or to the standpoint they had vis-à-vis the wind energy companies. Finally, I would mention the names of some of the people I had already interviewed, saying that they suggested I could approach them. What usually worked was to approach them utilising the recommender's nickname. This would make them feel at ease. The multiple challenges associated with building trust with my informants were surmounted by utilising snowball-sampling technique and by coming back constantly to the town over the span of three years.

Methods and Fieldwork

I spent a total of 8 months in Juchitán and surrounding towns across the span of three years between October 2017 and March 2019. In the first fieldwork period, conducted between October 2017 and March 2018, I interviewed 51 informants from the two case studies. These interviews were structured in the following fashion: 27 interviews are related to Eólica del Sur case, 19 have to do with Eurus wind farm and five are from general stakeholders – meaning NGOs or government officials not related directly to any of the cases on wind energy development in the region. The second fieldwork period was carried out between January 2019 and March 2019. In this second fieldwork, I spent most of my time trying to fill in the gaps I came across while writing up chapter drafts. I conducted 31 interviews structured around the following themes: 18 interviews are related to landowners' accounts on Eurus wind farm and La Venta; nine follow-up interviews were conducted with informants across the cases and five interviews were related to key informants who participated in the most recent consultation process in Unión Hidalgo for the construction of the Gunaa Sicarú wind farm. Splitting my fieldwork into two phases not only

allowed me to come back to Brighton to start on the data analysis, but also helped me to identify potential gaps in my chapters and the data needed to address them. In total during the two fieldworks, I interviewed the following informants:

Table 2. Number of interviews conducted according to theme

Theme	Number of Interviews
Eólica del Sur wind farm	33
Eurus wind farm	40
General Stakeholders	5
Unión Hidalgo	5
Total	83

Source: Own elaboration

As the table shows, 33 interviews were conducted in relation to Eólica del Sur wind farm. The questions for this group revolved around questions of identity, land tenure and the reasons for mobilisation both for and against wind energy projects. The informants can be divided into three subgroups: groups in opposition to wind energy development, landowners in the municipalities of Espinal and Juchitán who decided to sign contracts with wind energy enterprises and individuals who decided to abstain from voting for or against the wind energy project in the Free, Prior and Informed Consent (FPIC) procedure⁹. Most of the informants are members of organisations mobilising against wind energy and landowner committees pushing for wind energy development in their land. As for those individuals expressing a neutral opinion about wind energy development, they are members of the organisation called Comité Melendre. This organisation proposed, during the FPIC procedure, that a vote should be held among the population of Juchitán in order to settle on the final decision. Concerning gender dimensions, nine of these interviews were conducted with female members of organisations mobilising against wind energy investments in the region. These female members are either the head of the organisations or play a role as brokers between the communities and local organisations. It is important to mention that only one interview was conducted with a female landowner within the wind farm. The reason for this is that only two female individuals have property rights over land in the case of Eólica del Sur wind farm. This is symptomatic of the current Mexican agrarian context where women only constitute 16.3 percent of all landowners (Gay-Antaki 2016; Katz 1999, 3).

In relation to the other case study, Eurus wind farm, 40 interviews were conducted with landowners and landless people in the town of La Venta. Semi-structured interviews in this case were focused on four key themes: the history of wind energy in La Venta; the effects wind energy investments had had on their livelihoods and on the community; and their activities on the land

⁹ The FPIC procedure in Juchitan integrated four stages: previous agreements, informative, deliberative and consultative.

and how they have been affected – or not – by windmills. Through the 40 interviews I tried to capture the experiences and narratives of five population subgroups: landowners with more than 20 hectares of land, landowners with less than 20 hectares of land, landowners who have sold some of their land, landowners whose land was not included in the wind project and landless people living in the town. For this part of the study, I tried to keep a balance in terms of gender dimensions by interviewing female landowners. As elsewhere, there are few female landowners because of the history of land allocations in the town (Gay-Antaki 2016, 61). I did manage, nonetheless, to conduct interviews with eight female *ejidatarias*¹⁰.

In relation to the other subgroups, general stakeholders and Unión Hidalgo, the interviews had two objectives in mind. First, with the general stakeholders the goal was to get a general sense of wind energy expansion in the region. To this end, NGO members in the city of Oaxaca, government officials in the municipality of Juchitán and enterprise officials from Acciona were interviewed. Questions revolved around land use, socio-environmental conflicts resulting from wind energy and social impacts associated with wind energy investments in the region. As for the sub-group in Unión Hidalgo, the interviews were structured around the consequences of the earthquake in the municipality and how different actors were participating in post-relief efforts in the region. Questions probed the informants' experiences after the earthquake, whether the earthquake had affected their dwelling, if they were receiving any aid from private or public actors and whether they had participated in the consultation process for the new wind energy farm. Although this town is not related to the two wind farms that are the focus of this study, it is important because post-relief efforts from different standpoints converged in Unión Hidalgo for the conduction of the FPIC procedure. This subset of interviews helped me gain a better sense of the new politics of wind energy in the region after the natural disaster.

Participant Observation

Another important part of the fieldwork relied on conducting ethnographic and participant observation. This approach requires deep levels of trust. It was the earthquake event and my involvement with Yansa that allowed me to gain access to a different set of stakeholders and to work closely with them. Being a Yansa team member enabled me to observe the internal dynamics of the organisation and the different standpoints of those collaborating with the project. By organising and facilitating meetings with over 50 women in each of the communities, I was able to observe a collective and gendered construction of knowledge to which access would have been hard if I had come as an independent male researcher.

¹⁰ The word ejidatarios refers to the members of the ejidos. Ejido is a given area of land that was redistributed after the Mexican Revolution of 1910. Large land holdings were divided up and returned to the general population. Farmers were allocated parcels from which they managed and used the terrain but did not own it.



Figure 1. Workshop in San Dionisio del Mar. Source: Own elaboration

The workshops were organised around three different dimensions. First, we would ask them if they could think of an experience involving the defence of the territory in their community. Communities affected by wind energy would tell us about their experiences with enterprises, the government and other stakeholders. Most importantly, they would tell us about how the community organised itself to mobilise against wind energy and the role of female members in this process. Communities not recently affected by wind energy, on the contrary, would talk about experiences they had in the past concerning limits with other municipalities and *ejidos* and would elaborate on the role of women in this process. Secondly, we would ask them why the territory is important for their livelihood and their everyday life. By highlighting the connections between their diet and the territory we would emphasise the role that farmers, markets and *totopo* makers play in the region's life. Finally, we would ask them about traditional and indigenous knowledge in relation to their kitchens and dwellings to inform reconstruction efforts. These workshops hence enabled me to escape the formality of an interview setting while allowing me to engage in informal conversations and to experience a process of collective construction of knowledge. This became a salient part of my research, as it allowed me to triangulate some of the insights obtained from my interviews.

Along the same lines, my participation in the project gave me the chance to observe the nuanced and contradictory views inside those groups that oppose wind energy projects in the region. I was able to appraise difference of two sorts: in relation to groups opposing wind energy in the region and between these groups and organisations alien to the region like national or regional NGOs participating in post-relief efforts. Firstly, concerning differences between opposition groups, daily chats and participation with other project members enabled me to go beyond a narrative that portrays indigenous opposition groups to wind energy as homogenous entities with the same demands. Rather than being unified under the same banner, groups opposing wind energy had disparate disagreements on the causes they were supporting, on the means to achieve their goals and on the future of the region vis-à-vis wind energy investments. In effect, as explained in chapter six, while some of the groups agree with wind energy development at a small-scale in the region, other groups see no place for windmills in their territories. As for the second degree, the differences between opposition groups and national NGOs, the convergence of different actors in post-relief efforts allowed me to observe how NGOs tried to impose agendas on grassroots organisations. The opportunity to participate in the project, engage in informal conversations with the project members and to observe some of the issues they were facing gave me the chance to develop a more nuanced perspective of groups opposed to wind energy in the region than the one sometimes portrayed by current scholarship

Positionality and Reflexivity

Conducting research in such a contested context proved to be difficult. Some informants were suspicious about my role as a ‘foreigner’ from elsewhere in the country, coming to the region to understand wind energy conflicts. Even before introducing myself, informants would interrogate my position in relation to the conflicts over wind. They would ask me where I stood in the continuum between wind energy enterprise/community, opposition to/support for wind energy, or even indigenous practices/government authorities in the region. I would tell them that my goal was to interview the widest possible range of actors participating in one way or another in wind energy expansion in the region. Landowners usually liked this answer because they were under the impression that researchers only share indigenous peoples’ agendas. Those opposing the wind farms, on the other hand, were not satisfied with my answer and they would point out that talking to landowners was pointless because they are also losing from wind energy expansion. In such a polarised context, my role as a researcher was contested and questioned in different ways. Although my position concerning wind energy development and indigenous struggles for autonomy is grounded in the need to support community ownership in the Isthmus, I adopted a position of “neutrality” whereby I showed good faith in engaging with multiple stakeholders who are often vilified or overlooked by the scholarship in the Isthmus (Bobrow-Strain 2007). This is especially relevant in relation to landed and political elites in the Isthmus, as their rationales and

narratives shed light upon the different trajectories of agrarian change resulting from support to wind power. While interviewing them, I would never show my support for indigenous movements and, I would cultivate a neutral demeanour that allowed me to approach a vast range of landowners in the two wind farms under investigation for this dissertation.

Inevitably, my ethnographic approach and the interviews I conducted were affected by my positionality as a researcher (Sultana 2007). In spite of being raised and educated in Mexico, I went to the region in my role as a researcher from a foreign institution. Even if this turned out to be rather positive when facing police roadblocks, it also affected me when participating in local dynamics. During meetings and workshops with women, I would be referred to as the “expert”, the “gringo” or the “Doctor”. This affected power relationships, because they would assume that I had more knowledge about various topics. When trying to schedule an interview and explaining what the goal of my research was, I came across informants who thought they had nothing to contribute to the research. I would try to tell them that there was no right or wrong answer and that my goal was for them to tell me a story rather than asking questions from which I would extract information. By taking the interviews to be a collective process of meaning creation, I would start the conversations asking people to tell me about the history of the town and the process whereby wind energy companies started to negotiate with community members. Most informants would find themselves at ease with this strategy.

In addition, another element to consider when analysing my positionality is that being a male researcher modified the ethnographic process, especially the workshops with women. This was especially relevant as I was the only male researcher facilitating the female-only workshops. For instance, I observed that when I asked about the role women had played in the conflict with wind energy companies, the groups I was facilitating would be quieter and would not engage as much in the discussion as other groups where female colleagues were taking the lead. My position as a male researcher, therefore, affected the extent to which women were at ease with expressing themselves and with sharing knowledge with their peers. I would as a result have to swap groups with my project colleagues in order to minimise the bias and build trust in the long-term with regular visits to the communities.

Collaborating with a Social Movement Opposing Wind Energy

The possibility to collaborate with a social movement opposing wind energy in the region, however, also brought challenges and dilemmas to my research (Milan 2014). The long-term conflict between indigenous communities and wind energy companies has fostered a situation whereby people have received threats to life because of their activism. In this situation, one of the strategies the APIITDTT has followed over the last decade is that they do not engage in conversations or negotiations of any sort with wind energy companies or people openly supporting large-scale wind energy expansion in the Isthmus. Whenever I enquired into the

reasons for this stance with organisations' members, they would tell me that they do not engage with these actors because of their systematic use of physical and emotional violence against indigenous populations. When I became aware of this political stance, I faced three particular challenges resulting from my association with a social movement: my positionality in the conflict and the politics of wind energy, the relationships established with friends and colleagues in the movement and the long-term engagement I sought to establish with them.

Concerning the first element, my positionality in the conflict, two experiences made me question my political stance. First, at one point in the project, Yansa were looking to recruit two additional people to join the constant visits to the seven indigenous communities. After interviewing one of them, project members discovered that the person had been a consultant for a wind energy project in the past. The initial reaction was to reject the candidate and to look for someone else. However, because he was an acquaintance of some of the team members, the rejection was questioned and it was mentioned that, in spite of his links with wind companies, the person could be a useful addition to the project. Since no agreement was reached, team members asked for my opinion and whether his labour was needed or not. Since I did not want to influence the project in my position as temporary volunteer, I avoided expressing my standpoint, although noted to myself that involving such an individual would make the project activities more visible to wind companies, and potentially result in reprisals. After more deliberation, the project members decided to allow the participation of that person, albeit the information accessible to him would be limited. Along the same lines, at another point in the project, the organisation was exploring the possibility of building an alliance with a local organisation in a neighbouring town. During an informal chat I had with a consultant working for them, I discovered that the organisation was collaborating through intermediaries with a wind energy company in post-relief efforts in the town of Unión Hidalgo. The consultant told me that wind energy companies did not want to be associated with post-relief efforts because of the context of heavy social contestation in the region. However, they were interested in this process and, most importantly, in participating in Unión Hidalgo. I did not know whether I should let the organisation know about this link with wind energy companies. However, I decided to do it because of safety concerns of project members. After I told them about this indirect link with wind energy companies, the APIITDTT members decided to end the collaboration with this local organisation.

Both of these experiences made me aware of how conflict and disagreement are productive and integral to movement survival and visibility (Maddison and Shaw 2014, 8) and the extent to which my research emerges from an alignment with an organised group of people in a struggle, transcending my position as a passive observer (Lewis 2012; Shukaitis and Graeber 2007). As

Naples put it, as a newcomer to the Isthmus of Tehuantepec I was implicated in political processes and inevitably became part of them (Naples 1996, 102).¹¹.

Concerning my everyday relationship with friends and colleagues, I had a similar experience when approaching a potential informant in a town of the region. I had spent some time in the region interviewing *ejidatarios* and some of them had suggested that I interview the “boss”. The boss was the leader of the workers’ union that acts as the broker between the community, the landowners and the wind energy company. Some of them, however, had alerted me that the means he used to retain power inside the union were extreme and that he was temperamental. Other informants also told me that it was because of his methods that the conflict between the community and wind energy companies had ceased. Another set of informants told me that he was a former police officer on the border with the United States and that he fled because he was threatened by organised crime. When he went back to Oaxaca, he implemented methods used by organised crime in order control landowners and the community in general. With all of these opinions about him I did not know whether to approach him and to ask him for an interview or whether I should refrain from interviewing him for my own safety. I asked the groups opposing wind energy about him and their accounts were not that different from the landowners’ ones. They told me that he had threatened the lives of some of them and that he was one of the leaders mobilising shock groups against wind energy opposition groups. I was told that every time they would have a political rally in the region, the union leader would be on the other side trying to disband them. I realised that if I conducted an interview, not only would my safety be jeopardised but also the safety of my project colleagues. Fieldwork and my involvement in the social movement created a network of uneven relationships (Stacey 1990, 23); while I would have been able to go back to Brighton and stay safe, I would have left my informants in a difficult situation.

Finally, in relation to long-term engagement, it is also worth mentioning that during the collaboration with the project, my colleagues would often question the benefit of having a doctoral researcher in the team if my research had no effect on the conflict in the short or long term. They constantly mentioned the organisation had already received plenty of doctoral researchers and that they were tired of sharing information and contacts without receiving any benefit whatsoever. Although the papers and books published on the case were positive, they were not helpful for the social movement if at the end of the day the information was passed to wind energy companies or government officials. They constantly told me that the extractive practices from academia and researchers were a problem for them and that they were sceptical about the role these actors play in the conflict. These conversations made me reflect on my role as a researcher, as an activist

¹¹ As it will be explained in chapter six, opposition movements to wind energy differ in relation to imaginaries of the future and wind energy. However, at the time of my research, the political stance was firm because large-scale windfarms were still on the table.

within a social movement and on the practices of epistemic extractivism vis-à-vis indigenous social movements in Latin America and the Global South (Grosfoguel, 2016a, 2016b). What can we do as researchers to contribute to a social movement's goals? How can we avoid extractive practices? How can we push an agenda that is in line with our informants' priorities? All of these questions constantly come to my mind when reflecting on the implications of research and during the writing-up process. Although this is something that is meant to be solved by the University of Sussex ethical clearance, I consider that the debate goes beyond what this paperwork implies. In effect, it is more about questioning the colonial practices in academia and reflecting on possible solutions to avoid such impasses (Milan 2014, 446; Lewis 2012, 229; Shukaitis and Graeber 2007, 33). As Datta underscores, this process is about creating spaces to embrace ways of challenging and counteracting acts of oppression from the government and the wind energy companies while advancing indigenous knowledges, perspectives, histories, experiences, spirituality and realities (Datta 2018, 21).

These three dilemmas made me rethink my collaborations, contexts, privileges and practices and helped me to put them into a broader context and in line with the interests of the people who struggle against wind energy investments in the Isthmus in order to build a reciprocal relationship with them (Carlson 2017; Lewis 2012). In this context, and after engaging in conversations with some organisation members, I committed to abide by the following principles. First, I anonymise all of my informants' names and all of the information that might establish a link between my thesis and their standpoints. Secondly, I will be selective when it comes to what information I decide to share with wind energy companies or government officials. This is especially relevant in the context of the hostility that has been present in the region and that has jeopardised my informants' lives. Furthermore, because groups mobilising against wind energy are part of a larger Zapatista network, it is important to respect their wish to live according to an autonomous system of government. Finally, my research does not seek to contribute instrumentally to public policies fostering a 'green transition' in the region; rather, it seeks to promote a long-term deliberative process whereby fair arrangements and indigenous values and ontologies are respected.

Final Remarks

To sum up, my research approach and methodology were heavily affected by a natural disaster striking the region in September 2017, devastating over 70 percent of the dwellings in the region. Although the earthquakes posed serious challenges to my research, I was able to stick with my original plan and research question thanks to a dose of serendipity and involvement in a new project seeking to participate in post-relief efforts organised by grass-roots organisations. The project allowed me to conduct ethnographic research and to access a different spectrum of local actors to whom access would have been almost impossible in different circumstances. It is important to mention, nonetheless, that my participation in the project also made me question my

positionality as a researcher and the effects my research might have in the long-term on local friends and colleagues.

3. The Politics of Wind Energy

This chapter offers an analytical framework to understand how, why and by whom wind energy is contested in the Isthmus of Tehuantepec, the narrowest part between oceans in Mexico. This region has been signalled as one of the best wind resources in the world and has hosted wind farms since 1994, as chapter four shows. Until 2020, 25 wind farms operate and 11 are being planned (Geocomunes, 2017). The wind energy rush in the region is characterised by a top-down strategy followed by the Mexican government, and especially Felipe Calderón's administration, in response to international commitments and the climate crises (Baker 2016). Out of the 25 wind farms currently operating in the region, only Eólica del Sur wind farm conducted an FPIC procedure where indigenous communities could express their viewpoints concerning wind power (Huesca-Pérez, Sheinbaum-Pardo, and Köppel, 2018). This top-down process has exacerbated inequalities as well as conflict within and across local communities and has provoked a feeling of disempowerment and abandonment (see chapter six) similar to Franquesa's (2018) findings on wind power development in Catalonia. It is crucial, therefore, to contribute to bottom-up accounts on wind energy expansion, by understanding how the wind is constructed as a resource to be harvested through five analytical moments, to shed light upon the broader challenges and contradictions that pervade this form of energy production (Franquesa 2019).

This chapter, thus, refers to five analytical moments in the construction of wind as a resource, enabling us to answer secondary questions. The first subsection explores the specificities of wind expansion in relation to land and livelihoods. It emphasises a new variety of drivers that emerge in the politics of wind energy such as landownership, livelihood strategies and ideas of citizenship. The second moment proposes a framework to analyse the question of how wind energy is transformed into a resource to be harvested and commodified by highlighting the need to understand wind expansion in relation to land politics. The third moment offers an approach to answer the question of how wind power expansion engages with socio-material arrangements around access to and exclusion from land through processes of statistical picturing, energy enclosure and dispossession. The fourth moment seeks to elucidate the impacts on livelihoods resulting from socio-material arrangements associated with wind investments, as well as exploring who has benefited from these investments and why, by looking at patterns of accumulation and social difference. Finally, the fifth moment engages with the question of who opposes and who supports wind energy investments in the Isthmus by detailing multiple reactions resulting from wind investments and the processes whereby mobilisations are connected to broader ideas of citizenship, authority and recognition.

These five themes therefore allow for the exploration of the emergence of wind power across different scales and stakeholders through understanding both social and physical components of

this resource in the Global South. At the same time, they enable us to understand wind expansion from a bottom-up perspective by interrogating the effects of such investments upon livelihoods, mobilisations and land dynamics. This chapter, therefore, comprises five sections, each one describing one analytical moment in the construction of wind as a resource to be harvested.

Theorising the Politics of Wind Energy: Land and Livelihoods

The reasons for social acceptance of and opposition to wind energy projects have been thoroughly studied in the existing literature. Various explanations for the lack of social acceptance have been elaborated ranging from the NIMBY phenomenon – not in my backyard – to approaches that account for justice. There seems to be, nonetheless, a general trend in the study of acceptance of and opposition to renewable energies: a call for a nuanced understanding of public attitudes (Brannstrom et al., 2017; Devine-Wright, 2005; Hall, Ashworth, & Devine-Wright, 2013). For Guo, Ru, Sun & Anadon (2015), for instance, social opposition to the installation of wind energy can be broken down into three main dimensions: public attitudes towards environmental issues, perceived interests and general attitudes towards wind energy. By examining the gap between social support for renewable energy and individual local acceptance, Hall, Ashworth and Devine-Wright (2013) similarly come to the conclusion that four components play out in the social acceptance process of renewable energies: trust, distributional and procedural justice and place attachment. Wüstenhagen, Wolsinick and Burer (2007) and Bidwell (2013), along the same lines, attribute a special role to variables having to do with justice, concern for others and market acceptance.

Even if wind energy development has been studied from various disciplines, its expansion in the Global South has received comparatively little attention. Only a handful of papers in recent years touch on the socio-political aspects of renewable energies in the Global South (i.e. Achiba, 2019; Avila-Calero, 2018; Brannstrom et al., 2017; Cormack & Kurewa, 2018; Dunlap, 2017b; Howe & Boyer, 2015; Huesca-Pérez et al., 2016; Sellwood & Valdivia, 2018; Stock & Birkenholtz, 2019). Yet, it is in socially deprived countries where wind energy is being developed the most because of its low cost, its ability to increase energy security and its ease of connection to the grid. As Howe highlights, the study of renewable energy expansion to the Global South is important because: “the objections against wind energy power that are pervasive in places such as the United States or Europe ring-hollow in comparison to those of subsistence and land struggles emerging in the South” (Howe, 2014, p. 388). Sofia Ávila, for instance, analyses how, as wind farm projects expand to the South, debates on land pressures and patterns of uneven development emerge across cases. That is to say, in addition to the claims of landscape and wildlife protection, opposition strategies emerge through the defence of indigenous territories, local livelihood claims and communal development projects (Avila-Calero 2018, 599). Landscapes called on to support low carbon transitions, in this context, are socially contested

between different types of stakeholder (Rignall 2015), suggesting a local politics of wind in any setting.

Analysis of the contestation shown to wind energy allows us to move beyond a singular interpretation of wind energy and towards an analysis of the multiple effects and interpretations related to wind. This is what Howe and Boyer define as the politics of wind: “the multiple and contingent trajectories of wind as it is made a commodity, as it is harvested for commercial purposes, as it is taken as a form of resistance and as a redemptive metaphor for a world in climatological peril” (Howe & Boyer, 2015, p. 2). Wind, in this sense, is not only contoured and constructed by contemporary demands to address climate change, but it is also intertwined with cosmologies and knowledges that are related to the environment, to the good life and to social development. In the Korean mountains, for instance, the local perception of wind turbines is intertwined with past memories based on traditional beliefs and folktales. This is why wind turbines remind residents of past memories of a mountain, wind, sounds and lights (Kim, Chung, and Seo 2018, 279). As wind is progressively harvested as a valuable commodity, it is salient to bear in mind its political dimensions and the different ways in which stakeholders conceive of wind energy.

Various kinds of contestation can be found in relation to wind energy expansion. Among others, let us focus on two in particular: the politics of knowledge and issues surrounding the political economy of wind energy. Concerning the former, tensions between local standpoints and global forms of knowledge emerge (Howe, 2014). Whereas for decision-makers wind power represents opportunities ranging from climate remediation to development projects, for local populations, protecting livelihoods is of more immediate concern (Nahman, Nahón, and Langlé 2014). There are, as a result, a series of knowledge claims in energy transitions that come into play from different audiences and may seem to be incommensurable with each other. Howe, for instance, elaborates on how Mareña Renovable wind farm was meant to be one of the most important attempts to mitigate climate change in Latin America. Not only would it have prevented the emission of approximately 879,000 tons of greenhouse gases, but also it would have generated power equivalent to the usage of more than 600,000 Mexican households (Howe, 2019, p. 43). In this sense, while for policymakers this project was an opportunity not only to generate large quantities of renewable energy, but also to develop the region socially and economically, for those in opposition the wind farm seemed to be more of a threat to local livelihoods. This is because wind energy is observed as a threat to the terrestrial environment and the vulnerable lagoon area in which local populations fish and catch shrimps (Howe, 2019, p. 104). Wind energy pathways are, as a consequence, modified by different knowledges on what wind power might represent and how this relates to everyday life: from a remedy to greenhouse emissions to a menace to livelihoods.

As for the political economy of governing regimes, wind energy expansion challenges the idea that green energy involves a transition away from fossil energy regimes (Rignall 2015). The installation of renewable energies is tied to the political economy of incumbent regimes because it is inserted into existing structures of power and injustice. Consequently, it is connected to historical claims in societies (Rignall 2015). The expansion of wind energy in Mexico, in particular, has to be understood in relation to two historical processes. On the one hand, the state of Oaxaca is one of the poorest and most ethnically diverse states in the country. In spite of a long history of energy projects in the Isthmus seeking to promote economic development, regional cultural systems and material social relations were not considered prior to the construction of these projects (Binford 1993, 89). Not only were land-based livelihoods modified, but also general inflation and speculation affected the region. Wind energy expansion has to be analysed from a developmentalist framework that aspires to improve social conditions in the region. On the other hand, wind energy expansion has to be located within a process of deregulation of the economy. With the new energy reform passed in 2013, private actors are now allowed to participate in the generation and sale of electricity. This has attracted more than 40 international enterprises like Energies Nouvelles or Iberdrola to the region. The development of wind energy, therefore, has to be inserted into a regulatory framework promoted by the state to attract investors to the region (Asociación Mexicana de Energía Eólica and PwC 2014).

The analysis of the politics of wind energy expansion from a bottom-up perspective allows us to observe three main elements that have seldom been explored in the field of social opposition to and support for wind energy. Firstly, a focus on land and livelihoods is especially relevant for the Global South and, most importantly, for areas that otherwise would be considered wasteland or indigenous territories. Secondly, a focus on the politics of knowledge around wind energy is essential to shed light not only on the different understandings of wind, but also on the different meanings that land signalled fit for wind energy expansion might have for different populations. Finally, reflections on political economy are important to formulate a complex analysis that allows us to move beyond apolitical framings in order to engage with the uneven outcomes at the local level resulting from wind power investments. In this sense, when answering the question of how, why and by whom is wind energy contested in Mexico, a focus on the politics of wind energy allows us to pay attention to issues of land and livelihoods, as influenced by a politics of knowledge and political economy at the local level.

Transforming Wind into a Commodity to be Extracted

Natural resources are not only substances with physical qualities that are present ubiquitously in nature. Rather, as Richardson puts it, resources come into being both through technical invention and physical production, as well as through acts of epistemological and ontological creativity (Richardson and Weszkalnys 2015, 12). To put it another way, resources do not exist in a fixed

and finite state, but they are constantly in the making through relational assemblages, knowledges and infrastructures as they become something to be extracted or harvested (Murray 2014). The way in which wind is constructed as a resource and transformed into a commodity to be harvested in the Isthmus of Tehuantepec plays a key role in the politics of wind energy.

Bearing in mind that the assembling of the resource is a material process that combines the social and the material without the social swallowing the material (Richardson and Weszkalnys 2015, 7), it is important to understand the material qualities that determine wind as a resource: its relationality and its resistance to enclosure. On the one hand, it is possible to assert that wind only becomes visible and observable through points of contact with other bodies. This is because wind refuses to take separateness as an inherent feature and it only thrives on the interplay with other entities. Therefore, it is only in contact where wind is observable (Howe, 2019, p. 11). On the other hand, wind evades enclosures, as it is an elementally loose resource: it can be thought of as an energy that can be harvested but never appropriated (Howe & Boyer, 2015, p. 3). The materiality of a resource shifts one's standpoint from "a dead world of artefacts into a living world of objects that are constituents of social relationships" (Bakker and Bridge 2006, 12; Jackson 2000).

The becoming of a resource, however, is not only affected by its materiality but also by its social life. As Tania Li (2014, 589) puts it, the presence, the materiality and the location of the resource are essential in the assembling of the resource for a different set of actors. The 'resourceness' of wind has to be made up according not only to an assemblage of material substances technologies, discourses and practices, but also according to the different opinions held by various stakeholders on what wind is (Li, 2014, p. 589). Michael Watts discusses the assemblage, in the case of oil, as a set of apparatuses based on the relationship between the deep infrastructures of the oil – pipelines, rights, tankers, financiers, engineering firms, security forces, organised crime, among others – and on the regimes of life and death both in the Global South and the Global North (Watts 2018, 440). That is to say, a resource assemblage is a space that not only renders a resource governable, starting from those who extract it, but that on certain occasions can be ungovernable owing to a politics of contestation (Mitchell 2009, 411; Watts 2018, 443). This is because the space of standardisation of the resource is always geographically contingent. This is why, while for decision-makers wind can be a force that can be accounted for in Megawatts and US dollars, for local populations wind is equated with the cosmological force of life itself through the Zapotec word *bi* that stands for life but also for wind (Boyer 2019, 20).

Both wind's materiality and social assemblage allow the construction of wind as a resource to be harvested through an unruly and heterogeneous commodification process. Commodification of any aspect of nature relies on ecological processes whose subordination to the market can only be partial (Prudham 2009, 128; Bakker and Bridge 2006). This is because of objective constraints

related to the material life of the resource and subjective concerns related to the allocation and distribution of a specific biophysical resource. The commodification, in this sense, depends on which particular natures are being commodified (Castree 2003, 275). As Castree underscores: it is not about taking into account the materiality of nature, but the irreducible materialities – in plural (Castree 2003, 175). If the commodification process can only be partial and it is related to wind's materiality, it is worth enquiring into the extent to which wind energy is a commodity in today's world. Owing to its materiality, the commodification of wind is unruly, chaotic and heterogeneous. In line with Bakker's (2006) insights on water, wind can also be a source of unpredictability, unruliness and resistance to human will. On the other hand, because of its refusal to be separated and exist on its own, wind commodification has to be understood in relation to its nexus with land and its politics (Howe & Boyer, 2015, p. 6).

Wind's materiality, social assemblage and resistance to commodification suggests the significance of the wind-land-energy nexus because of two elements. First, because of its fluidity and interconnectedness, wind is never separable from land. This is because, in order to harvest the wind blowing in a certain space, one needs to secure land in order to install windmills, transmission lines and substations, among other infrastructures. That is to say, rights over land are needed. On the other hand, because of its low energy density, wind requires large extensions of space to generate the same amount of energy that would just be extracted from a hole in the earth¹² in the case of fossil fuels (Smil 2006). Wind as a resource and as a commodity positions land as the key resource from which value can be extracted (McEwan 2017, 5). In the context of a rapid expansion of wind farms in the Global South, it is salient to enquire into the process whereby wind is transformed into a commodity in the Mexican case.

To this end, in order to answer how, why and by whom wind energy is contested in the Mexican case it is important to provide a framework on how wind is transformed into a resource to be extracted. By analysing its physical and social features, it is possible to advance that wind energy expansion has to be analysed vis-à-vis the need to secure large areas of land in rural areas. The relationship between wind and land, therefore, bring about particular socio-material arrangements in rural areas that influence access to and exclusion from land.

On the Wind-Land-Energy Nexus: Articulating Forms of Exclusion from and Access to Land

The production, distribution and use of wind energy articulate both material arrangements – the need for big areas of land – and non-material relationships – different accounts of what wind is and how humans should relate to it. It is important, in this context, to draw on the concepts of the

¹² This is because the power density of renewable energies is poor in comparison with the power density of certain fuel deposits. Whereas the power density of the latter oscillates between 100 and 103 W/m², the power density of the former is commonly below 10 W/m².

subterranean energy regime contrasted with the horizontal energy regime (Calvert 2015, 108). The former makes reference to the understanding of fossil-fuel-based capitalism as a specific regime of the production of space based on a vertical reliance on subterranean stocks of energy (Huber and McCarthy 2017, 2). The latter, on the other hand, brings to the centre of the debate new spatial configurations resulting from an alternative energy regime. In effect, a large shift to renewable energies would necessarily entail new uses of more land; not only producing new spaces of accumulation, but also remaking economic, social and material relationships (Huber and McCarthy 2017, 9). That is to say, a large-scale shift to renewable energy sources requires large areas of land because the energy – be it solar or wind - is harvested from large surfaces instead of extracted from the ground (see note 10). Renewable energy assemblage will thus put pressure on rural lands and people while competing, at the same time, with land use and productivity. Among other patterns, the wind-land-energy nexus brings mechanisms of discourse creation, land control and dispossession.

It is therefore worth enquiring into the practices that consolidate wind energy as a resource to be harvested and that articulate forms of land access, claims and exclusion (Peluso and Lund 2011). To start with, there is a process of ‘statistical picturing’, where land that has been identified as potentially suitable for the installation of renewable energy infrastructure is classified as underutilised, idle or wasteland (Li, 2014, p. 592). This depiction of land resonates in the Isthmus of Tehuantepec. In 2010, when Elias Ayub, Mexican Energy Commission (CFE) Director, inaugurated the Oaxaca I wind farm he emphasised the new uses of land that could be drawn from these new investments. He declared that: “in the space that before used to be considered as wasteland, now we will have a windmill forest producing energy” (González 2015). The problem with this rationale is that, as Nikita Sud underscores, the vision of land as something to be developed, invested in, captured and viewed exclusively from a utilitarian outlook is hardly the only perspective on land. Land has various meanings related to economic, social, political, territorial, historical and environmental registers. To put it another way, just as wind, land has myriad dimensions, lives and trajectories (Sud 2019). Therefore, transforming marginal land into a resource for addressing climatological concerns presents land as an apolitical entity void of any social and cultural life (Rignall 2015, 540) This type of land commodification ultimately has an impact on livelihoods. As Yanneti, Day and Golubchivok (2016) and Rignall (2015) state, land that is considered as wasteland because of its remoteness and harsh climatic conditions, is often a source of community subsistence and identity.

Secondly, wind as a resource also implies the creation of energy enclosures with specific socio-material impacts (Baka 2016, 5). To put it another way, enclosures resulting from wind are different to those ones related to solar energy or to those ones deemed useful for biofuel production. Baka, for instance, highlights the differences in terms of energy enclosures resulting

from *Jatropha* and *Prosopis* plantations and the process whereby the materiality of each tree has altered socio-spatial relations. Whereas the latter benefits landless households by providing a steady supply of wood and employment, albeit considered a menace by some landowners, the former affects energy security owing to its low energy content and provides fewer jobs and restricted access to common lands (Baka 2016, 8). In this sense, the materiality of the two tree plantations brought about changes to common lands, as well as to energy security among local populations. In the case of wind energy, more specifically, there are two elements to highlight concerning the socio-material arrangements. On the one hand, wind energy investors need to secure a massive land area in order to build a wind farm. Eólica del Sur wind farm, for instance, extends over 53.3 square kilometres of land, while Eurús wind farm secured 25 square kilometres (Eólica del Sur 2014; Acciona Energy 2018). To secure this land, wind energy companies undertake different operations. While in some wind farms in the Isthmus access is forbidden for those who are not landowners; in other wind farms access is granted to everyone, albeit the space is patrolled constantly by a private police force. That is to say, the wind power industry generates an energy enclosure where space is controlled and monitored. On the other hand, because wind energy infrastructure only occupies between five and seven percent of the total area secured by wind companies, a vast range of productive activities can continue (Jiménez Maya 2005). This means that wind energy is able to combine energy production with agricultural activities and its installation does not necessarily imply a displacement of landowners or people living within the area secured by the companies. To put it another way, the modes of exclusion arising from wind energy can be structured by different kinds of powers such as regulation, force, market and legitimation (Hall, Hirsch, & Li, 2011). Exclusion, therefore, can be physical or forceful – like fences, violence or guns – regulatory – with rules that govern land use and access; it can operate through a market mechanism – excluding people who cannot afford the price – or by means of legitimation – the moral basis for exclusion claims (Hall et al., 2011, p. 18). Socio-material arrangements concerning wind energy, therefore, bring a set of new dynamics to the analysis, suggesting questions around labour, class formation, social differentiation, land use and agricultural dynamics.



Figure 2. Eurús Wind Farm in La Venta. Source: La Jornada

Finally, the process of wind becoming a resource to be exploited implies the expropriation of land for environmental purposes and as a means of shaping governance as a phenomenon deeply embedded in a capitalist rationale (Chen 2012). According to Fairhead, Leach and Scoones (2012), land appropriation is essential to the process of accumulation and dispossession through a dual process. One can see, on the one hand, simple capital accumulation in which profits are reinvested, in turn increasing capital and land concentration. On the other hand, one can also observe a process of primitive accumulation in which public land, including ‘wasteland’, is transformed into private ownership and local inhabitants are expelled from their land to sell their labour in urban settings. Through such processes: “new valuations of nature are legitimising and incentivising new appropriations, and multiplying them, as ecosystems become compartmentalised and commodified in an ever greater variety of ways” (Fairhead, Leach, and Scoones 2012, 254). In the Yixing Economic Special Zone in China, for instance, the promotion of green development projects has modified land tenure and property relations in order to transform collective ownership into urban land under direct control of the state (Chen 2012, 104). This process has not only caused village demolition and resident relocation, but it has also resulted in the eviction of almost 100,000 villagers. As a consequence, peasants are forced to move into different spaces to establish transitional livelihoods and marginalised relationships with the city (Chen 2012, 110). In the Isthmus of Tehuantepec, the practices of land appropriation have been singular and are not related to the appropriation of land in a physical way as much as to its legal appropriation. During my fieldwork, I was often told how contracts were not translated into the indigenous language and how they were signed via intermediaries often known as coyotes. In the case of Eurús wind farm, as will be explored later in this dissertation, contracts were first signed with an enterprise called Woods and Grains from the Lagoon. Because this enterprise’s objective

was to modernise and to industrialise cattle grazing in the region it was well accepted among landowners. However, when land was secured, Eurus bought the contracts in order to build a wind farm. As we can see with this case, dispossession can generate unique forms of enclosure according to local contingencies.

To sum up, the socio-material arrangements brought about by the interplay of land and wind articulate forms of access and exclusion from land that have implications for low carbon transitions in rural areas. The way in which these mechanisms play out depends on the materiality of the resource as well as the local land ownership. Through the interrogation of processes of statistical picturing, energy enclosures and dispossession, new forms of accumulation, dispossession and exclusion come to the fore. This, in turn, suggests additional questions around class dynamics, social differentiation and land dynamics, as we will see in the next subsection.

Wind, Accumulation and Class Formation

Wind power expansion transforms livelihoods and brings about processes of social change. Because of the particular socio-material arrangements, rather than promoting transformation in a violent or open way, like displacement because of water dams or conflict in the case of oil extraction (Lind 2017), wind energy plays into and intensifies ongoing agrarian dynamics and livelihood struggles. In consequence, its direct impacts are observed in the long-term and the winners and losers are less clear-cut (Fairhead, Leach, and Scoones 2012, 253). Juan Franquesa's monograph on wind energy expansion in Catalonia depicts the way in which wind energy interacts with local dynamics. After recounting a dinner conversation where he was confronted with different standpoints on wind energy, he asserts:

Everyone agrees that the main problem – the ecological disaster of the region – is the stagnant situation of local agriculture and the resulting loss of population [...] The drama of wind farm development in Fatarella is that it has not solved any of these problems. And while it is true that neither has it created them, it has made them evident, eroding the local sense of self-worth, disorganising the social fabric, and leaving many wondering whether the company was perhaps right – perhaps their land and with it themselves, were worth less than the annual leases (Franquesa 2018, 199).

What this case shows is that wind energy development in Catalonia has to be analysed in relation to historical processes that have played out in the region. This is because this industry has replicated the feeling of abandonment shared among local community members. Even if the government and the wind enterprises have presented each new round of energy investment as an opportunity to bring social development, the region has continued with its trajectory of depopulation, impoverishment and agricultural decline (Franquesa 2018, 14). In this vein, wind energy expansion has to be analysed in relation to the histories of place and, in particular, to the land dynamics of the areas where wind is to be harvested.

With this in mind, the wind-land-energy nexus allows for the reproduction and restructuring of patterns of accumulation, class structure and social relations of production. This resonates with

Raikes' (1978, 286) insights highlighting that there are two separate and contradictory processes of social difference in rural settings. First, there is a classic process where rural communities become internally differentiated with the emergence of rich peasants along with the displacement of landless labourers from the ranks of the poor peasantry. Second, there is a process in which the peasantry as a whole is separated from control over the means of production and labour-process, thus becoming proletarianised – whether they continue to own the land they cultivate or not. These two processes usually happen at the same time and configure hybrid class categories such as semi-peasantry or worker-peasant, along with a class that is able to accumulate wealth (Scoones et al. 2012, 506). As Bernstein puts it, these hybrid categories can be analysed as classes of labour: people who are neither dispossessed nor in possession of the sufficient of all means to reproduce themselves (Bernstein 2009, 73). The agrarian change brought about by the wind-land-energy nexus can be analysed through a double dynamic: the processes experienced by those who own the land and the processes affecting those who traditionally sell their labour.

On the one hand, in relation to landowners, it is possible to observe a process of social differentiation that can be traced back to land allocations within the wind farm. The process of commodification and accumulation brought about by wind energy investments results in processes of differentiation between various subgroups of landowners. As new livelihoods are established, investments initiated and relations of production start along with business and marketing opportunities, processes of differentiation also commence (Scoones et al. 2012, 504; Bernstein 2010). This does not necessarily imply that differences will evolve over time in two different and antagonistic classes: agrarian capitalists and proletarianised workers (Van der Ploeg 2018, 491). Rather, it means that existing differences will unfold and foster the creation of new winners and losers associated with wind energy development. This is because wind energy investments create or enhance the positions of different agrarian classes, fostering differential accumulation processes, as well as new political, economic and social relations. These processes, however, do not come without tensions and contradictions, as various social forces such as class, gender and ethnicity interact, creating differentiated patterns with both winners and losers (Scoones et al. 2012, 504). Because these processes of differentiation are highly contingent and very dynamic, it is important to analyse the particular stories and politics of each setting. In the case of Mexico, for instance, wind energy expansion has to be analysed in relation to the local nuances in land ownership where each wind farm is developed (chapter four). The general thread, however, is that the more land one owns, the more money he or she will receive from wind energy companies, allowing for patterns of accumulation. While those with big areas of land will be able to accumulate, those with small tracts of land will struggle to meet their needs.

Concerning those who traditionally sell their labour, the changes brought about by the neoliberal economic transformations and the nature commodification processes that have occurred in the

last decades act to restructure classes of agrarian capital and labour, which have to expand beyond the countryside. Non-rural and non-indigenous sources of capital, such as wind energy investments, articulate with non-agricultural activities to generate ‘fractured’ classes of labour (Bernstein 2006, 455) involved in various ways with wind energy development – in construction, maintenance and so forth. The removal of land and the undermining of land-based livelihoods results in a diversification of forms of employment to meet reproduction needs. Such classes of labour have to pursue their reproduction through insecure, oppressive, informalised wage employment and a set of diversified, small-scale activities that might be related or not to farming and agriculture (Bernstein 2009, 73). Peasants, especially those who are not able to accumulate, are obliged to pursue their livelihoods in precarious conditions by combining farming activities with waged labour vulnerable to its own forms of oppressions by class, gender and identity, among others. In the case of wind energy, for instance, landless people who used to sell their labour to landowners now have to work for wind companies or for other industries in neighbouring cities. This not only modifies their everyday experiences, but also results in new forms of exploitation such as zero-hours contracts or a lack of social security (chapter five).

Wind energy expansion in rural areas therefore changes patterns of accumulation, class structures and the social relations of production. For each household that is able to establish and reproduce itself, potentially through expanded accumulation, there are others too poor to farm or who are unable to farm as their principal livelihood (Bernstein 2007, 403). The consolidation of wind energy projects therefore relies on a process of (semi-)proletarianisation, while it allows others such as landowners to continue to accumulate. The examination of uneven outcomes resulting from wind energy expansion, with clear-cut winners and losers, allows us to explore how socio-material arrangements provoked by the wind-land-energy nexus modify patterns of accumulation, class formation and proletarianisation and how they interact with patterns of class, gender and identity. Now let us explore how these processes might be contested on the ground.

Reactions on the Ground Resulting from Wind Energy Expansion

So far, this chapter has examined the construction of wind as a resource to be exploited and the relationships of land access and use that emerge because of this process. Quiescence, resistance and various other reactions are central to the understanding of the politics of wind energy.

Resistance may take on many forms – from overt and explicit to more hidden forms like foot dragging or pilfering. Hence, resistance is never uniform and always messy and heterogeneous. For Scott, for instance, resistance can be taken as every act undertaken by a member of a subordinate class that is either intended to mitigate or to deny claims made on that class by superordinate classes or to advance its own claims vis-à-vis that superordinate class (Scott 1986). Along the same lines, for Kerkvliet resistance has to do with the acts people undertake to show opposition to what they consider unjust claims on them by people or individuals in a higher class,

status or institution (Kerkvliet 1986). Some others, like Moreda (2015, 526), consider that the analytical emphasis of the concept should focus on the intentions rather than on the outcomes of the actions. In these definitions, resistance can comprise thoughts and actions against a superior class.

Because resistance can comprise a wide range of actions, scholars like O'Brien and Li (2006) have tried to analyse the forms that resistance can take in localised settings. They propose to advance the concept of 'rightful resistance' as a tool to understand the actions of opposition that can take place within the state. This is because analysing actions in terms of antagonistic groups may obscure how people encroach spaces within existing political institutions (O'Brien and Li 2006, 1). In this context, rather than being hidden and disguised, these practices operate within the official norms and channels and depend on a degree of accommodation with the structures of power, the use of dominant cultural conventions and the affirmation of official channels of inclusion. Rightful resistance, therefore, allows us to see how the use of the language and dimensions of power can sometimes allow the aggrieved to undertake actions without taking intolerable risks (O'Brien 2013, 1052). This concept can provide insights into the strategies and actions of those actors who are not openly opposed to wind energy expansion, but who situate their demands around obtaining a better deal from wind companies.

What these multiple definitions show is that resistance involves a wide variety of actions and behaviours at all levels of social life – from the individual and collective to the institutional – and in a variety of settings including the political system. As Hollander and Einhowner (2004, 534) put it: "it is not surprising that there is little consensus on the definition of resistance". Because of this lack of consensus, some scholars have questioned the extent to which resistance is a valid concept and have emphasised that its indiscriminate use undermines its analytical utility (Brown 1996, 730; Abu-Lughod 1990). However, rather than dismiss this concept as an analytical tool, it is important to bear in mind that if we ignore these multiple forms of resistance then we would be leaving aside peasants' politics and the means through which they write their own history (Isaacman 1990). In this sense, it is important to enquire into the process whereby resistance is articulated and organised according to power configurations, time, space and relationships in the context of wind energy (Johansson and Vinthagen 2014, 431).

Wind energy's usefulness in its relationship with land depends on exclusion. As Tania Li puts it, exclusion is an inherent phenomenon associated with land, as two people cannot occupy the same spot at the same time (Li, 2014, p. 591). The modes of exclusion, as above-mentioned, are structured by four different kinds of power: regulation, force, market and legitimisation (Hall, Hirsch, & Li, 2011). Although used for analytical purposes, these powers have a pervasive effect on land use and exclusion because they promote ideas of what people should do with land by constituting themselves as regimes of exclusion. By leasing land on collectively owned areas, for

instance, wind companies classify and delimit a space that was used by different people before for grazing or material collection. By controlling, patrolling and deciding what kind of productive activities can take place within the wind farms¹³, people are excluded from the space and their livelihoods are limited. Resistance to wind energy, therefore, has to be analysed in relation to the modes of exclusion imposed upon land, which intersect with issues of justice, public goods, legal frameworks and sustainable development, among others. I propose that these should be analysed in conjunction with patterns of opposition arising from the wind-land-energy nexus, as discussed in the next subsection.

Resistance, nonetheless, is only one of a variety of reactions to be found within and across local communities. The frictions brought about by the installation of wind energy create “zones of awkward engagement” where different politics play out across social divides (Tsing, 2004). Because social claims not only relate to wind energy but also to historical claims, not all frictions are negative – and some people may welcome the opportunities brought by new forms of investment in an otherwise marginalised area. In this sense, since different stakeholders are involved in these spaces, politics play out through the articulation of clashes of knowledge, ideas of well-being, development and other contrasting social values. Local communities, as Borrás and Franco highlight (2010), are socially differentiated and the installation of wind energy projects will lead to an array of responses within and across communities. Going beyond the representation of local communities or local people as apolitical, homogeneous and uniform social entities allows us to take into account that communities will interpret their everyday experiences based on a whole range of variables having to do with political, social and cultural contexts.

The different reactions resulting from the regimes of exclusion can be clustered under four dimensions: support, modifications, evasions and resistance (Kerkvliet, 2009). In addition to resistance, communities may also support and comply with political systems, authorities and industries. Whereas support can be defined as deliberate support for the system, compliance is a kind of support without much thought (Kerkvliet, 2009, p. 236). Unlike resistance, support and compliance reinforce class status and inequalities. Furthermore, between resistance and compliance it is possible to find forms of modifications and evasions (Kerkvliet, 2009, p. 236). When land deals associated with renewable energies are undertaken, they foster complex political dynamics within the state and society by interacting with social groups that are differentiated along dimensions of gender, ethnicity or class (Hall et al., 2015). These dimensions at the same time have historically specific expectations, aspirations and traditions of struggle and they modify, undermine or nurture different kinds of reactions on the ground.

¹³ This is a key element as the people cannot build over a certain height in order to preserve the wind flow within the wind farm.

To understand these ‘political reactions from below’, it is worth analysing not only the transformation processes and the axis of political conflict, but also the dynamics of the local space and their relationship with national and global processes (Borras and Franco 2013, 1730). The investigation of the full variety of political reactions resulting from wind energy expansion can shed light on why and how social groups and individuals oppose or support this industry. Most importantly, this framing allows us to go beyond a narrow focus on resistance, while enabling us to connect the multiple reactions to wider debates on land ownership and citizenship at the local level.

Reactions on the Ground and Ideas of Citizenship

Now that we have established that different reactions on the ground can be observed, it is important to analyse how they can play out in relation to the wind-land-energy nexus. Because of the large areas of land needed for low carbon development, some of the claims around this industry are centred on land. These claims not only offer insights into the different standpoints vis-à-vis wind energy, but are also symptomatic of deeper processes, such as the construction of citizenship (Leach and Scoones 2007, 26), authority, recognition and state-making (Lund 2016). In this vein, when different groups mobilise in support or opposition to wind energy expansion, they do it because they might be claiming landownership rights but also because they may want to be recognised by an institution in order to obtain benefits or allocations resulting from this industry. In this sub-section we will analyse how the different reactions on the ground are connected to claims around landownership, citizenship and recognition.

According to Lund, property and citizenship are mutually constitutive and represent social contracts of recognition (Lund 2016, 1200). While property is understood as a legitimised claim to something of value sanctioned by some form of authority, citizenship is referred to as the struggle for the recognition to have rights or membership of an organised political body (Lund and Eilenberg 2017, 3). Struggles over citizenship and property, in consequence, are about the scope and formation of authority and about membership and access to resources (Lund 2011). When claiming property over a piece of land an individual or groups of people are seeking to legitimise a demand by gaining recognition from another authority group in terms of rights or access to resources. At the same time, when gaining recognition from other actors or institutions, groups or individuals are undertaking struggles for citizenship because they are gaining rights in a political setting (Lund and Rachman 2016, 1318). In this sense, ownership and citizenship are mutually constitutive and they intertwine with the recognition of forms of authority.

In effect, these two elements also constitute processes of authority. The recognition of rights to property and the rights to belonging and to political subjectivities by an institution has to be reciprocal. That is to say, those subjects whose rights are being acknowledged also recognise the institution and its authority to sanction. In this vein, the mutual recognition constitutes a contract

that relates both property and citizenship to political authority in society (Lund 2016, 1206). In exchange for recognised property rights in land or other allocations and entitlements, individuals and social groups recognise the political power of the institution by paying tax or respect in different forms. Political recognition, however, does not only come from formal governments or singular institutions. Rather, it also has to do with any institutional actor that is able to provide recognition to claims exerted by political subjects and that grants them as rights (Lund 2016, 1208). Hence, as Lund and Eilenberg (2017, 4) highlight: “no single institution defines and enforces public authority as such [...] governance is conducted by government and many other private or non-statutory institutions from neighbourhood associations to militias, from farmers’ associations to chiefs and NGOs...”.

Because the construction of wind as a resource to be exploited implies the creation of spaces of idle land or wasteland, as abovementioned, there is a process whereby new possibilities of resource extraction and use generate new and competing claims to authority, legitimacy and access (Rasmussen and Lund 2018, 391). The identification and commodification of a resource, therefore, implies the dynamic and constant replacement of regimes of property. In this sense, in spaces signalled for wind energy production it is possible to observe competing claims having to do with landownership such as the traditional or historical forms of landownership against the ones needed by resource extraction and commodification. In Oaxaca, for instance, the use of indigenous communal land is constantly questioned in favour of a more rational use of the land that would come from private property schemes, as we will see in chapter six. In societies and spaces with multiple ownership claims, various relationships are established, reproduced and contested between people and a range of institutions, and the authority of one institution may challenge or support that of another (Lund 2016, 1206). In this context, new claims to rights will emerge while others compete against them or ultimately fade away. This is why spaces deemed suitable for wind energy extraction are open moments where there is a formation or re-articulation of ideas of ownership, citizenship, recognition and state-making¹⁴.

The wind-land-energy nexus, in consequence, calls for research not only into the multiple reactions on the ground resulting from wind energy expansion but also the economic, political and discursive practices that actors use to claim ownership by seeking to legitimise themselves vis-à-vis competing claims. The framework requires a critical enquiry into the processes whereby property is made, challenged and undone by analysing the social practices undertaken by actors and institutions seeking to legitimise their claims (Sikor and Lund 2009, 6). As Lund puts it, “groups of people who are entitled to seek entitlements are not set in stone. Groups can slide out

¹⁴ This is what some authors refer to as the frontier. However, I have deliberately chosen not to use such a concept, as it has been generally used in the United States imaginary and may not relate as such to the Isthmus of Tehuantepec.

of a given category while others enter it and entrench themselves” (Lund 2011, 72). In this context, this allows us to understand why communities, social groups and individuals mobilise and have various standpoints vis-à-vis wind energy expansion. Furthermore, the examination of these claims in relation to processes of authority, state-making and recognition enable us to connect these different standpoints to local-based histories of marginalisation and exclusion as we will see in chapter six.

Remarks on the Framework to Understand Wind Energy Expansion in the Global South

The framework presented here seeks to provide a set of intersecting analytical tools in order to understand how, why and by whom wind energy is contested. By analysing five analytical moments in the construction of wind as a resource to be harvested, each posing different questions, the framework enables us to explore wind as a resource as it flows across scales and stakeholders. The wind-land-energy nexus focusing on relations between economic and political processes acting across scales facilitates a richer understanding on different moments of wind energy expansion in rural areas (Lind 2018). By going beyond landscape politics and NIMBY factors, this framework places emphasis on the interplay between land and wind, its impacts upon livelihoods and local populations and the different reasons for mobilisation. By underscoring how wind power investments create forms of access and exclusion to land, the framework sheds light on the processes of accumulation, dispossession and exclusion taking place in areas signalled as ideal for green investments.

First, the ‘becoming’ of wind as a resource to be harvested implies not only examining the materiality of wind energy, but also how wind power can be understood in relation to the tract of land upon which infrastructure is installed. The second and third moment, focusing on how the wind-land-energy nexus brings a new dynamic to productive activities, allow us to interrogate how forms of dispossession, accumulation and class formation are articulated. The final two moments facilitate an interrogation of the different reactions on the ground to wind energy. These can range from resistance to quiescence and, in turn, claims over the wind-land-energy nexus are connected to debates on citizenship, property and state-making in localised places. In this sense, whilst the first moment refers to global processes on wind commodification, the final two moments are connected to the local spaces, histories and politics. This is essential as places deemed ideal for energy transitions have different abilities to engage with energy transitions, meaning that inequalities and social conflict might be exacerbated rather than neutralised (O’Sullivan, Golubchikov, and Mehmood 2020).

The examination of these five analytical moments in the Isthmus of Tehuantepec allows us to elucidate three key cross-cutting themes that explain, in answer to the overarching research question, opposition to and support for wind power across wind energy projects (see chapter eight): land tenure, indigeneity and the politics of benefit distribution. The relationship between

land and wind underscores the importance of analysing land tenure regimes in relation to wind energy expansion in the region. As chapter four shows, diverse land tenure regimes in the Isthmus affect wind energy implementation pathways by creating winners and losers in the local space. The two different trajectories of wind power associated with land tenure create impacts along the lines of gender, class and ethnicity (see chapter five) or contestations in those spaces where contrasting ownership claims co-exist (see chapter six). In the latter, ideas of indigeneity play out a key role in explaining support for and opposition to wind power. In effect, while opposers to wind energy consider that land should be governed according to indigenous institutions, landowners argue that they have taken the necessary steps to register their land a small property and that they have the right to decide what happens with it (see chapter six). Finally, in addition to land tenure and indigeneity, the politics of benefit distribution also explain contestation to wind power expansion in the Isthmus of Tehuantepec (see chapter five, six and eight). This third cross-cutting theme elucidates the linkages between wind power expansion and place-based dynamics of dispossession, exclusion and accumulation. While opponents of wind power posit that this industry exacerbates patterns of dispossession and displacement provoked by oil refineries and hydropower in the Isthmus, landowners argue that this industry finally brings an opportunity to modernise agricultural productivity. It is essential to mention that these three themes are used for mere analytical purposes and that, on the ground, these are interlinked in the two wind farms under consideration. Finally, these cross-cutting themes are also reconfigured as a result of the rupture provoked by the earthquakes that shook the region in September earthquakes, as chapter eight shows.

The following chapters will thus connect these different analytical moments and cross-cutting themes with findings from the two case studies in the Isthmus of Tehuantepec: Eólica del Sur and Eurus wind farm.

4. Power-Resistance Relationships in Wind Energy

Development in the North and the South of the Isthmus of Tehuantepec

Because of its geography, the Isthmus has always been important in the Mexican state imaginaries. Different projects have been implemented to promote modernisation alongside social and economic development: the trans-isthmian railway, the Benito Juárez dam and the Jaime Dovalí oil refinery (Glick 1953; Grayson 1977; Villagómez, Santos Gómez, and Zafra 1998). These projects have failed to improve the livelihoods of subsistence farmers and provoked an influx of economic migrants to the urban centres of the region, social mobilisation and conditions of vulnerability associated to the shift towards industrialisation (Segura and Sorroza Polo 1994, 293). Wind energy expansion, along the same lines, has to be analysed as an interoceanic megaproject seeking to modernise the region and integrate it with global trade through the construction of large-scale communications, energy and transportation networks (Torres and Gasca Zamora 2004). Under different names – Programme for the Integral Development of the Isthmus of Tehuantepec, Puebla-Panama Plan, Mesoamerica Project or Isthmus Development Plan – wind investments have brought an elusive promise of social development that has not targeted the agrarian problems nor the multidimensional poverty affecting the region since the second half of the twentieth century (Martínez Laguna, Sánchez Salazar, and Casado Izquierdo 2002; Beas Torres 1999; Huesca-Pérez, Sheinbaum-Pardo, and Köppel 2016; Torres Salcido, Torres Contreras, and Jiménez Yáñez 2016). Among other reasons, these projects have failed because local politics have reshaped their pathways.

This chapter seeks to provide insights on how the interplay between land and wind comes to the fore in the localised contexts of the Isthmus of Tehuantepec. By investigating the power-resistance relationship, it analyses the pathways of implementation that two wind energy projects followed in contrasting landownership contexts in the Isthmus of Tehuantepec. On the one hand, the Eurus project was established in 2008 on regularised land where each landowner has the right of use of land. In contrast, Eólica del Sur project started leasing collective land in 2004 in the south of the Isthmus. Since that date the project has expanded to other towns where land tenure hovers between collective and small-ownership arrangements. The patterns of defined landownership in the first project and uncertainty over land control in the second have generated different power-resistance relationships, thus modifying the evolution of such projects.

This chapter will argue that, as wind energy projects started to expand from a context of land certainty in the north towards an area affected by land uncertainty in the south of the Isthmus, opposition strategies shifted from demanding a better deal with wind energy companies to the

defence of collective land ownership and indigenous ways of life. At the same time, the strategies of those supporting wind energy development have also shifted from the classic tactic of divide and conquer in the communities towards a managerial approach to opposition through the establishment of a workers' union in La Venta and the conduction of a FPIC procedure in Juchitán. The power-resistance relationship and the land context have coalesced around different wind energy pathways. While in La Venta, the installation of wind farms took place without any major concern, in the case of Eólica del Sur wind farm, the installation had to be postponed for over a decade because of contestation levels.

This chapter, therefore, seeks to provide insights on how the wind-land-energy nexus is articulated in a localised setting and the different kinds of reactions it may (or may not) generate on the ground. The movement of actors, actions and reactions across scales connects localised implementation pathways into longer phenomena revolving around wind energy expansion (Lind 2018). To this end, the chapter comprises three sections. First, this chapter will start by depicting the land tenure context in the Isthmus of Tehuantepec. It will explore how, after a set of Presidential decrees, the land tenure context became contradictory and ambiguous. Secondly, it will analyse Eurus wind farm evolution in the *ejido* La Venta and the process through which opposition and support strategies modified wind energy pathways in a context of land certainty. Finally, the chapter will depict the power-resistance relationship in Eólica del Sur wind farm by exploring the different project phases and how contradictory land tenure schemes affected the nexus.

Understanding Land Uncertainty in the Isthmus of Tehuantepec

The particular climatic conditions of the Isthmus of Tehuantepec – windy and dry from November to April and a rainy season from April to November – helped shape land tenure from early colonial times until the mid-twentieth century (Binford 1993, 88). Except for some haciendas grazing a few cattle in the north of the Isthmus, in most of the region the wealthy classes accumulated resources through tribute, usury and commercial monopoly, leaving the Isthmus peasantry to live off the land. Local inhabitants dictated the use rights of the land in the region by using it and abandoning it according to the cycles of agricultural production. In spite of the government's efforts to parcel out, divide and control the land, they were either ignored, or not respected in practice by the local population and not enforced by the authorities (Binford 1993, 88, 1985, 182). In this context, Juchitán and the Isthmus began the twentieth century with peace in relation to land ownership. The clearing and planting of communal land continued subject to little regulation and some of the land was lost to the trans-Isthmus Railroad line (Glick 1953, 382; Ruiz Cervantes 1994, 164), completed in 1907, and to the Pan-American Highway – connecting Alaska to Patagonia – built in the 1940s (Clarke 1992, 148). This is the case of the *ejido* La Venta founded

in 1951 as the result of an agrarian conflict between the land of Santo Domingo de Ingenio and Juchitán (RAN 2018a).

Between the creation of La Venta and the irrigation system linked to the Benito Juárez dam, land was held and utilised in accordance with diverse systems. Most agriculturalists and *ejidatarios* simply cleared, fenced, cultivated, harvested and abandoned land as necessary, leaving it unutilised for some years until they or different producers cultivated it once again. As Binford puts it: “Claims to land were transient, meaningful only as long as the land was actually under cultivation” (Binford 1993, 88). Latifundists¹⁵ with large cattle herds, as well as smaller peasants working better-watered tracts along the Dog’s river, sought to establish permanent claims over land by filing titles with local accountants and paying taxes to the municipal treasury department. As Binford highlights: “the persons who obtained a piece of land were in the habit of fencing the terrains, in order to protect their property, while others more prepared paid taxes to the tax office in order to acquire the right of property” (Binford 1985, 184). Lacking recognition by the federal government, these titles and taxes had no legal standing. In this context of an undefined tenure system, therefore, claims to land proliferated once knowledge of the large-scale infrastructure investment diffused – related to the Benito Juárez dam. As Lees (1976) highlights, the irrigation system and the incorporation of a higher level of government, undermined the ability of local inhabitants to manage land claims and uses in a traditional way. In this context, people with foresight and, most importantly, capital and political networks bought, fenced or expropriated fallowed land or land belonging to small-scale peasants (Binford 1993, 89). Speculators came to the Isthmus to buy or to claim land only to put it back on the market when prices were high enough so profit could be obtained. As a consequence, poor people were priced out of the market and wealthy landowners could accumulate land.

In such a context of land transfer and speculation, the government took an interest in regularising land ownership in the region. Through the Department of Agrarian Affairs and Colonisation (DAAC), the government asked owners of small private properties to present ownership proof within three months so that those lands could be respected in the future (Binford 1985, 186). On November 21, 1962, the president approved the expropriation of 47,000 hectares of land in the region. This was a major action against land speculation because *ejidos*¹⁶, communal land, areas of habitation, urban zones and small-land tenure acquired before 1955 were exempted from the expropriation (Binford 1993, 90). Since speculation was not an issue before 1955, this Presidential decision protected the land of earlier claimants to private property while returning to the community those acquired by speculators. Authorities also used the decree to make up for their

¹⁵ Owner of a great landed estate with primitive agriculture and labour often in a state of partial servitude.

¹⁶ In this category one finds La Venta.

investment through usage fees and by fostering agricultural activities by benefitting producers of commercial crops and excluding subsistence farmers (Villagómez, Santos Gómez, and Zafra 1998, 105). Two years after this decree, in 1964, Juchitán land finally received legal recognition in a Presidential Resolution that ordered the expropriation and collectivisation under the form of an *ejido* of the entire 68,000 hectares. This resolution highlighted that “there are not private properties within the communal area that have to be excluded from this resolution and the total area of 68,000 hectares is incorporated as *ejido* to be divided between 8,000 peasants” (Binford 1985, 91). To put it another way, the federal government declared that there was no private property in the municipality of Juchitán and all of the guarantees expressed in the 1962 resolution were ignored (Binford 1985, 188). As Bailón emphasises: “this was a means to integrate the peasantry into the institutionalised credit channels, commercial crops and official control” through the dam project (Bailón Corres and Zermeño 1987, 11). Thus, the decree sought to foster a transition in terms of citizenry from indigenous communities into a peasantry, subject to the control of the state (Michel 2009, 469).

This resolution of 1964 aroused opposition in Juchitán and other communities in the region, especially among landholders who had most to lose. Landholders organised committees in defence of private farms in each of the affected communities. Along with the larger and more influential landowners, small landowners with less than four hectares, also joined the organisation in order to protect their land (Binford 1985, 188). Although protest meetings and political rallies proliferated, these committees also exhausted the institutional channels by demanding, appealing and soliciting numerous institutions to neglect or rescind the 1964 resolution. Legal challenges were articulated around two basic elements. On the one hand, landholders argued that the resolution did not respect due process because affected parties were not granted the right to respond before the resolution was written into legal terms and because the Agrarian Code was applied inexactly (Binford 1985, 189). On the other hand, an important challenge to the decree was launched based on errors, contradictions and inconsistencies in the wording of the resolution: “in the communal area there exists no private property to be excluded from this resolution” (Binford 1985, 190). It was erroneous because there were indeed private properties protected under an amparo¹⁷ passed in 1942; there were contradictions because the Federal Government had previously recognised private property before irrigation works through the Secretary of Hydraulic Resources (Binford 1985, 190); and there were inconsistencies because the 1964 resolution opposed the guarantees offered to private property before 1955. In this context, the presidential candidate visited the Isthmus during his election campaign and promised to resolve the land dispute in the landholders’ interest. Once he had won the Presidency, and after numerous

¹⁷ Amparo is an instrument that allows individuals or juridical persons to challenge acts of the authorities for being contrary to the fundamental rights contained in the constitution.

surveys of use rights over the land, the Agrarian Consultative Body in 1966 decided to limit the 1964 resolution to only 43,000 hectares and to exclude from it 25,000 hectares owned by 3,800 individuals (Binford 1985, 191). This decree is more the product of presidential campaign politics and alliances among local groups rather than a coherent land regularisation strategy (Villagómez, Santos Gómez, and Zafra 1998).

These attempts were materialised by a Presidential decree from Díaz Ordaz on March 31, 1966, with 3,887 property titles protecting the rights of up to 30 hectares per landholder (Binford 1985, 191). These actions were expected to solve Juchitán's tenancy problems, especially in relation to land speculation. However, four issues were raised in relation to this decree. First, 30 hectares of land is more than a peasant can cultivate without employing labour. In consequence some of this land would remain fallow without governmental support. Second, large landholders were able to get around the thirty-hectare limit by dividing larger land areas into smaller lots and registering them in the name of friends and family. Third, there were issues concerning the wording and the expediting of the titles. Titles referred to a non-existent status in the Mexican Agrarian Law: small ownership lands communal origin (Michel 2009, 480). These titles guaranteed recipients possession of communal land but did not grant ownership rights. To put it another way, this enabled recipients to use designated plots of land but not to cede them to a third entity (Binford 1985, 191). Finally, the inscription of the titles required by law in the *Diario Oficial de la Federación* (DOF) and the National Agrarian Registry (RAN) was accompanied by certain irregularities, as it was never published in the official newspaper nor as a presidential decree (Binford 1985, 193). As Villagómez, Santos Gómez and Zafra (1998, 103) put it: "exactly what types of ownership apply to what portions of the region's land remains obscure. Even government agencies report conflicting data on landholding patterns". This context enabled contradictory interpretations of land ownership in the region by different groups. By claiming only legitimate interpretations of the titles, each group determined its political role and delegitimised groups championing different interpretations. While the agrarian landowners with big areas of land claimed their right to engage in land transactions through the titles issued in 1966, the peasantry supported a collectivisation of land according to the 1964 decree (Binford 1985, 195).

The two different forms of land ownership, *ejido* in the north and contradictory presidential decrees in the south, have generated a complex and heterogeneous context for wind energy development. Whereas in La Venta they have allowed for certainty and for a clear definition of who is in charge of deciding what to do with the land, in the south they have generated claims that hover between the need to define property rights and the need to respect the collective dimension of land. This is because different political administrations in Mexico sanctioned mutually contradictory and ambiguous definitions of land tenure. Most importantly, however, is

that the different contexts in terms of land ownership have worked to foster a different evolution of wind energy pathways in the region, as will be explored in the two following case studies.

Analysing Wind Energy Rush in La Venta: Where it all started

La Venta is an *ejido* founded in 1951 that sought to provide Juchitán with irrigated land around the Pan-American Highway connecting Alaska and Patagonia. The area of the *ejido* is 6,069 hectares divided in the following fashion: 4,707 hectares divided among 418 landowners, 1,338 hectares left for common use and 24 hectares for specific use – the town of La Venta (RAN 2018a; Nahman Sitton 2014; The World Bank 2006). Until 2018, wind energy development extended over more than 50 percent of the *ejido* by occupying 3,221.8 hectares in total (Nahman Sitton 2014).

Although wind energy construction did not start until 1994, wind energy potential was identified long before this date. Negotiations between *ejidatarios* and wind energy enterprises started in the 1970s in the context of the oil crisis. Elderly people in La Venta recounted that various groups of people started to visit La Venta regularly in order to reserve land in exchange for an annual payment ranging from 50-100 pesos per hectare allowing them, at the same time, to continue with their activities (Beas Torres and Girón 2010). The first tests, however, did not start until 1986 when experts from the CFE, the USAID and the NREL started gathering information to assess and to measure wind speed and power density in the region (Friede 2016, 15). Following these tests, there were various attempts to build a wind farm and leasing agreements were signed with the *ejidal* commissariat¹⁸. However, the financial challenges of such an undertaking prevented the materialisation of the investment.

It was not until the Mexican government through the CFE decided to rent land in the north of the town in 1993, that the installation of the first wind farm in Latin America became a reality. Because wind energy infrastructure would only occupy between 5-7 percent of the total terrain under lease, CFE was not interested in expropriating the land. Rather, the Mexican state-utility was keen on renting the land for a period of 30 years with the possibility of renewal for the same amount of time with two rationales in mind. On the one hand, this would allow landowners to continue with their productive activities. On the other hand, this practice was followed with a certain degree of success in other parts of the globe so CFE decided to replicate this framework¹⁹ (Jiménez Maya 2005, 76). This scheme is key in wind energy expansion in the Isthmus as private actors replicated it in their wind energy investments. The land negotiations, in this context,

¹⁸ Informant 44, 2019.

¹⁹ This scheme is key in wind energy expansion in the Isthmus as private actors replicated it in their wind energy investments in the town and in other areas of the Isthmus.

materialised in the first wind farm of Latin America, La Venta I, comprising seven Vestas²⁰ windmills with a total generation capacity of 1,125 MW. Outcomes generated by these seven windmills were so positive that out of 1,600 windmills with similar features only those installed in New Zealand presented similar generation values (Borja Díaz, Saramillo Salgado, and Mimiaga Sosa 2005; Hiriart Le Bert 1996).

La Venta II: First Success for Solidarity Group La Venta

The good results of the first wind farm in Latin America including the modification of the Law of the Public Service for Electric Energy, allowing private actors to participate in power generation under diverse schemes²¹; the participation of the *ejido* in the PROCEDE²²; and the conducting of colloquia in the city of Huatulco to promote wind power attracted investors' attention right away (Borja Díaz, Saramillo Salgado, and Mimiaga Sosa 2005, 44). Since 1996, investors from the US, Germany, Denmark, Belgium, the Netherlands and Japan visited the Isthmus to embark on new business ventures and to negotiate with landowners. As Borja Díaz, Saramillo Salgado and Mimiaga emphasise, this provoked a situation whereby land speculation emerged in the Isthmus, enabling the concentration of land in a few hands (Borja Díaz, Saramillo Salgado, and Mimiaga Sosa 2005, 72). My informants in La Venta corroborate this trend. They recounted to me how land prices rocketed from one day to the other. They estimated that the price for one hectare of land had increased from 20,000 pesos to almost 250,000 – from £800 to £10,000 - after wind energy development. This upsurge in prices was based on the idea that in the future there would be more wind farms in the town. As a consequence, land that was not yet leased for wind energy projects would most likely be leased in the future. This was later corroborated by the publication in 2003 of the Wind Energy Resource Atlas of the State of Oaxaca by USAID and the NREL. The document stated that La Venta had some of the best wind resources in the world, stating that: “excellent wind resources (power class 5 and above) are widespread in the Isthmus region. The highest resource (power class 7) in the Isthmus occurs near the foothills (including La Mata and La Venta), ridges and coasts” (Elliott et al. 2003, vi).

In August 2004, CFE announced the construction of La Venta II with a generation capacity of 101.4 MW and approached landowners with the intention of renting land to the north of the Pan-

²⁰ Vestas windmills refer to Danish manufactured wind turbines.

²¹ ²¹ Until 2013, the regulatory framework only allowed private generation to be sold to CFE, acting as unique buyer, under three forms: self-generation societies, cogeneration and independent producer. The vast majority of projects in the Isthmus follow the self-generation scheme, meaning that private-private and private-public partners set up a society for generation and commercialisation of electricity among associates paying a fee to CFE. (Huesca-Pérez, Sheinbaum-Pardo, and Köppel 2016).

²² The PROCEDE meant that ejidatarios now had full ownership of the properties and parcels formerly owned in common and allowed for private investment, leasing or contract farming. This scheme allowed wind energy investment to lease land in La Venta (Parramond 2008, 357). More details of this transformation will be presented in chapter five.

American Highway for 30 years with the possibility of automatic renewal for another 30 years. The enterprise and the government in this context offered three different annual payment schemes: 1,000 pesos – around £41 – per hectare resulting from the right of wind, 13,100 pesos - £549 - for infrastructure building per hectare and payment for windmill according to generation capacity between 8,000 and 18,000 pesos –between £335 and £758 (Avilés Hernández 2008, 54). At first, the *ejidal* commissariat rejected the project because they were seeking to include the whole *ejido* in the negotiations, not just the northern part. However, as a spokesperson of the Union of Indigenous People of the North of the Isthmus (UCIZONI) mentioned, the President of this body was charged with double murder and received death threats²³. As a result, he had to flee the town immediately. After a new Commissariat was elected, the *ejidal* assembly decided to approve the project in the north part of the *ejido*. This caused the first schism in the *ejidal* system between those who were pushing for the idea that the wind farm should pay the entire *ejido* and those who agreed with the wind farm only paying those people who owned land in the northern section²⁴.

Landowners from the latter group did not agree with the idea of the town of La Venta hosting a new wind energy project because they were not informed about specificities of their contracts, the activities to be carried out in their terrains and the state of their land once the leasing contract had been signed (Beas Torres and Girón 2010)²⁵. It is in this context that an opposition group to the project known as *Grupo Solidario La Venta* - Solidarity Group La Venta - started to mobilise through small meetings and gatherings. Alejo Girón, one of the founders of this group, emphasises that after the set of experiences they had with La Venta I, a group of professionals and landowners in town started to meet up in order to question the lack of benefits resulting from wind energy investments²⁶. As Alejo mentions, the goal of these meetings was to position themselves around this phenomenon expanding into town not by rejecting wind energy *per se* but by proposing a collaboration with wind energy enterprises so that both investors and the community could win from this industry²⁷. This position was reinforced when Alejo and other members got hold of a contract signed between landowners and wind energy companies in Texas. According to my informants, Alejo and Isaac, the comparison in amounts payed by the enterprises in Texas and in Mexico was massively different²⁸. As Isaac recounted:

Landowners were able to see a gazette where it said that golden winds were coming to the Isthmus. In these documents, they mentioned the amount of money they were paying in various states of the US like Ohio and Mississippi. The prices were in dollars, so we asked them to pay us an equivalent quantity in Mexican pesos. However, the officials did not agree with the fact of

²³ Informant 20, 2018.

²⁴ Informant 44, 2019.

²⁵ Informant 20, 2018.

²⁶ Informant 17, 2017.

²⁷ Informant 17, 2017.

²⁸ Informants 14 & 44, 2017-18.

comparing the purchasing power of a US dollar with a Mexican peso, so they rejected our proposal right away²⁹

This comparison provoked a sense of dissatisfaction among landowners. Despite some people agreeing with the proposal from CFE, Solidarity Group La Venta recruited a lot of people and was able to extract landowners from their contracts. The wind farm land area was first reduced from 2,80 hectares to 1,310 and finally to 850 hectares (Beas Torres and Girón 2010). The main argument for this rejection is that landowners wanted the payment for right of wind to increase from 3,000 to 30,000 pesos per year to make it equivalent to the prices paid in the US³⁰.

Neither the enterprise nor the government accepted the rescindment of so many contracts. As a consequence, a range of strategies was deployed to secure land in La Venta for future projects. This can be observed on the occasion when the then President of Mexico, Felipe Calderon, inaugurated the wind farm La Venta II. After a road blockade that lasted from early morning until noon where landowners demanded a solution to the problems resulting from the new wind farm, such as unevenness in the soil and flooding, the federal and the state police arrested 73 *ejidatarios* in response (Beas Torres and Girón 2010). The 73 *ejidatarios* were accused of sabotage and damages amounting to 30 million dollars. After these protests, members from Solidarity Group La Venta decided to occupy an area on the northern side of the *ejido* where the transmission line was supposed to be installed. Solidarity Group La Venta cleared the terrain and occupied it for two months so the company could not install the transmission towers. The federal government decided to send 1,000 policemen to evict the *ejidatario* from the terrain and signed arrest warrants for 25 members of the opposition group. That is to say, in addition to the 73 people who were accused, the government targeted the rest of Solidarity Group La Venta by accusing 25 additional people of sabotage at a federal court³¹. In this context, the opposition group deemed it necessary to involve a regional network of organisations. The UCIZONI, among others, through political pressure, legal action and road blockades, managed to free incarcerated *ejidatarios* and to dismiss the arrest warrants signed by the government³².

Eurus Wind Farm: Wind Rush in La Venta

The installation and successful operation of the wind farm and the social conflicts associated with it established the background and learning processes for the wind energy rush in the region. Representatives and middlemen of an enterprise called Maderas y Granos de la Laguna – Woods and Grains from the Lagoon – started to visit La Venta in order to secure land for a new project coming to the town. *Ejidatarios* recounted that in the meetings enterprise representatives would

²⁹ Informant 44, 2019.

³⁰ Informant 44, 2019.

³¹ Informant 44, 2019.

³² Informant 20, 2017.

tell them that the goal of this project was to foster a technological shift in agricultural practices³³. To this end, they proposed to use *ejidatarios*' land to build cattle sheds and electronic milking systems, among other investments. Because these intermediaries came from the north of the country and they had a certain reputation associated with technology and modernisation in the rural sector, *ejidatarios* decided to accept the project in the *ejidal* Assembly³⁴. In late 2008, however, Woods and Grains of the Lagoon decided to sell the project and to pass the contracts to a new enterprise called Eurus Energy in exchange for 8,000,000 pesos – approximately £342,000. Nahmad, Nahón and Langle (2014, 44) corroborate this. According to them, *ejidatarios* were tricked into this project because the enterprise offered a productive opportunity in La Venta. As a result, when they transferred the contracts to Eurus Energy, landowners could not help but feel disappointed because the goal of this new venture was to build the biggest wind farm in Latin America. To this end, they reserved more than 2,500 hectares of land in the southern part of the town (Acciona Energy 2018).



Figure 3. La Venta. Source: La Jornada

The hostile and deceiving strategies undertaken by the enterprise provoked dissatisfaction among landowners to the extent that the opposition group managed to elect some of their members in the *ejidal* commissariat for the period 2008-2011³⁵. According to my informants, this was a good time in the *ejido* because they had managed to reduce the size of La Venta II windfarm by almost 50

³³ Informant 30, 2017.

³⁴ Informant 15, 2017.

³⁵ Informant 44, 2019.

percent. Through pressure from UCIZONI and because they won the elections for the *ejidal* commissariat, the government's accusations against 98 members were dismissed. The goal of this newly established committee was to negotiate benefits with Eurus wind farm for all of the *ejidatarios* in La Venta, regardless of the location of their tract of land. To this end, the new commissariat negotiated two large benefits for the town with the wind energy enterprise³⁶. On the one hand, the payment of a bonus for the *ejido* for the installation of the project. This payment allowed the *ejido* and the *ejidal* commissariat to invest in infrastructure for the town. On the other hand, the commissariat also pushed for a yearly payment for using the land of the town like roads and electricity, among others. This payment is now given to all of the *ejidatarios* in town. Just in 2018, for instance, the payment per head was 7,000 pesos – almost £300.

In order to outbalance the legitimacy of this new commissariat, enterprise officials started to negotiate with *ejidatarios* on two different fronts in order to secure land. On the one hand, with the *ejidal* commissariat, they offered to pay an equivalent of 3,000 pesos for the right of wind plus the externalities caused by the instalment of the infrastructure³⁷. On the other hand, with those people who did not agree with the first proposal, the enterprise started with a subtle strategy of offering small gifts to landowners and their families³⁸. Enterprise officials would offer to buy boxes of beer or materials to build their houses. Most importantly, according to Alejo they would offer employment and future opportunities for their families and relatives and social development through the construction of infrastructure, schools and even a health centre³⁹. One of the most utilised strategies, however, was to offer parties and barbeques for landowners. These parties would have bottomless supplies of beer, plentiful food and the presence of hostesses. After alcohol had been flowing for some time at these parties, hostesses would approach landowners; they would sit on their laps and would invite them to sign a copy of the contract. As Isaac highlighted, most of the people were convinced and leased their land⁴⁰. This meant that there were ruptures and divisions among the groups who supported the commissariat promoted by Solidarity Group La Venta.

When the construction started, *ejidatarios* were satisfied because they received a good payment for externalities resulting from wind energy expansion. However, in the second year when they received the payment, they saw that it was not the same because compensation for construction phase externalities was mostly done in the first year⁴¹. The problems caused during the construction phase enabled the articulation of new demands through the mobilisation of Solidarity

³⁶ Informant 44, 2019.

³⁷ Informant 44, 2019.

³⁸ Informant 17, 2017.

³⁹ Informant 17, 2017.

⁴⁰ Informant 44, 2019.

⁴¹ Informant 44, 2019.

Group La Venta again. As Isaac stated, Solidarity Group La Venta pushed again for the obtention of benefits equivalent to the ones obtained by landowners in the United States through three main elements⁴². First and most importantly, the group demanded the obtention of a better deal concerning the payment for the right of wind. By pushing for a higher payment from the wind energy companies, *ejidatarios* sought to provide more benefits for all of the *ejidatarios* participating in the project, not only for those hosting infrastructure or windmills. Secondly, Solidarity Group La Venta wanted to guarantee employment for their relatives and for *ejidatarios*' descendants. Because the enterprise was hiring many people from other cities and other regions of the country, this group of *ejidatarios* demanded the incorporation of relatives, family and friends into the construction process. Finally, they sought to obtain a better deal in the commission paid to landowners for the transportation of scrap outside the wind energy polygon. Because Acciona Energy did not accept these demands at first, they decided to block the entrances to the wind farm when Eurus had already installed 49 windmills. The blockade lasted between 4 or 5 months, during which the enterprise was obliged to sit at the table with landowners and to cede to a certain extent on these points. For instance, the payment for right of wind was increased from 3,000 pesos to 8,000 pesos –from £127 to £300. It is important to highlight, nonetheless, that *ejidatarios*' intention was never to question the construction of the wind farm itself nor wind energy development in the region. Rather, as highlighted by Isaac, they wanted to obtain a better deal and more benefits from the three elements already mentioned⁴³.

In light of the blockade orchestrated by Solidarity Group La Venta, the enterprise and a social sector supporting the development of wind farms used two strategies. On the one hand, *ejidatarios* received threats from the Federal Government, pushing them to open up the wind farm as soon as possible⁴⁴. On the other hand, there was a push for the establishment of a workers' union in La Venta associated with the Institutional Revolutionary Party. Although the initial intention of this organisation was to push for better conditions with the wind energy enterprise in the three elements mentioned earlier, as the wind energy enterprise was clustering over 1,000 workers at that moment, the union was co-opted by a cacique in 2011. This organisation, through its leader, is now able to act as a broker between community, the landowners and the enterprise. The union according to my informants plays out two roles within the town. On the one hand, it acts as intermediary between landowners and the enterprise. If landowners, for instance, complain about externalities or about problems in their terrain resulting from wind energy development they first have to go to the union to express and to communicate their demand. Once the demand has reached the union, its leader is the one who decides whether the demand is valid or not and then

⁴² Informant 44, 2017.

⁴³ Informant 44, 2017.

⁴⁴ Informant 44, 2019.

he alone takes it to the enterprise for negotiation⁴⁵. On the other hand, the union is in charge of allocating jobs in the wind projects or its subsidiaries for members of the community. My landless informant Carolina told me that if you want to work for the companies, one has to go to the union leader and ask him for a job. Depending on your skills and, most importantly, your political affiliation, he distributes the jobs required on a seasonal basis for the enterprise⁴⁶. However, Carolina also told me that if at any given time one gets into an argument with the union leader, one is banned from the town and he or she is not able to work in the town nor in the wind energy companies. Carolina's husband's case is an insightful example of this phenomenon. He used to work for the local wind energy companies. He would do it, nevertheless, in a rather sporadic way. It is in this context that he asked the union leader for a regular job. The leader did not appreciate the way in which Carolina's husband presented his case and was banned from working in the enterprises in the future. Because he has been banned from the job market in La Venta, he is now obliged to look for a job in different towns around the region. Not only is he forced to commute for two or three hours every day, but he is also obliged to pay a fee in other towns if he wants to work.

According to my informants, especially those who sympathised with Solidarity Group La Venta, the union and its control of landowners and workers' complaints has proved to be a key element in the management of opposition to the wind energy projects in the long term in La Venta⁴⁷. As one of my informants working for the wind energy company puts it, the union enabled La Venta to reach a state of tranquillity and social peace in relation to complaints and opposition to wind energy in the town⁴⁸. By offering gifts, favours, jobs and money to *ejidatarios*, the cacique has been able to modify the outcome of elections taking place in the *ejidal* assembly, especially in relation to the designation of *ejidal* authorities. One of the most well-known cases of this political manoeuvring was the assembly session where the number of *ejidatarios* increased from 363 to 446⁴⁹. The goal of adding 83 *ejidatarios* is to have more control over the decisions undertaken by the assembly. The new *ejidatarios*, giving back to the cacique what he gave to them, always vote according to his interests. In this sense, one of the contemporary reasons for opposition among the members of the Solidarity Group La Venta is to reduce the number of *ejidatarios* to the original 363⁵⁰.

To sum up, the transition from divide and conquer strategies into a managerial approach to opposition has proved to be successful in the case of La Venta. However, it is also important to

⁴⁵ Informant 30, 2017.

⁴⁶ Informant 11, 2018.

⁴⁷ Informant 17, 2017.

⁴⁸ Informant 16, 2018.

⁴⁹ Informant 44, 2019.

⁵⁰ Informants 44 & 36, 2019.

highlight the role that landownership has played in this process as well. The clear delimitation of terrains and the possibility to obtain a specific rent from the leasing of land to wind energy companies has modified expectations and motivations towards wind energy. This means that, even if landowners only have half a hectare to lease in the current project, they are looking forward to the next wave of wind energy projects coming to the Isthmus because they own a piece of land in a different part of the *ejido* from which they can obtain an income in the future. At the same time, tenure certainty has modified opposition dynamics. Rather than being centred on questioning wind energy development, what Solidarity Group La Venta shows us is that opposition was always focused on getting a better deal from the wind energy companies. In this sense, private property has proved to be one of the key elements affecting opposition levels in wind energy development in the Isthmus. Now, let us explore wind energy evolution in a different landownership context.

Analysing Eólica del Sur project in the Context of Land Uncertainty

So far, we have seen the process through which wind energy development in the north of the Isthmus has followed a particular pathway. While opposition represented by the Solidarity Group La Venta demanded better treatment all along the process, the enterprise, middlemen and government have followed a strategy ranging from divide and conquer to management of the opposition through the establishment of a union. In the case of Eólica del Sur wind farm the interplay between opposition and wind energy enterprises is different. As this project starts to expand towards the south of the region and cut across ethnicities, opposition strategies are modified. In effect, rather than being centred on the obtention of better contracts, opposition starts to articulate around the defence of the territory and land as collective entities. This is related to the land uncertainty affecting the area between Juchitán and El Espinal. In this context, similar to the La Venta case, actions from the government and the enterprise also evolve from divide and conquer strategies to management of the opposition through the conduction of a “FPIC” in the municipalities of Juchitán and El Espinal.

Eólica del Sur has been through a long evolution in the region since 2004 because it has approached a diverse range of agrarian authorities: from collective land assemblies in the south of the lagoon area to landowners under small-ownership schemes in the north of the lagoon. For analytical purposes of this chapter, Eólica del Sur evolution can be divided into three general phases starting from 2004, when the first contracts were signed, to the present, when the construction has been completed in the municipalities of Juchitán and El Espinal. Each one of these phases, San Mateo del Mar phase, San Dionisio del Mar phase and Juchitán phase, present a special configuration of four variables (see table 3). First, negotiations between agrarian authorities and landowners. Whereas in the first two phases, enterprise employees undertook negotiations with collective authorities, in the third phase they were able to approach landowners

directly. Second, the different phases involve different ethnicities. While in the first two cases the conflict started in an Ikootz⁵¹ area, in the last phase the conflict involved both Zapotec and Ikootz communities. Thirdly, and linked to the argument of this chapter, the level of conflict shifted from a direct conflict between the communities and opposition groups to an institutional conflict with the FPIC procedure and the case presented at the Supreme Court of Justice (SCJN) by the Articulation of Indigenous People of the Isthmus in Defence of the Territory (APOYO network). Finally, energy reform also played out an important role across the phases. While during the first two phases, the regulatory framework did not make reference to anything concerning social aspects resulting from wind energy projects, in the third phase the project had to follow the guidelines established in the new national regulation by conducting an official indigenous consultation procedure according to international standards (Huesca-Pérez, Sheinbaum-Pardo, and Köppel 2018, 3; International Labour Organization (ILO) 1989). Across these three phases, it is possible to observe a common thread: as the project started to expand to other towns and to cut across ethnicities, opposition to wind energy shifted towards the defence of the territory. At the same time, the actions from ‘above’ evolved from a clear ‘divide and conquer’ approach to management of the opposition through the FPIC procedure.

Table 3. Phases in Eólica del Sur Wind Farm

Phase <i>Variable</i>	San Mateo	San Dionisio	Juchitán
Land negotiations	<i>Bienes comunales</i> Commisariat	<i>Bienes comunales</i> Commisariat	Landwoners
Ethnicities	Ikootz	Ikootz & Zapotecs	Zapotecs
Conflict perspectives	Direct Conflict	Direct & Institutional conflict	Mostly within institutional boundaries
Energy Reform	Before	Before	After

Source: Own elaboration

San Mateo del Mar: First encounters with wind energy investments

The first phase, also known as San Mateo del Mar phase, can be traced back to 2004 when, under the name of Preneal Energia, the wind enterprise sought to negotiate access to land with the Indigenous Assembly of San Mateo del Mar in the south of the lagoon area. The original plan was to deploy 102 wind turbines through the Santa Teresa coastal bar and 30 additional windmills on the land of Santa María del Mar to reach an installed capacity of 396 MW (Environmental Justice Atlas 2018). To this end, the project required an area of land of approximately 3,650 hectares: 2,000 to be leased from Santa María del Mar and the rest from San Mateo del Mar. Because of

⁵¹ Indigenous peoples living in the south of the lagoon area.

the geographical conditions, the only access to the land of the latter is through the land of the former. This is why negotiations with San Mateo del Mar Assembly were salient for the enterprise.

Two issues, however, played an important role in the negotiation process. First, even if in the meetings wind energy was presented as something that would bring development to an otherwise forgotten and idle region, the indigenous Assembly was sceptical about accepting the enterprise proposal right away⁵². Rather than seeking to obtain potential benefits from contracts to be signed, the assembly deliberated for over a year on whether to accept the enterprise's proposal. In this time, members of the assembly coordinated meetings with other groups in the region that had already undertaken negotiations with wind energy companies like Solidarity Group La Venta and UCIZONI, among others. In these meetings, the assembly enquired with the other groups on their experiences resulting from wind energy expansion in terms of irregularities in the contracts but also with some of the problems people were facing concerning the environment or the relationship with wind enterprises. While in San Mateo del Mar, one of the elder leaders recounted that:

Tepeyac Human Rights Centre came to the town and it was in this moment that we realised that there was an Indigenous Assembly in Juchitán. They started to promote workshops that were focused on wind energy but, most importantly, on collective Indigenous Rights. It was during these workshops that we came to realise that other towns in the region were experiencing negative effects resulting from wind energy. Probably not the same issues, but similar. We started to inform ourselves about this industry⁵³

As this quote shows, previous wind energy expansion in the region played out a salient role in the attitudes of hosting communities towards the wind rush in the south of the Isthmus. On the other hand, both Santa María and San Mateo del Mar had ownership claims, after the presidential decree of 1954, on the land upon which Preneal Energia was planning to install the 30 windmills (Peace Brigades International 2009, 1). Whereas the former town considers they are the rightful owners of the land and, in consequence, they have the right to profit from it, for the latter this land is a sacred site where they leave offerings for their deities⁵⁴.

It is in this context that it is possible to observe the utilisation of one of the most important counter-insurgency strategies: divide and conquer. This is because in spite of San Mateo's refusal to host wind energy development, Santa Maria del Mar agreed to lease the land on dispute to the wind energy company. This caused the two towns to enter into a long-standing conflict with violence, confrontation and road blockades between the two towns that persist to this day. As one of my informants told me: when in October 20th 2009 Santa María agreed to lease that land, a whole variety of community members in San Mateo such as youngsters, commoners, women and

⁵² Informant 2, 2017.

⁵³ Informant 70, 2017.

⁵⁴ Informant 2, 2017.

authorities came together in order to defend their lives and the territory⁵⁵ (Rueda 2011, 270). In order to do so, they blocked the only terrestrial access to Santa Maria and started a kind of siege that is still in place today. What this means is that if Santa Maria del Mar inhabitants need to go to other towns in the Isthmus of Tehuantepec they have to travel on open sea. All of the inhabitants have to travel this way, regardless of their health conditions and the urgency of the context. This has caused a series of incidents, especially when weather conditions are unfavourable for navigating the waters.

San Dionisio del Mar phase: articulation of new forms of resistance to Wind Energy

San Dionisio del Mar phase is marked by both a high level of polarisation inside the community and the utilisation of counter-insurgency tactics from both the government and the enterprise. The first contact between the Wind Company and San Dionisio del Mar took place in 2009 when *comuneros*⁵⁶ and the Municipal President were flown to Spain in order to sign the contracts for the leasing of the Santa Teresa bar – an area of land of 1,650 hectares. This first contract epitomises the strategies used by the enterprise in order to obtain the necessary permits to build the wind farm. Through the payment and the negotiations with certain community leaders, the company tried to obtain a set of permits for wind energy development. Although the Assembly of San Dionisio ratified the first signature of contracts, the process proved to be rigged because the necessary quorum was not reached and the general population was not informed of the main features of the project (Mejía Carrasco 2017, 86). In effect, the community leaders signed the agreements without the consent of the Assembly, as the Agrarian Law requires (DOF 2018).

After the first wind farm approval, the project entered a hiatus that was only interrupted in 2011 because of a change in the main investors backing the project. This modification made the project follow a different timetable. Mareña Renovable, a consortium integrated by Infrastructure Fund McQuarie Mexico, McQuarie Capital, PGGM and Mitsubishi Corporation bought the project for 89 million dollars with support from the World Bank (WB) under a Clean Development Mechanism (CDM) scheme (Business Wire 2012). This implied that the construction timetable was modified and meant to start right away after this change. Enterprise employees, in this context, started conducting feasibility tests on the land of San Dionisio del Mar. These regular visits caught people's attention right away because of the lack of transparency in relation to the works. Following these events, on January 21st 2012 the Municipal President announced that he had granted licence to Mareña Renovable to start as soon as possible with the construction phase. The inhabitants from this town gathered in the town's square to demand accountability and the contracts to be released for a public enquiry. In response to the authorities' refusals, the people

⁵⁵ Informant 74, 2017.

⁵⁶ *Comunero* makes reference to a member in a collectively owned land structure.

stormed the local council, made the mayor flee the town and established the popular Assembly of San Dionisio del Mar. This context marks the beginning of a highly confrontational phase between the “community” of San Dionisio del Mar and both the government and enterprise (Mejía Carrasco 2017, 90).

While conflict escalated in San Dionisio del Mar with the storming of the local council, Mareña Renovables undertook negotiations with the government of Juchitán in order to gain access to Alvaro Obregón. Even if the sand bar depends administratively on San Dionisio del Mar, the only terrestrial way to reach it is through the land of Álvaro Obregón. In this context, Álvaro Obregón was key for wind energy development because all of the wind company machinery would have to pass through this town. Apart from being selected to host wind power infrastructure, the Santa Teresa Bar also marks an area where various towns like Xadani, Unión Hidalgo, San Mateo del Mar and Santa María del Mar, among others, find their livelihoods through traditional fishing techniques. In consequence, competing and contradictory uses of the sand bar came into play in Alvaro Obregón and San Dionisio del Mar.

The wind energy enterprise approached the Commissariat of both Álvaro Obregón and Charis ejido in order to negotiate the terrains. According to Alex Dunlap (2018a, 128) the process in this town was similar to the process that San Dionisio and San Mateo del Mar experienced. This is because, the enterprise went straight away to the leaders offering a huge amount of money in exchange for the permits but also withheld information on the windfarm to both *ejidatarios* and the community in general. This marks a continuation of the practices undertaken by the enterprise. Following a divide and conquer strategy they tried to win leaders' sympathy through gifts and money in order to obtain the necessary land use permits. On November 1st, 2012 the enterprise along with a private security team blocked all access to the lagoon area, arguing that a set of works for the wind energy company was about to start in the sand bar. In consequence, the enterprise would let the general population know the hours in which they would be able to fish and access the lagoon (Codigo DH 2012, 76). In this context, the people of Alvaro Obregón immediately approached the General Assembly of San Dionisio del Mar and of San Mateo del Mar and together they decided to visit the construction site. The ban on accessing the sand bar provoked a confrontation with the security teams. In this confrontation, many people were injured and several arrested. Among the detainees, there were two pregnant women (Mejía Carrasco 2017, 24). This increased people's level of annoyance and they decided to block permanently the only terrestrial access to Juchitán. This is a key moment as it marks an evolution in the strategies of opposition groups through the establishment of a barricade where different ethnicities – Zapotecs and Ikootz – start to coordinate actions in order to protect the barricades (Mejía Carrasco 2017, 24). My informants mention that the shifts in the barricade were assigned to a different town in the region on a daily basis. For instance, one night per week would be assigned to the people of San Mateo

del Mar. In this town, the men would sail to the sand bar and then they would take over the barricade for 24 hours⁵⁷. As a result, a different town would be assigned per night to avoid fatigue and to enable cooperation across ethnicities through coordination between the General Assembly of San Dionisio del Mar, Álvaro Obregón, San Matro del Mar and other organisations like UCIZONI and APIITDTT.

This increases the force with which wind energy companies and the government attempt to disband opposition actions. On February 2nd, 2013, the ensemble of towns confronted more than 500 police officers that tried to break the barricade in order to grant the enterprise's machinery entrance to the sand bar (Dunlap 2018a, 9). In this event, referred to in the literature as the battle of Álvaro Obregón, the town succeeded and expelled the police forces from the sand bar. The following events also mark a departure from the classic opposition strategies of direct confrontation into the protection of territory and indigenous self-governance models. This is because the town slowly began to implement a self-governance process known as "Usos y Costumbres" based on consensus decision-making process at a general assembly, which is led by the elders' council as the highest authority. Along the same lines, they created the communitarian defence police. The purpose of this organised body is to protect the territory from future menaces and threats coming from the wind power and extractive enterprises or the government. At the same time, however, the people who supported the wind energy project formed a group based on existing political networks in Juchitán with support from the wind energy company and in opposition to the other group. According to Dunlap, this group, also known as the Contrás, tried to disband the self-governance organisation on numerous occasions and promoted a state of unrest and came close to civil war in town (Dunlap 2018a, 9). Nowadays, the conflict between these factions still permeates the town to the extent that in July 2018 Rolando Crispín, member of the APIITDTT and of the communitarian police, was shot dead (2018, p. APIITDTT).

While direct conflict continued in San Dionisio del Mar and Álvaro Obregón between the 'community' and the wind company and government, a section of the General Assembly of San Dionisio del Mar, in collaboration with both national and international NGOs presented in March 2012 a legal action against Marena Renovable at the Agrarian Tribunal in Tuxtepec, Oaxaca (OHCHR 2013, 12). In this action, they demanded the nullity of the agreements undertaken in 2004 when the Assembly granted authorisation to the wind energy company because the community was never informed of the advantages and disadvantages resulting from a wind farm in their territory (OHCHR 2013, 12). This, again, marks a departure from the insurgent strategies held by the assembly until that date. As a result of a strategy of collaboration with NGOs and civil society, the General Assembly of San Dionisio del Mar decided to follow an institutional path

⁵⁷ Informant 5, 2017.

and to present the legal action. The Agrarian Tribunal, in this context, proceeded with the hearing and after months of deliberation, on December 7th 2012, granted San Dionisio del Mar the definitive suspension of Mareña Renewable wind energy farm in their territory (OHCHR 2013, 16). This legal action represents the biggest success of opposition groups in the region so far. While through direct action and confrontation they were able to prevent some of the enterprise and government actions, the key element for success proved to be the legal case presented by the seven members of San Dionisio del Mar.

Juchitán phase: Wind Power Expansion after the Energy Reform

While the successful legal case represented an enormous victory for the organisations and civil society in San Dionisio del Mar, this was far from being the end of the conflict in the region. In the first days of January 2013, Mareña Renewable Consortium, now operating under a different name, announced that the project would be retired from San Dionisio del Mar jurisdiction and that it would be relocated to the land of two municipalities in the north of the lagoon area: Juchitán and El Espinal (Adams 2014). This represented not only a different area in terms of ethnicity - from a heavily Ikootz area to a Zapotec region - but, most importantly, it also represented a change of location in terms of land ownership. While in San Dionisio, San Mateo and Álvaro Obregón the land is held under *bienes comunales* or *ejido*⁵⁸, in Juchitán it wavers between small ownership and *bienes comunales*, as mentioned in the first sub-section of this chapter. The complexity in relation to land ownership allowed the enterprise to approach landowners directly as well as the committees representing them. What this implies is that the decision on whether a wind farm could be built on the land of Juchitán depends on landowners rather than on indigenous assemblies. In this context, the municipal government would only be in charge of providing the land use authorisation to the wind company (Huesca-Pérez, Sheinbaum-Pardo, and Köppel 2018, 926).

It is important to mention, however, that in the period between the announcement of the new wind energy farm and the beginning of the construction phase, the Mexican government approved the energy reform in 2013. While before the reform, public consultation processes with local communities were not mandatory, the new regulation establishes not only that Social Impact Assessment is needed for energy sector projects, it also requires that a FPIC Procedure is carried out according to international standards in indigenous areas (Huesca-Pérez, Sheinbaum-Pardo, and Köppel 2018, 926). Because the Isthmus of Tehuantepec is predominantly an indigenous area the first consultation processes concerning resource extraction in Latin America started in 2013 in El Espinal and in 2014 in Juchitán with disparate outcomes (AGPAPJ 2015; Municipal

⁵⁸ Unlike La Venta, the ejido of Álvaro Obregón did not proceed with the regularisation of the collective land offered by the Mexican government.

Presidency of El Espinal 2017). Whereas in El Espinal the four phases of the consultation process were carried out in less than two weeks, in Juchitán the process was heavily contested, beginning in December 2014 and not finishing until the last day of July 2015. The reason for this variation is to be found among the political parties ruling the municipalities. Firstly, the Institutional Revolutionary Party ruled El Espinal. This political party had always shown sympathy towards wind energy expansion in the region and the FPIC procedure, in this sense, was just a step to corroborate the municipality's intention to host Eólica del Sur wind farm. On the other side, the opposition under the Revolutionary Democratic Party ruled Juchitán. In order to obtain political legitimacy, they held a critical view of wind energy development and called for a consultation process where different viewpoints had the chance to make their voices heard. In this sense, the need for legitimacy enabled opposition groups, through the APOYO network, to build alliances with NGOs and the media, who followed the process in detail and who acted as pressure groups for the transparency and fairness of the process.

While the government and the wind enterprises portrayed the FPIC procedure as an opportunity for local communities to express their concerns and viewpoints about wind energy, it was also utilised as a strategy to manage opposition to wind energy. This is because even if the procedure provided the opposition groups with a space to express their viewpoints, the threats and vocal protests with which they were confronted ended up distorting their demands. The procedure, rather than being a space of deliberation and participation, was a space used to legitimise resource extraction and to fabricate the social terrain needed for wind energy development. For my informant Mariano, a founding member of the Popular Assembly of the People of Juchitán, the FPIC procedure did not mean things were done differently concerning wind extraction in the Isthmus. He mentioned that, during the procedure, not only did he receive threats against his life but also that every time he took the stand, the people sympathising with wind energy development would boo him⁵⁹. This is why, in his opinion, rejecting the Eólica del Sur project was never actually on the table. Along the same lines, for a Radio Totopo member, the FPIC procedure was a tool both to manage opposition groups and to legitimise resource extraction. However, even if the consultation was planned to manage opposition groups, these groups were also able to use the procedure to their advantage. Mariano Lopez recounts that he was able to push on several occasions for impasses in the process by filibustering because basic safety conditions were not guaranteed for all the opposition members⁶⁰. In this sense, through these strategies, APOYO network members were able to postpone the procedure to the extent that it lasted for eight months.

⁵⁹ Informant 5, 2017.

⁶⁰ Informant 5, 2017.

The different parties in power in the municipalities and the way in which opposition groups made their voices heard led to asymmetric concessions made by Eólica del Sur to the two towns. Whereas in El Espinal the enterprise agreed to pay 15 million pesos to the municipality in order to obtain the land use authorisation permit (López 2018), in Juchitán the enterprise agreed to pay 65 million pesos to the same end and promised to provide the municipality with three windmills, a sports facility and a cultural centre. El Espinal landowners did not accept the difference in the amount and the concessions paid by the enterprise and threatened to cancel the contracts if the enterprise did not even out the amount paid to Juchitán. After a lot of pressure, the enterprise agreed to provide the town with 20 million pesos and the federal government agreed to add another 30 million pesos to the fund (López 2018). Although El Espinal's original intention was to invest the 65 million pesos in sewage, a water treatment plant and the amelioration of agricultural practices inside the wind energy polygon, until February 2019 the municipality had not received the payment yet. In consequence, landowners have blocked the wind farm on numerous occasions, causing significant losses to the wind energy company (Manzo 2018). The most significant blockade took place in October 2018, when landowners from various committees decided to close off the wind farm for more than 5 days in a row. One of the committee representatives, Pancho Toledo, argued that landowners were doing this because the enterprise had not yet paid tax to the municipality, overlooking the importance of landowners, the community in general and local government⁶¹. Although the wind farm blockade only lasted for a few days, the enterprise had to postpone contracts with a third of the enterprises and subcontractors, resulting in substantial financial losses. The context of uncertainty around the project led *Stichting Pensioenfonds Zorg en Welzijn* (PGGM), a Dutch Pension Fund, to withdraw its 250-million-dollar investment because of the state of social unrest and conflict resulting from the project implementation. The pension fund, in consequence, sold its actives to Mitsubishi Corporation and to the Mexican Fund for Infrastructure, which were already part of the initial investment (Tsnova 2016). In this sense, the disparate concessions made to the towns have proved to be a key element in the late evolution of the project, generating asymmetries in the two towns.

⁶¹ Informant 42, 2018.



Figure 4. Protest against Eólica del Sur. Source: La Jornada

In addition to the asymmetric concessions made to El Espinal and Juchitán, opposition groups also contested the FPIC procedure through the APOYO network in collaboration with other Mexican NGOs, such as The Centre of Research and Analysis (FUNDAR) and The Mexican Centre of Environmental Rights (CEMDA), by presenting legal action against Eólica del Sur (SCJN 2017). Because the strategy had already worked in the past, APOYO network decided to present its legal case at the local level and to escalate it to the federal level if necessary. With a document signed by 1,167 indigenous members of the Zapotec community in Juchitán stating that the FPIC procedure took place after administrative actions to secure land in the region were undertaken, opposition groups tried to prevent the project from continuing the installation of infrastructure on the land of Juchitán (CEMDA 2017). The rationale for the legal case rests on two elements. On the one hand, it argues that land was leased before consent was given by the indigenous Zapotec community of Juchitán. On the other hand, the legal action also argued that the amparo was never culturally adequate as information on the procedure was in Spanish, not in Zapotec, and not many people had access to it (Matías 2017). The presentation of the legal case marks the formalisation of opposition strategies to wind energy expansion in the region. This is

because the amparo was meant not only to stop Eólica del Sur, but also future energy expansion in the area by creating jurisprudence⁶².

Initially, the local judge decided to grant the Zapotec community a temporary suspension of Eólica del Sur wind farm. This represented a small victory for the APOYO network and also meant that the construction works from the enterprise were suspended for over a year (FUNDAR 2016). However, in 2017, and with a new local in charge, the legal action and the temporary suspension were rejected (Matías 2017). This meant that not only could the construction works from the enterprise restart, but also that APOYO network had only one option left on the table: to escalate the process and apply to present legal action at the SCJN in Mexico City. This process took place in summer 2017 and in January 2018, the Supreme Court, through one of five ministers, decided to hear the case. Between the rejection of the amparo and the decision from the Supreme Court to hear the case, Eólica was able to continue with the construction phase to the extent that by the end of 2019 almost 70 percent of the wind project was ready for the operational phase. In this context, even if the SCJN decided to hear the case, the judges were sceptical about the juridical relevance of the action presented by the Zapotec people. In this context, on November 14th 2018, the chamber decided to deny the amparo to the people of Juchitán (Espino 2018). The rationale for this decision was that even if Juchitán is an indigenous area and the people are entitled to undertake a legal action as indigenous people, the government fulfilled all of the conditions established in the international standards and the 169 Convention of the International Labour Organisation. In this sense, the court established that the “principle of good will from the government is visible throughout the phases of the consultation procedure”(SCJN 2018, 55).

To sum up, Eólica del Sur wind farm, throughout its three phases, presents a different pathway than Eurús wind farm in La Venta. As the project started to expand towards the south of the lagoon area, opposition strategies moved towards the defence of the territory and the indigenous way of living. In the first two phases, San Mateo and San Dionsio del Mar, collective land ownership played out a salient role in this process. In spite of approaching leaders and *ejidal* commissariats to sign contracts for the wind farm, the process proved to be rigged because it did not follow the procedures set in the Agrarian Law. The attempt to install the wind farm on the sand bar provoked a situation where both Zapotec and Ikootz people had to come together to collaborate on the defence of the area, arguing that this piece of land is essential for their livelihood strategies and their lives as indigenous people. In the last phase, Juchitán, the uncertainty concerning land ownership enabled enterprises to secure land after approaching landholders directly. However, opposition this time focused on the defence of landownership by indigenous people according to a valid FPIC procedure. That is to say, land context in Juchitán

⁶² Informant 4, 2018.

enabled a different opposition strategy from the one in La Venta focused on the defence of the indigenous territory.

A note on the Coalition of Workers, Peasants and Students of the Isthmus (COCEI): Wind Energy Expansion in a Rebel Town

Opposition to wind energy investments in Juchitán ought to be understood in light of the actions that the Coalition of Workers, Peasants and Students of the Isthmus have undertaken in the region since the 1970s (Hesketh 2017). As mentioned before, while before the 1960s land in Juchitán was classified as communal, it functioned like private property in practice. With the arrival of development projects to the Isthmus like the irrigation dam or the oil refinery, peasant families started to sell some of their holdings to meet their needs in the context of the economic crisis (Rubin 1993, 158). These projects not only changed patterns of land ownership in the region, but also brought peasants into contact with state agencies as bureaucrats sought to recover the investment and spread the economic benefits of these projects. State control over peasant production transformed agricultural relations in the region through the construction of a sugar mill that failed in the north of the Isthmus – in La Venta. This is because this effort came with pressures on small and medium-size landowners to abandon corn cultivation for cane and similar crops (Rubin 1993, 160; Villagómez, Santos Gómez, and Zafra 1998; Piñón Jiménez 1994). In addition to agricultural pressures, big-scale development projects also brought a growing urban economy that implied new forms of exploitation unrelated to agricultural labour.

After the generalised state of social unrest resulting from the 1968 movements, President Echeverría was forced to provide opportunities for peasants and workers to organise outside of the government-sponsored mass organisations. In this context, in 1973 students from peasant backgrounds formed the Coalition of Workers, Peasants and Students of the Isthmus (COCEI). This organisation's initial success resulted from the absence of official peasant and workers organisations in the area (Scheuzger 2005, 331). When COCEI was confronted by official organisations, mostly in local associations regulating land tenure and agricultural production, support was split into two groups: one supporting the Institutional Revolutionary Party (PRI) and the other one sympathising with the COCEI (Rubin 1993, 161; Villagómez, Santos Gómez, and Zafra 1998, 109). This division between PRI and opposition is still a dynamic that permeates wind energy mobilisation in contemporary Juchitán. As seen in the case of Eólica del Sur, opposition tends to be articulated by individuals and groups that had bonds with the COCEI and that acted against the PRI.

In the 1970s COICE's mobilisations involved mass activities aimed at pressuring the government for concessions on agricultural and urban issues (Michel 2009, 492). Concerning agriculture, COCEI's efforts were focused on pushing for a tax increase and helped small landowners to gain control of the *bienes comunales* and livestock associations, which had been dominated by wealthy

landholders (Matloff 1982). The Coalition also pushed for the recognition of Juchitán's communal claims. This is because COCEI agglomerated peasants that were priced out of the land market because of speculation by caciques and the wealthy landholders that accumulated land since the creation of the irrigation project. As one public proclamation stated: "Thousands of hectares were monopolised because of greed and ambition [...] From 1964 to the present date Irrigation district has been marked by monopolisation clearly violating the presidential decree that recognises and titles 68,112.54 hectares as communal lands of Juchitán and its annexes: La Ventosa, Chicapa de Castro, Unión Hidalgo and Xadani" (Binford 1993, 95). In this context, the Coalition pushed for these land issues and fought for the recognition of the original *ejido* decree through a combination of legal and extra-legal strategies⁶³. These include mass mobilisations, negotiations with Agrarian Reform Secretariat representatives and the storming of public offices both in Mexico and Oaxaca cities (Rubin 1993, 161). On the other hand, in relation to workplace issues, the Coalition supported organising activities and strikes against diverse regional industries like the rice plants or the oil refinery in order to secure wage increases, benefits and the rehiring of fired workers through the unions. In this sense, it is important to bear in mind that COCEI's actions were not restricted to issues related to peasants or to agricultural issues. Rather, their actions were also related to the social composition of Juchitán, a commercial town with a small industrial sector (Rubin 1993, 161; Binford 1993, 95).

Cutting across these two elements, the activities of COCEI provided an opportunity to build on the ethnic identity of the close-knit Zapotec community (Monsiváis 1983). The coalition's cultural activities included the publication of artistic and political materials, the promotion of both written and verbal forms of Zapotec, the enhancement of artistic activities and, most importantly, the celebration of ritual practices in political contexts (Rubin 1994, 130). Through this range of activities, the Coalition was able to revitalise and recreate the Zapotec identity and history while connecting it to claims of many of Juchitán's poor and middle-class residents (Rubin 1993, 161).

The 1977 electoral reform allowed for a whole range of political parties to run for local elections. This was a key moment in Juchitán's history as the Coalition, in alliance with the Communist Party, gained an official place on the municipal ballot in 1980. This alliance, at the same time, was key in providing a national forum from which to denounce electoral fraud in these elections. After direct actions that included a march from Juchitán to Mexico City, the occupation of

⁶³ It is important to mention that this struggle did not expand to the municipal dependencies of Juchitán such as La Venta, La Ventosa or Chicapa de Castro. This is because of a combination of two elements. First, in places like La Venta, there were no issues concerning land ownership, as the town and surrounding areas had been declared an ejido long before the presidential decrees. On the other hand, in towns like La Ventosa or Chicapa de Castro, small ownership was the predominant form of landownership and the PRI had more followers than the Coalition. Therefore, COCEI claims were never valid in these towns (Bailón Corres and Zermeño 1987, 30).

Juchitán's townhall, hunger strikes and the occupation of the Indian and Guatemalan embassy in Mexico City, the Mexican government recognised the fraud and annulled the elections (Gardy 2007). In special elections organised three months afterwards, COCEI candidate Leopoldo de Gyves, affiliated with the Unified Socialist Party of Mexico, won the municipality and Juchitán became the first city in Mexico to be governed by the left (Rubin 1993, 163).

This electoral victory provided an opportunity for participatory politics (Matloff 1982; Rénique 2007, 70). Working with local populations, the municipality paved streets, built health clinics and built a public library on the main square. In addition, they mobilised against two of the largest local employers, a beer distributor and Coca-Cola bottling plant, and after long-term strikes secured higher wages and social benefits for workers. As Rubin puts it: "The COCEI government fostered an atmosphere of participation and activity in Juchitán. Political meetings, public gatherings, street theatre and a COCEI radio station changed the panorama of municipal life" (Rubin 1993, 165). These actions, nevertheless, came with political and social consequences for the region. Both the federal and the state-level government denied credit and loans to the municipal government, businesses under the banner of the Juchitán Chamber of Commerce held strikes, and a right-wing group known as the Committee for the Defence of Rights of the People of Juchitán made use of violence and intimidation against organisation leaders (Rubin 1993, 165). In this context, the town entered into an atmosphere of tension and, according to some scholarship, it began to move in the direction of a civil war similar to those observed in Central America at the time (Dunlap 2019, 39). Most importantly, however, is that this context provided an effective means of convincing authorities of the need for intervention.

In summer 1983 after numerous violent incidents, the state government threw COCEI out of the office and appointed a PRI administrative council for the town. The Coalition refused to leave the town hall and organised massive demonstrations to coincide with when army troops arrived in Juchitán to set up barracks in the city. After new local elections decided the PRI's official candidate, the Coalition established a parallel government, leading to the arrest of over 200 COCEI supporters, the imposition of a curfew in town and a period of repression (Rubin 1993, 166; Gardy 2007; Rénique 2007). New elections in 1986 brought a new space of confrontation between the PRI and the Coalition. While the former won the elections, the latter denounced the process as fraudulent, blocked the Pan-American Highway, and its members carried out hunger strikes in Juchitán and Oaxaca City. These actions resulted in the annulment of the elections and the formation of a new municipal government where COCEI and PRI agreed to hold half of the offices (Rubin 1993, 191; Dunlap 2019, 39). The collaboration between these two political entities caused discord and disagreements among COCEI members and implied, most importantly, the formation of a new political faction that had a new position vis-à-vis the regime. In spite of ruptures and schisms, the COCEI, alongside President Salinas, signed the concertation accords in

order to bring federal funds from the National Solidarity Programme to support vulnerable populations. Alliances with other political parties have continued over the years, making the COCEI a resilient political force in the Isthmus (Gardy 2007).

With this in mind, it is important to analyse opposition to wind energy in relation to COCEI activities owing to three reasons. First, it provides insights on the persistence of the importance of the agrarian conflict in the region and on the continuity of this struggle in the context of wind energy expansion in the region. Since the presidential decrees, the Coalition's goal has been to interpret the presidential decrees according to their interests, in order to justify the invasion of tracts of land claimed by wealthy inhabitants of Juchitán. This is a claim that has gained legitimacy with wind energy expansion, as we will see in chapter six. Secondly, COCEI's identification with indigenous peoples' claims is something that can be observed among members of wind energy opposition groups. As will be explored in chapter six, the collective claim to land ownership is articulated around claims of indigenous citizenship, authority and recognition. Finally, the strategies utilised by opposition members to wind energy are somewhat similar to the ones deployed by the COCEI in the 1970s and the 1980s. The storming of Juchitán's town hall is a repetition of the actions utilised in the San Dionisio phase. Similarly, the establishment of a parallel government opposing the one selected by state institutions is a practice reproduced in both Alvaro Obregon and San Dionisio del Mar resulting from wind energy expansion. In this sense, COCEI's influence plays out a key role in the undertaking of opposition strategies resulting from wind energy investments in the region.

Final Remarks

This chapter analysed the power-resistance relationship in the implementation of two projects in the Isthmus of Tehuantepec: Eurus and Eólica del Sur. The query into the actors, actions and reactions moving across scales connects localised implementation pathways to social and political dimensions having to do with wind energy expansion in the region (Lind 2018). With this in mind, this chapter has argued that opposition to wind energy in different parts of the region has presented a divergent pathway because of the prevailing landownership schemes in the region. When projects first began in the north of the Isthmus, where landownership is defined according to an *ejido* system in which every *ejidatario* has a specific piece of land, opposition was centred on obtaining a better deal from wind energy companies. Opposition was sparked because *ejidatarios* were able to get their eyes on contracts between landowners and wind energy companies in the United States and they fought to get a better payment from the wind energy companies. As projects like Eólica del Sur started to expand towards the south of the Isthmus and cut across ethnicities and other forms of land ownership, opposition shifted towards the defence of land as a collective entity and the protection of collective ways of life. The evolution of opposition standpoints meant that, in the long term, strategies have gone from direct confrontation with wind

energy companies to an institutional approach as shown by the undertaking of legal actions against Eólica del Sur and Mareña Renovable. Along the same lines, the evolution of opposition strategies has also provoked a modification of the strategies taken by the government and the wind energy enterprises. While at the beginning, it is possible to observe classic counter-strategies such as divide and conquer and intimidation, in the long-term, actions have transitioned into management of the opposition to wind energy through the creation of a workers' union and the conduction of a FPIC procedure to legitimise resource extraction.

Land ownership complexity, the COCEI's legacy and the various kinds of social opposition found in the Isthmus have provoked different wind energy pathways that we will analyse in the following chapters. In the next chapter, entitled Windmills, Land and Social Difference: Twenty Years of Change in La Venta, Mexico, we will explore the patterns of social differentiation resulting from wind energy investments in La Venta. In chapter six, on the other hand, we will enquire into the reasons for the different reactions on the ground resulting from wind energy expansion.

5. Twenty Years under the Windmills: Social Difference, Land and Change in La Venta, Mexico

This chapter seeks to explain the process through which patterns of social differentiation in the town of La Venta have been accelerated because of wind energy investments for over two decades. La Venta is an *ejido*⁶⁴, administratively dependent on Juchitán, founded in 1951 in the northern area of the Isthmus of Tehuantepec. The land of La Venta hosted the first wind energy project in Latin America in 1994 comprising seven windmills with a generation capacity of 1,125 kW. Since then, three more wind energy projects have engulfed the town with more than 300 windmills, including the biggest wind energy project in Latin America until 2019: Eurus wind farm. Wind energy investments have been so significant for the town that, by 2018, they extended over 50 percent of land in the town, occupying 3,221.8 hectares (Nahman Sitton 2014).

Wind energy farms operate in such a way that productive activities can co-exist with wind harvest. This is because wind energy infrastructure only occupies between 5 to 7 percent of the leased area, while the rest of the land remains productive. The case of La Venta can provide insights into the long-term effects of wind energy projects on land dynamics and on patterns of social differentiation in towns. This is especially relevant because even if existing research has analysed the relationship between extractive industries, poverty and livelihood changes (Gamu, Le Billon, and Spiegel 2015; Bury 2004; Bury and Kolff 2002; Bury 2005), scholarship touching on the process of rural change in the long-term resulting from renewable energies expansion is still scarce. Only a couple of papers have elaborated on the socio-environmental short-term impacts associated with the wind energy industry in the Mexican context. Huesca-Pérez, Sheinbaum-Pardo and Köppel's work, for instance, identifies different elements ranging from socio-cultural values and the rights of indigenous peoples to stakeholder participation that affect the local dynamics in the Isthmus (Huesca-Pérez, Sheinbaum-Pardo, and Köppel 2016, 955). Similarly, Hernández-Juárez and León's research on the different stakeholders playing a role in wind energy pathways in the Isthmus of Tehuantepec highlights a set of social impacts on local communities: from asymmetric information processes to low numbers of jobs once the construction phase of a wind farm is over (Juárez-Hernández and León 2014, 156). Even if these papers provide us with

⁶⁴ Ejido is a unique form of collective ownership in Mexico. Ejido lands were distributed among communities after the government expropriated land from private owners following the Mexican Revolution in 1910. Initially, members of the ejidos could use and work these lands but could not use them for collateral or sell them. A constitutional reform passed in 1992, known as PROCED, enabled ejidatarios to lease or sell their plots if the majority of members of their ejido agreed (Payan and Correa-Cabrera 2014, 2).

insights on social impacts, they neglect the long-term effects of wind energy on land dynamics and social differentiation processes.

This chapter seeks to contribute to this gap by examining how patterns of social differentiation, centred on land ownership, have evolved in La Venta as a result of wind energy investments. By drawing extensively on data on de-regularised land and on semi-structured interviews with *ejidatarios*⁶⁵ and landless people in the town, this chapter will argue that wind energy has accelerated patterns of social differentiation in two respects: among landowners and between landowners and landless people. Wind energy, in this vein, has increased social differentiation because it relies on previous land inequalities. While landowners with more than 20 hectares are able to combine windmills with investments in agriculture and cattle grazing, those with less than 20 hectares utilise the income from wind energy for basic needs, while others still have been obliged to sell some of their land to support their household. In contrast, those without land have benefited from the investments, depending on their engagement with the urban economy fostered by the wind energy industry. The wind energy industry has sparked a local boom in non-farming activities and opportunities for employment and service provision. Again, this pattern is socially differentiated: while some landless people have been able to explore successful business ventures in town, others have been forced to migrate to different parts of the country or to the US. The paper will therefore argue that wind energy development in La Venta has resulted in different material and social relationships between local people and wind energy, with actors benefitting (or not) in various ways, linked to patterns of social differentiation

The first part of this chapter analyses the case of La Venta and the process through which original allocations of land since the creation of the *ejido* have changed owing to processes of land concentration and a slow productive shift from agriculture to cattle grazing. Secondly, this chapter investigates social differentiation patterns arising among four landowner groups: those with more than 20 hectares; those with less than 20 hectares; those who have sold some or all of their land; and those landowners whose land was not considered for the wind energy project. Afterwards, this chapter explores landless people's contrasting experiences of engagement with wind energy. The chapter will conclude with a reflection on how renewable energy investments intersect with processes of agrarian change over a 25-year period.

La Venta – A Town Engulfed by Windmills

As mentioned in chapter three, La Venta is an *ejido* founded in 1951 as a result of a political schism that originated in Santo Domingo de Ingenio *ejido*. The creation of La Venta sought to provide and to compensate Juchitán and an *ejidatarios* group with a tract of land around the Pan-

⁶⁵ Member of an *ejido*.

American Highway connecting Alaska and Patagonia. The actual area of La Venta is 6,059 hectares divided in the following fashion: 4,707 hectares are divided between *ejidatarios*; 1,338 hectares are left for common use; and 24 hectares are for specific use⁶⁶ – the area of the town of La Venta (RAN 2018a; Nahman Sitton 2014; The World Bank 2006).

The initial allocations of land between *ejidatarios* took place in a two-fold process in the years of 1951 and 1954. When La Venta was founded, the *ejido* was granted with a land area of 1,798.8 hectares to be divided in the following way: 1,481 hectares of humidity land; 265.50 hectares of rain-fed land; and 52 hectares occupied by the town (OGCEUM 1952, 12). In this first allocation of land 149 land plots were created. Each *ejidatario* was provided with a maximum of 10 hectares of land from the allocation for humidity land and the rest of the land was registered for common use (The World Bank 2006; Nahman Sitton 2014, 47). Three years later, in 1954, La Venta was granted with an area of 4,017 hectares taken from Santo Domingo de Ingenio *ejido*. Of this land, only 55 percent, 2,209 hectares, were suitable for cultivation, as the rest of the land was infertile and rocky soil. The productive land was divided into 110 production units with an area of 20 hectares each (OGCEUM 1954, 26). These production units were distributed among the same number of *ejidatarios*. To put it another way, in addition to the first 148 *ejidatarios* who had rights over 10 hectares of land each, 110 *ejidatarios* with 20 hectares of land each were added to the *ejido*.

These first *ejidatarios* had the right to cede the rights of use to other *ejidatarios* according to the Agrarian Law (DOF 2018). The initial allocation of land, however, was modified because of two elements. First, as Aurélia Michel documents, the lack of clear procedures concerning the *ejidal* system made the same people stay in power for more than a decade. This local elite not only controlled land transactions by expropriating or buying tracts of land from small-scale cultivators, but also enabled a process of land speculation, which priced poor landowners out of the market (Michel 2009, 476). On the other hand, and as mentioned in chapter four, because of the harsh climatological conditions of the Isthmus, land was used following the cycles of production and declining fertility. Most small-scale peasantry simply cleared, fenced, cultivated and abandoned land as necessary, leaving it unploughed until another *ejidatarios* cultivated it once again. As Binford puts it: “claims to land were transient, meaningful as long as the land was under cultivation” (Binford 1993, 88).

These two elements have fostered, since the second half of the last century, unequal patterns in terms of landownership in the town. According to data collected by the National Institute of Geography and Statistics (INEGI), 300 plots of land now integrate the *ejido* of La Venta. Out of

⁶⁶ It is important to mention that the RAN shows inconsistencies in the number of hectares integrating the *ejido* of La Venta. As a result, these inconsistencies are also present in this document.

this number, groups manage seven parcels, which is land under common use; individuals own 285 and there is no information available on the system about the remaining 8 plots. The average plot of land owned by individuals amounts to 5.1 hectares (RAN 2018b). This is in contrast, nevertheless, to the fact that only 36 individuals own more than 10 hectares of land. In this small subgroup owning more than 10 hectares of land, land disparity is high. Whereas only four individuals own more than 20 hectares, the rest of the 32 individuals own an average of 13.2 hectares (RAN 2018b). To put it another way, of the land about which there is available information, 36 individuals own 36.8 percent of the land in the *ejido*, while 249 individuals and seven groups of *ejidatarios* have property rights over the rest of the land (RAN 2018b). What this data shows is that there is a tendency towards land concentration in the *ejido* as a few hands, notably 36 individuals, have been able to get hold of and accumulate land by buying it from other landholders. As we will see in the next section, it is in this context that wind energy expansion takes place.

Land concentration in the *ejido* is articulated along two productive trends in the *ejido*. First, over the last 20 years there has been a slow shift from agriculture to cattle grazing activities. Because of the proximity of the town to the irrigation channel coming from the Benito Juárez dam, the main activity of the *ejido* was agriculture including the cultivation of crops such as sugarcane, maize, beans, squash, watermelon, sorghum and sesame (The World Bank 2006, 3). However, after a fall in sugarcane prices, the permanent closure of the sugar mill in the neighbouring town, the harsh climatological conditions in the region and the constant plagues affecting sorghum cultivation, cattle grazing and related activities have come to replace agriculture in the town (The World Bank 2006, 3). As Table 4 shows, data from INEGI corroborates this trend. It is possible to observe that between 1991 and 2007⁶⁷ there has been a transition from crops related to human consumption like maize, beans and squash to a set of crops associated with cattle grazing like grass and sorghum (INEGI 1998, 2018). Current micro-data on productive units in the *ejido* shows a similar trend. While maize is cultivated in 183 hectares, sorghum is cultivated in 1,003 hectares and cattle grazing-related activities spread across 2,347 hectares. Overall, what this data suggests is that there has been a transition in the long-term from agricultural activities to cattle grazing to the extent that 81 percent of the activities in the *ejido* are devoted to the latter.

Table 4. Agricultural land use in Juchitán 1991-2007

	Crops	Land area (hectares)
1991	Maize	10,835
	Sugarcane	2,168
	Sesame	304
	Beans	257

⁶⁷ The 16-year difference between data demonstrates the fact that in these years, the Mexican government conducted censuses that can be disaggregated at the local level.

2007	Grass	3,000
	White Maize	2,093
	Sorghum	971
	Yellow Maize	757

Source: Instituto Nacional de Estadística Y Geografía, 1998, 2018)

Second, along with the productive shift, there is also a trend to abandon agriculture at the local level. According to data by INEGI, it is possible to observe that over a period of 20 years, the number of productive units⁶⁸ in Juchitán has decreased by more than half. While in 1991 there were 3,428 productive units in the *ejido*, in 2007 there were only 1,990 units. The area of land under cultivation corroborates a similar pattern. Whereas in the 1990s approximately 19,000 hectares were used for agricultural activities, in 2007 only 9,018 hectares were cultivated (Instituto Nacional de Estadística Y Geografía (INEGI) 1998, 2018). What this data shows is that the area under cultivation in the agrarian core of Juchitán decreased by more than half over a 16-year span. If one proceeds to disaggregate data by seasonality, the same pattern is identified: there is a higher percentage of unproductive land in the region over time (see table 5). In this sense, it is worth mentioning the trends taking place during the autumn-winter season in the area. While in 1991 almost 4,200 hectares were cultivated, in 2007 only 373 showed agricultural activity. That is to say, productivity in the dry season in terms of land area has decreased by more than 90 percent. Hence, this data illustrates the slow abandonment of agricultural productivity in the region.

Table 5. Agricultural Production by Season

Season	Year	Cultivated Area (hectares)
Spring-Summer	1991	8,000
	2007	3,172
Autumn-Winter	1991	4,179
	2007	373
Perennial	1991	3,975
	2007	3,168

Source: Instituto Nacional de Estadística Y Geografía, 1998, 2018)

To sum up, wind energy expansion has to be analysed in relation to the land dynamics taking place in La Venta. Land concentration, a productive shift in the town from agriculture to cattle grazing activities and a slow abandonment of agriculture are part of a double dynamic: they are the context in which wind energy farms are installed in the region and, at the same time, they are elements affected by wind energy investments. This is why wind energy serves to reinforce productive trends taking place in the *ejido*. Let us now examine how patterns of social differentiation among landowners are reinforced because of wind energy investments.

⁶⁸ Productive unit is defined by INEGI as the economic unit integrated by one or more terrains in the same municipality with agricultural or forestry activities under the same administration (Instituto Nacional de Estadística y Geografía (INEGI) 2018)

Patterns of Differentiation between Landowners

Before delving into details on how wind energy exacerbates patterns of social differentiation among landowners, it is important to take into consideration the way in which wind energy payments work. When a landowner decides to sign a contract with a wind energy enterprise, the amount of money he or she will receive depends on two elements. Firstly, the amount of land he or she owns. It is not the same to lease 2 or 3 hectares of land as it is to lease more than 20 hectares to wind energy investors. The more land a landowner owns, the more likely he or she is to receive a higher amount of money. Conversely, the wind energy infrastructure built on his or her terrain can range from a windmill to a transmission line. Again, the pattern is the same. The more land a landowner has, the more likely he or she is to host infrastructure associated with the wind energy industry. It can be said, hence, that wind energy payments take place in a context of unequal landownership in La Venta.

More specifically, wind energy payments can be divided into four broad categories in relation to land: the right of wind, payment for infrastructure, payment for windmills and payment for externalities resulting from wind energy infrastructure (Nahman, Nahón, and Langlé 2014, 142; Avilés Hernández 2008). The first category, right of wind⁶⁹, refers to the only payment that *ejidatarios* will definitely receive. It is a fixed quantity, stipulated by the contract, ranging from 6,000 to 8,000 pesos – £230 to £315 – to be paid on a yearly basis. The second payment, resulting from infrastructure, is to do with the exact place on the land where companies decide to build infrastructure and roads. This payment is based on the square metres of land the project is utilising and amounts to up to 150,000 pesos per hectare – approximately £5,900. However, considering that wind energy infrastructure only occupies from 5 to 7 percent of the leased area, the payment hardly reaches the entirety of hectares. Along the same lines, the payment for windmills depends on the exact place where the wind energy company decides to locate the turbines and on the windmill energy generation capacity – in the region of 850 kW to 3 MW. This payment can amount to up to 15,000 pesos – approximately £590 – per year. Finally, payment for externalities refers to compensation landowners can receive because of problems caused by wind energy infrastructure such as oil spills, floods or unevenness in the terrain. Payments are, therefore, accumulative. The more land one owns, the more likely it is that the payment from wind energy enterprises will be bigger. In consequence, what each *ejidatario* receives and does with these resources varies according to their land ownership.

According to some of the *ejidatarios* interviewed, because of the way wind energy payments operate, this industry has exacerbated the productive trends taking place in the *ejido*. As Miguel,

⁶⁹ Colloquially defined as right of wind by *ejidatarios*, this concept refers to the usufruct received per hectare inside the wind energy farm (CFE 2012, 12).

one of the landowners who transitioned from agriculture into cattle grazing with 6 hectares of land, puts it, wind energy payments have enabled him to escape from the harsh climatological conditions of the region and the low prices of agriculture by allowing him and others to invest in high-quality cattle, feedstock and cattle sheds, among other expenses. Miguel mentioned that spending his time on agriculture is not really worth the effort nor the labour anymore. While with agriculture he could only aspire to make between 4,000 and 5,000 pesos – between £157 and £196 – per year, provided his crops avoid pestilence, with cattle grazing one can make as much as 30 times more this amount. According to his calculations, in a good year he is able to make around 150,000 pesos – around £5,900 – just by feeding, fattening and selling a few of his calves. From Miguel's perspective, therefore, this is why people in La Venta are not interested in working in agriculture anymore⁷⁰.

Along the same lines, not only is cattle grazing more convenient for landholders, it is also less labour-intensive than agriculture. This has allowed landowners to combine expenditures in cattle grazing with investments in education and training for their families. This has brought a new generation of professionals to the town that do not contribute to the local economy as farmers or peasants: rather, they work as solicitors, veterinarians, bureaucrats, doctors or engineers. Ines is a good illustration of this phenomenon. With the extra revenue obtained from wind energy rents, her father decided to invest in her and her siblings' education. Ines went to Oaxaca city to read for a degree in business administration. When she came back to La Venta, Acciona hired her as the person in charge of linking the community with the Corporate Social Responsibility (CSR) department. Although Ines is now starting the paperwork to inherit a tract of land from her father, she is not interested in agriculture. Rather, she just prefers to let wild grass grow every season on the terrain in order to rent it to landholders with cattle⁷¹. The gradual tendency to abandon agriculture at the local level is also present in what one elder landowner⁷² with over 20 hectares of land and seven windmills told me. When recounting the story of how wind energy projects came to La Venta, he stated that elder landowners were the ones who decided to sign the first contracts with the wind energy companies. What this implies is that 25 years later, the new generation grew up seeing wind energy rents as something they could take for granted for the next 30 or 40 years. In consequence, they do not see the need to waste their time on demanding activities like agriculture. What these insights show is that wind power investments play a key role in reinforcing productive trends taking place in La Venta. Not only does wind energy enable a productive shift towards cattle grazing by investing rent from wind energy companies, but also

⁷⁰ Informant 22, 2017.

⁷¹ Informant 7, 2018.

⁷² Informant 15, 2017.

it fosters the creation of a group of professionals who do not see themselves working the land in the future.

It is important to mention, nonetheless, that even if landowners acknowledge the role that wind energy is playing in the *ejido*, not all of them benefit from wind energy rents in the same manner. What *ejidatarios* can do if they own 20 hectares of land hosting two or three windmills is different from those who only own three or four hectares of land and only receive payment for “right of wind”. *Ejidatarios* tend to agree that the amount of land where wind energy starts to make a difference in terms of both living standards and agricultural productivity is around 20 hectares⁷³. Experiences in relation to wind energy, in this context, tend to be highly differentiated among landowners depending on their landownership. It is possible to identify, therefore, four groups of landowners with contrasting experiences vis-à-vis wind energy development and land dynamics: landowners with more than 20 hectares of land, landowners with less than 20 hectares of land, landowners whose land was not included in the wind energy farms and landowners who decided not to participate in the project. The following section will elaborate on the experiences of each subgroup vis-à-vis wind energy.

Landowners with more than 20 hectares

As mentioned above, what *ejidatarios* can do varies if they lease 20 hectares of land and they receive a rent for three or four windmills compared to only leasing 2 hectares of land inside the wind energy farm. As stated above, *ejidatarios* tend to agree that at around 20 hectares and above, wind energy rents start to make a difference in terms of both living standards and agricultural productivity⁷⁴. Experiences in relation to wind energy tend to be highly differentiated among landowners. The common thread among those with more than 20 hectares, however, is that they are able to combine wind rents with investments in agriculture, cattle grazing or machinery.

The case of Damián, for instance, is insightful in this regard. He decided to rent over 40 hectares of land to the Eurus wind farm. Although his land does not host a windmill, he is able to cultivate 35 hectares with sorghum and maize. Moreover, in the other 5 hectares, he has over 20 cattle that he feeds with the sorghum that he cultivates. In this context, Damián’s income is combined from the payment he receives for 40 hectares of land, his levels of production of both maize and sorghum, and the milk he sells on a daily basis to cheesemakers in the region. In case of an economic shock affecting agricultural prices, Damián cannot only rely on selling milk, but he can also sell cattle to the highest buyer, if needed. However, he can ultimately rely just on the

⁷³ Informant 30, 2017.

⁷⁴ Informant 30, 2017.

payments he receives from the wind energy company, which amounts to 320,000 pesos – approximately £13,174 – per year, according to my informant⁷⁵.

Along the same lines, the case of Cirilo provides insights in the same regard. Raul was part of the *ejidal* commissariat in 2004 when Acciona Energy sought to secure land in the south of the *ejido* for the wind farm. Because he was one of the local brokers promoting the project among the local community, he managed to lease over 40 hectares of land to the project. Just like the previous case, Raul has been able to diversify and therefore increase his income resulting from productive activities. On his tract of land, he has over one hundred cattle and he cultivates 5 hectares of maize that he sells to the community or that he uses for his own consumption. He told me that, unlike others in the town, he still likes to go every morning to his land to milk his cows⁷⁶. He obtains an average of 70 litres of milk per day, which he sells to cheesemongers for 6 pesos – approximately £0.25 – per litre. Most importantly, however, Raul bought a tractor to work his land and when he is not using it, he rents it to acquaintances or friends in the town. Therefore, his income is a combination of a series of elements: wind energy rent, cattle, milk production, maize cultivation and tractor rent. Just as Damián, he is better equipped to face economic shocks and to continue investing in his land.

Finally, Ernesto's case also falls within this category. Not only is Ernesto the youngest person in the town to be part of the *ejidal* commissariat when he was 28 years old, he was also one of the first members that started to promote the Eurus project among landowners in La Venta. While interviewing him, he recounted how he had been selected as the youngest sponsor for the local celebration in the history of the town. He boasted that he had been generous by spending approximately 1.2 million pesos – almost £50,000 – on a music band and drinks for everyone⁷⁷. It was evident that he was one of the wealthiest landowners in the town. When I enquired into how much land he owned, he told me that he owns 38 hectares in total divided into two tracts of land. On 18 hectares in the south of La Venta, Ernesto has 20 cattle, and he cultivates sorghum and maize on 4 hectares every year. While he sells maize to other members of the community, he uses sorghum to feed his animals. His production level is approximately 2.5 tons per hectare. On the other hand, in the 20 hectares he owns in the north of the town, he cultivates sorghum on 15 hectares and the rest is unused because they are located on rocky soil where productivity is low. It is important to mention that while most of the landowners in the north of the town have been affected in previous seasons by a sorghum plague, Ernesto was able to invest both in pesticide and fertiliser with the profit obtained from wind energy rent. Along the same lines, he is one of the very few who has been able to buy land after wind energy investments came to town.

⁷⁵ Informant 13, 2019.

⁷⁶ Informant 60, 2019.

⁷⁷ Informant 79, 2019.

However, according to Ernesto, this process has proved to be challenging as not many people are willing to sell their land⁷⁸. In addition, just recently he was able to acquire a tractor, which he uses to increase productivity in the harvest season. In this line, just as with Damián and Raul, Ernesto is able to diversify his income from various sources. Not only does he rely on agriculture, but he is also able to draw income from cattle grazing and from the payments he obtains from leasing his tractor to other *ejidatarios*.

The payment received from leasing 20 plus hectares of land allows landowners to combine wind energy payments with investments in agriculture, cattle grazing and machinery. With the profits obtained from selling crops, milk and cattle, or from renting machinery, landowners are not only able to accumulate wealth, but some have also managed to buy land on sale inside the wind energy farm. These narratives contrast with the experiences of *ejidatarios* with less than 20 hectares of land, as we will explore in the next sub-section.

Landowners with less than 20 hectares of land

While landowners with more than 20 hectares manage to combine windmills with investments in agriculture, cattle grazing and machinery, those with less than 20 hectares barely manage to combine windmills with other productive activities on their terrain. Because the payments resulting from wind energy investments do not make a difference to their lifestyle, they are more vulnerable to economic or environmental shocks.

⁷⁸ This was corroborated by my fieldwork research. When enquiring into *ejidatarios* who have sold their land, I was only able to identify between 10-12 people in the town.



Figure 5. Landowner in La Venta. Source: Own Elaboration

Jose's case provides insights on this sub-group in La Venta. When the project started to secure land, Jose decided to lease four hectares of land for Eurus wind farm in the southern section of La Venta. Although at the beginning of the project, he used to cultivate maize and sorghum with the help of his father, when he died, he had no means of continuing this productive activity because of a mobility impairment. He underscored that the 20,000 pesos – £787 – he receives on a yearly basis is seldom enough to fulfil his basic needs. In consequence, he has not been able to make any investment in agriculture or cattle grazing and his land is completely unproductive nowadays⁷⁹. Jose spends most of his money on basic needs and transport between towns in the region and he relies on his neighbours and family for other needs. As this case shows, for Jose the windmills surrounding the town have not made any difference so far because he cannot invest in agriculture, as his land is fallowed.

⁷⁹ Informant 30, 2017.

Raul Carrasco's account is also insightful in this regard. He owns a total of 9 hectares of land divided into two plots: 6 hectares in the north of the *ejido* and 3 hectares in the south of the town. In the 6 hectares in the north of the town, he cultivates zapalote, an endemic maize from the region. Rather than selling the corn to a middleman or to a local market, he threshes it himself, uses some of it for his own consumption, and the rest is sold to other members of the community⁸⁰. While interviewing him, he emphasised that maize productivity has decreased a lot over the last few years because rain has been scarce. Whereas in the past he would harvest an average of 8 carts of corn per hectare, in the last 5 years he has only been able to obtain a quarter of that original quantity. That is to say, approximately 2 carts per hectare. On the other hand, in the 3 hectares in the south of the town, he has 15 cattle grazing in the open air. This is because he has not been able to invest in a shed nor in electricity. In consequence, his productivity is low. He told me that, rather than being an investment for the present, cattle is a sort of insurance in case there is an economic or environmental shock affecting his household. This is why he prefers to accumulate cattle rather than investing in their productivity through dairy farming or in selling them. According to Raul, the income he receives from wind energy investments is seldom enough to fulfil the basic needs of his family.

Raul's land also hosts 3 windmills: 2 in his northern tract and 1 in the southern terrain. In his experience, windmills have generated a set of negative externalities that can be observed in relation to agriculture⁸¹. Firstly, every now and then oil spills come down from the windmills. When oil falls on any kind of crops the plants start to turn yellow. According to him, it is similar to when plants catch fire. Secondly, there is an issue resulting from dust coming from the roads built by the wind energy enterprise in order to connect the windmills. Because these roads are not paved, whenever an enterprise pick-up passes by it creates, in Raul's own words, a cloud of dust that affects enormously the productivity of the land next to the road⁸². When I enquired into the effect of dust on maize and sorghum, Raul asked me – what would happen if you were in the middle of a cloud of dust? You would not be able to breathe, right? This is what happens to maize and sorghum⁸³. In this sense, Raul's low productivity is not only affected by changes associated with variability in terms of the weather, but also because of environmental externalities resulting from wind energy development on his land.

Along the same line, Victor García's case is insightful. According to him, those who own less land in the *ejido* are unable to invest and boost productivity, and they may be forced to sell their land as a contingency. Victor also notes that people with less land are more vulnerable to suffer

⁸⁰ Informant 52, 2019.

⁸¹ Informant 52, 2019.

⁸² Informant 52, 2019.

⁸³ Informant 52, 2019.

the worst effects of the environmental arising from windmills. When interviewing him, he told me that wind energy, in his experience, affects bird migration patterns and in turn agricultural activities in the *ejido*. In his years as a farmer he has seen how windmills have decreased the bat population in the region because they get trapped in the turbulence created by the windmills (Rapp, Aiello, and Ledec 2011, 199). Long before the windmills, bats would feed on an aphid plague that affects sorghum. Nowadays, in a context in which bats are scarce in La Venta, this plague runs freely. The problem, as Victor underscores, is that this plague affects landholders in different ways. While those with vast areas of land can use some of the wind energy rents to eradicate this plague on their crops, those with small areas of land can barely do anything to cope with its devastating effects. Victor emphasised that the 20,000 pesos he receives per year are not enough to invest in high-quality sorghum as well as pesticides and fertilisers. Those with small areas of land, in consequence, are at risk of losing most of their harvest and they may not have the means to re-invest in productive activities in the future. This is why they may even be obliged to sell their land as a contingency⁸⁴.

It is also important to mention, nonetheless, that even if wind energy payments do not make a difference for landowners in terms of productivity, agriculture or living standards, they are a sort of insurance that has prevented them from selling their land or from migrating to other regions or countries. The high variability in terms of weather, according to the landowners, makes productivity levels uncertain and, if there is a plague or a drought, they may be obliged to sell their land. In this case, even if the wind energy rent is insignificant in terms of productivity and living standards, they can be significant if the household does not have any additional income. As Raúl puts it: if it were not for the income received by the windmills, I would have been obliged to sell the land or to migrate to a different region in the country⁸⁵.

Landowners who have sold their land

While conducting my fieldwork I was always curious about land transactions in the region and, most specifically, within the wind energy farms. I would often ask myself questions like: is there anyone selling land within the wind energy farms? Who would sell a tract of land? How expensive can it be? Because some of the landowners have been able to accumulate land, transactions have effectively taken place over time. However, according to my informants, since wind energy development has come to the town, land purchases have been limited owing to two elements. On the one hand, wind energy companies are leasing almost all of the land in the *ejido*. What this means is that even if people do not have land within a wind energy farm, their land has been reserved for a potential wind farm in the future. That is to say, eventually they will receive money

⁸⁴ Informant 22, 2017.

⁸⁵ Informant 52 2019.

from a wind energy farm. On the other hand, and related to this, the possibility of receiving an income from wind energy farms has fostered a speculative process that has made land prices rocket. Whereas before the wind energy farms were built, the price of a hectare of land would be around 50,000 pesos – around £2,000 – after the wind energy rush, the same area of land would be sold for around 250,000 pesos – around £10,000. These two elements have created a situation where land transactions are scarce in La Venta. According to my informants, there are approximately 10 to 12 landowners who have agreed to sell their land in the past few years⁸⁶. The common thread among this subgroup is that either they are elderly people or they were obliged to sell their land because someone from the household fell ill and they needed money to cope with the shock. Although this is a small subgroup, their cases can illuminate the deeper processes of land accumulation and dispossession resulting from renewable energy expansion.

Fortunato's experience offers insight into this process. Fortunato is 81 years old and he lives on his own in a small one-bedroom house made of adobe. His house is one of the very few in La Venta made out of this material. He only owns one hectare of land after he decided to sell the rest of his land a few years ago⁸⁷. When he was still able to work the land, he would cultivate both maize and sorghum, albeit with low productivity, as is the case for many other landowners in the town. From the hectare of land that he still owns, he receives approximately 8,000 pesos – around £300 – per year from the wind energy company. However, just as many others underscore, Fortunato also mentions that this quantity is not enough for his basic needs, as he is only able to buy tortilla, soap and prepared food from one of his neighbours. In this context, Fortunato is able to survive because her sister looks after him and brings food and pantry products for him every now and then⁸⁸. While interviewing him, Fortunato drank water from the tap, which suggests that he is not able to afford bottled water. Fortunato's case is insightful because it shows the conditions that lead someone in the community to engage in land transactions.

Along the same lines, Eusebio's example is also informative about this subgroup. Eusebio is a landless peasant who was widowed after his wife fell ill in 2013. He has three children, but two of them have migrated: one to Los Angeles, who has not returned to La Venta in 16 years; and another to Mexico City. The third child decided to stay in town and worked very briefly for the wind energy company during the construction stage. After his contract was rescinded, he started working as labourer for wealthy landowners. Eusebio owned 5.83 hectares of land in the north of the town. On this land, he was only able to cultivate crops on two and a half hectares of land, as

⁸⁶ Informant 36, 2019.

⁸⁷ I tried to enquire with Fortunato how many hectares of land he owned in total. However, as he was elderly, he did not remember for sure. The one thing that he remembered, however, was that he still owns one hectare of land inside the wind energy farm.

⁸⁸ Informant 29, 2019.

the rest of his terrain was located on rocky soil⁸⁹. He would grow endemic maize and small quantities of pumpkin, beans and watermelon. Productivity on his terrain was not as low as it is in other parts of La Venta, as he was able to obtain between 5-6 carts of crops per hectare. The maize was used for his own consumption and he would sell the rest to other members of the community.

Eusebio was obliged to sell his land after his wife got cancer in 2013. Although she had popular insurance⁹⁰, she could not get all of her treatment paid for by the Mexican government. In consequence, Eusebio found himself obliged to sell his land to pay for his wife's treatment. Since he needed the money urgently, he had to sell to an intermediary that sold it afterwards to the best buyer. Rather than selling it for the average price of La Venta he had to sell it for one fifth of that price. That is to say, approximately 50,000 pesos – approximately £2,075 – per hectare. In the same vein, he also had to sell all of his cattle and the maize he had stocked for the year. Most importantly, however, is that Eusebio was also obliged to sell his certificate to use the common land in the *ejido*⁹¹. By doing this, he is not allowed to participate in the *ejidal* assemblies that take place twice a year. In this sense, Eusebio epitomises what is known in La Venta as a landless *ejidatarios*.

Finally, Mardonio's case can also shed light on this small subgroup in La Venta. In 2017 he was obliged to sell 3.5 hectares of land because his wife, just as Eusebio's wife, got cancer. Since the rounds of chemotherapy were expensive and took place in Oaxaca City, a 7-hour coach trip from La Venta, he needed some extra money for the household. When he had to take his wife to Oaxaca City, there was a strike held by the popular insurance workers. This meant that Mardonio's wife was not treated by the public health system. In consequence, and because of the urgency, Mardonio and his wife decided to follow the treatment with a private practitioner. Every time he went to Oaxaca, he would spend approximately 7,500 pesos on accommodation and transportation – approximately £311 – and around 2,500 pesos – approximately £104 – in daily expenses. They only made seven trips to Oaxaca City because his wife's health worsened in the final months of her life. She stayed in bed for 5 months and Mardonio spent approximately 2,500 pesos – £104 – on medicine to keep her well. In addition to the economic shock, Mardonio was not able to work during this time because he suffers from a back condition that prevents him from walking too much, carrying heavy loads, or even working the land. In this context, Mardonio had no choice

⁸⁹ Informant 71, 2019.

⁹⁰ Popular insurance refers to a sort of social security provided by the Mexican government, also known as Seguro Popular. This kind of social security only pays for some kind of treatments; for other procedures, the patient is liable for the cost (SSP 2019).

⁹¹ Ejidatarios have the right to use two different types of land. On the one hand, they can use a parcel of land over which they have the right of use and usufruct. On the other hand, they also have the right of use on a collective section of the ejido. This is also colloquially known as the certificate of common use.

other than to sell some of his land⁹². However, unlike Eusebio, who had to sell his tract of land to an intermediary, Mardonio managed to sell it to a relative. This suggests that he obtained a better deal from the transaction. This element, along with the fact that his wife was only ill for one year, prevented Mardonio from selling all of his land and allowed him to keep 4 hectares⁹³. In addition, he had to sell some of the tract of land on which he currently lives. Where his backyard is located, now there are four dwellings inhabited by other *ejidatarios*' relatives. Mardonio's case, to sum up, reveals the combination of factors, from the household level to the local context, that can lead someone to sell their land.

Those *ejidatarios* who have sold their land in this way have done it because they are elders or because they have faced economic shocks inside the household that were difficult to cope with. While some of them have managed to keep their land, others have had to sell their right to use the common area. This has turned them into what is also known as 'landless *ejidatarios*'. This subgroup can also inform us about the diverse processes associated with land deals and processes of accumulation and dispossession in the region. Now, let us turn our attention to the insights from landowners whose land was not considered for wind energy projects.

Landowners whose land was not included in the wind farms

Landowners whose land was not considered for the wind energy farms are part of the group, Solidarity Group La Venta, which originally opposed wind energy development in the town. As mentioned in Chapter four, this group was composed of approximately 120 landowners who protested against the wind energy industry because of the low prices paid to landowners. Their protests were articulated around three key demands: a better payment for the concept of 'right of wind', payment for transportation of rubble and debris outside the wind energy farm and employment for their relatives. When contracts were signed between *ejidatarios* and wind companies, they decided to reject the offer from the wind energy enterprises as a way to protest against low prices. In consequence, their land was not included in the project. This means that even if their tracts of land are anywhere inside the area leased by the wind company, they do not receive any of the payments upon which I elaborated, even if they suffer from externalities resulting from this industry. Insights from this group, in consequence, can inform on broader processes of social differentiation affecting those who do not receive payments from wind companies and still suffer from externalities associated with this industry.

Sabino's case provides insights on the experiences of this subgroup. While recounting the evolution of windmills in La Venta he told me that he decided not to sign the contract with wind energy companies because payment was not what he was expecting. Rather than the 3,000 pesos

⁹² Informant 65, 2019.

⁹³ Informant 65, 2019.

– approximately £121 - per hectare that the enterprise offered, Solidarity Group La Venta demanded a payment 10 times bigger. That is to say, 30,000 pesos – £1021. In this context, Sabino now owns two tracts of land that are inside the wind energy project. Firstly, he has 11.5 hectares of land in the middle of the wind energy farm where he cultivates 10 hectares of land with an average production of one cart per hectare⁹⁴. Second, in the northern part of the wind farm, he owns six hectares of land where he also cultivates sorghum. Just as other landowners, his production has been affected because of the weather variability and he only managed to produce less than one ton of sorghum per hectare in 2018⁹⁵. Because this terrain is in the middle of a wind energy farm, he suffers from environmental externalities resulting from wind energy infrastructure. Just as many other *ejidatarios* with land inside the wind energy farm, Sabino suffers from the dust raised by wind energy machinery. In the northern terrain, the wind energy company's engineers built a drainage system to help the water flow out of the wind farm in the rainy season. However, according to Sabino, the channel is too narrow to deal with the average precipitation and, in consequence, his terrain gets flooded every rainy season⁹⁶. This ultimately undermines his agricultural productivity.

It is important to point out, however, that Sabino also owns 10 hectares of land in the south of the town. Unlike his tract in the northern section, he decided to lease his land to Acciona Energy because, in his opinion, they were offering a better payment than the other enterprises⁹⁷. With the money he has received from this industry, he has been able to afford one cattle shed, 30 cattle and a small tractor, which he rents to other *ejidatarios* when he is not using it. Although he suffers from dust related externalities in this tract of land, he still managed to conserve his cattle and he sells some when he needs the money. As we can see, Sabino rejected the option to lease his land at the beginning of the wind energy rush. However, when the second project came to the town, Sabino decided to lease his land in order to obtain additional income. In this sense, with this additional income he is able to cope with the externalities associated with wind energy industry taking place in his other terrains.

The case of Vicente is also insightful in this regard. When the project started to negotiate leasing land in La Venta, the enterprise was offering a payment of approximately 3,000 pesos per hectare – approximately £126 – for the right of wind. However, for Vicente as for other *ejidatarios*, this was not enough. When interviewing him, he told me about one *ejidatarios* who had signed a contract with TELMEX (Mexican telecommunications) to lease his land for the installation of an antenna. Even if TELMEX was only leasing 10 square meters, they were offering a payment of

⁹⁴ Informant 18, 2019.

⁹⁵ Informant 18, 2019.

⁹⁶ Informant 18, 2019.

⁹⁷ Informant 18, 2019.

60,000 pesos per year –£2,526. In this context, he decided not to include his more than 40 hectares of land in the project⁹⁸. At the time, his rationale was that he was making more money from his cattle grazing activities than from what he was expecting to receive from the wind energy project. The environmental externalities resulting from the construction would have hindered his productivity and this loss would not have been compensated by the payment offered by Acciona Energy. This is why he decided to reject the offer made by the wind company.

Just as in the case of Sabino, Vicente's terrain is inside the northern side of the wind energy farm. Nowadays, he has approximately 45 cattle focused on milk production. He obtains his income from selling milk to surrounding towns of the region and from selling male calves to other grazers. Although externalities resulting from the wind energy industry do not have a significant impact on his productivity as a grazer, he is still affected by dust because there is a road approximately 150 metres to the north of his terrain and another one 70 metres to the south. As Vicente puts it, whenever cars circulate a cloud of dust raises from the roads and affects the terrain⁹⁹. Again, just as with other members of this subgroup, because Vicente did not sign the contract, the company does not pay for externalities to compensate him for the environmental effects of the wind farm.

Finally, the case of Alejandro can also give some pointers associated with this subgroup. Alejandro's family owns 54 hectares of land divided into two tracts: 24 hectares in the north of the town and 30 hectares in the south. In both terrains, he combines agriculture, notably sorghum cultivation, with the grazing of approximately 90 cattle. While he cultivates crops on both terrains, he and his family alternate the terrain upon which their herd grazes on a yearly basis. Although his sorghum harvest is similar to the levels reported by other *ejidatarios*, 3 to 4 tons per hectare, he needs to invest in pesticide and fertiliser to increase productivity. However, he does not have the additional income that other *ejidatarios* obtain from the wind energy companies. In addition, in the last couple of years he decided not to cultivate on his terrain because his eldest brother died, and they did not have the necessary capital to undertake seasonal cultivation¹⁰⁰. Alejandro's productivity is not affected by dust coming from the roads, but by oil spills from the windmills around his land. According to him, when the rainy season starts, some of the terrains in the north of the town flood. When this happens, the flow of water goes through his terrain. This means that if there are oil spills, the oil flows with the water, ultimately affecting the productivity of his sorghum crop. At the moment of my conversation with him, he was evaluating whether a legal demand against the enterprise to obtain economic compensation would be worthwhile. Alejandro's case, in this sense, shows how certain members of this subgroup, albeit with large

⁹⁸ Informant 36, 2019.

⁹⁹ Informant 36, 2019,

¹⁰⁰ Informant 26, 2019.

areas of land, are subject to patterns of social differentiation associated with economic shocks and environmental externalities linked to the wind energy industry.

To sum up, it is possible to observe three general insights arising from landowners whose land was not included in the wind energy projects. Firstly, they used to be members of the group opposing wind energy projects in La Venta and they declined to lease their land to wind energy companies as a way to protest against the low prices paid by the companies. Secondly, it seems that members of this sub-group own large areas of land. The multiple activities undertaken on their land mean that they can compensate for the lack of payments from wind energy companies. The three cases upon which I elaborated here show that landowners have been able to obtain an income that allows them to survive and to continue with their investments. This does not mean, however, that they are exempt from economic shocks, like the case of Alejandro who had to give up cultivating for two years because of the death of a relative. Finally, their land is affected by environmental externalities resulting from the activities of the wind energy industry. However, unlike landowners who decided to sign the contract with wind energy companies, this subgroup does not obtain payment that would compensate for these effects.

Additional patterns of social differentiation between landowners

The number of female landowners in La Venta is low. This is not only symptomatic of the agrarian context in Mexico where, according to the scholarship, only 16.3 percent of *ejidatarios* are women (Katz 1999, 3), but also points to two aspects specific to La Venta. Firstly, female members of the *ejido* were allowed to inherit land, providing they were the only one able to support their family. If a woman had gained rights to land, she would forfeit them when marrying an *ejidatario*. This changed in 1972 when a reform to the Agrarian Law established that women could be granted *ejidatario* status without specifying household headship and they would not lose this status upon marriage to another *ejidatario* (Hamilton 2002). This did not happen at a local level, however, because families would prevent men from other communities from marrying female *ejidatarios* in order to become landowners themselves (Cotula 2007, 32). The regularisation of the *ejido* with PROCEDER – see chapter four for more on this – had little impact on women's ownership and land rights (Gay-Antaki 2016, 54). Secondly, most of the female landowners are the widows of previous *ejidatarios*. Even if they hold a valid claim over land, they have given the land to their families and they are the ones who work the land. In practice, they have ceded the right to work the land to their family, usually to the eldest son. These elements in La Venta have fostered a situation where only a handful of women have both the rights over land and happen to work and live off it. Their experiences, in this sense, are insightful in order to better understand the gendered patterns of social differentiation resulting from wind energy projects.

Migdalia's case is important in this regard. Migdalia started the paperwork to become an *ejidatario* almost 15 years ago. Migdalia was one of the first women to participate in the *ejidal*

assemblies when the wind energy negotiations took place with Acciona Energy¹⁰¹. In this context, she actively participated in the regularisation of the *ejido* under the PROCEDE programme. When talking to her, she recounted how government officials visited the *ejido* land to measure, delimitate the terrains, and expedite the property certificates. This was a key moment in wind energy development in the town, as wind energy enterprises require ownership certainty to develop their projects. Migdalia and her husband, after this process, obtained certainty over 43 hectares of land in the north of the town where the company decided to install 16 windmills¹⁰². On this land, she would cultivate sorghum and she would experience a higher production level than reported by other landowners: approximately 3 to 5 tons per hectare of land. The income obtained from wind energy rents plus what she obtained from selling her sorghum allowed her to invest in machinery, high-quality seeds, pesticides and fertilisers. Migdalia and her husband, in this sense, experienced something similar to the subgroup with more than 20 hectares of land.

This bonanza, however, was interrupted, first by a divorce and afterwards by the sudden death of her former husband. After this event, Migdalia entered into a legal dispute with her former husband's partner in order to decide who has legitimate claim over the land. The legal dispute has provoked a situation where the agrarian judge has put a hold on any productive activity on the land until the ownership claim is resolved¹⁰³. This implies, therefore, that Migdalia cannot work the land now and that she has had to find alternative activities to diversify her income. To this end, she opened a restaurant on the highway where she prepares traditional food. She also invested in a cybercafe and a place where she offers Zumba lessons for the community. Branching out into different ventures, however, also meant that her daily routine was modified and that she has to juggle her time between different activities. In this sense, her days usually start at 5am in the morning and finish at 9pm in the evening, during which time she combines household duties, such as care-giving and cooking for elderly mother, with work related to her business ventures. Migdalia's case, in this sense, illuminates a gendered pattern of social differentiation. Her ownership claim over land was put into question after a divorce and she has been forced to diversify her source of income, combining household duties with work necessary for her business ventures.

Along the same lines, Juanita's case is also insightful in this regard. She inherited four hectares of land in 2007 when her father died. On her tract of land, she cultivates maize twice a year and her productivity hovers around 5 to 6 carts per hectare. She uses most of her production for self-consumption of the household members: her sister, her mother and herself. Because the income resulting from wind energy investments is not significant for her, she is obliged to rent both labour

¹⁰¹ Informant 69, 2018.

¹⁰² Informant 69, 2018.

¹⁰³ Informant 69, 2019.

and machinery to wealthy members of the community¹⁰⁴. She emphasises that the amount of money she receives from the company is not enough to cover her basic needs because machinery, high-quality seeds and labour are expensive in La Venta. This has worsened in the last few years because of the volatility in the price of petrol in the country and the harsh climatological conditions affecting the Isthmus. In addition to the wind energy income, she had a poultry project with over 100 chickens. Not only would Juanita graze them but she would also sell them to community members in La Venta. However, after the September earthquakes that struck the region in 2017, all of them died. In her words, the earthquake created a weird situation among the poultry: “they were lost, it was impossible to control them, they were stressed out and they died”¹⁰⁵. When I conducted the interview with her, she was considering whether she had the means to start from scratch, or whether she was going to explore another business venture. In addition to her daily activities, she has to look after her elderly mother and cover certain shifts in her family’s grocery shop. In this sense, Juanita’s case shows not only the hardship associated with owning a few hectares of land, but also the gendered aspects of social differentiation by having to combine household duties with productive activities.

Both Migdalia and Juanita’s cases are useful to illuminate certain gendered aspects of social differentiation resulting from wind energy expansion in the town. Their productive activities on their land are mixed with a combination of household duties associated with gender roles. In addition, they have also suffered from, in Juanita’s case, economic shocks resulting from the earthquakes, or as in Migdalia’s case, from legal actions that have prevented her from working the land until a judge has decided on land ownership claims. Although these cases are insightful, further research is needed to explore the gendered aspects of social differentiation resulting from wind energy expansion.

Remarks on social differentiation among landowners

The narratives and experiences explored from the four subgroups show the processes through which wind energy expansion generates uneven outcomes at the local level in the long-term. This is because wind energy exacerbates land dynamics and processes of social differentiation between those who own more than 20 hectares, those who own less than 20 hectares, those who have sold their land and those whose land was not considered for the renewable energy project. While those within the first subgroup manage to combine windmills with investments in agriculture, cattle grazing and machinery, those with less than 20 hectares reckon that wind energy rents are not significant for their productivity and they utilise most of this income to fulfil basic needs. Along the same lines, while those who have sold their lands have experienced economic shocks or

¹⁰⁴ Informant 33, 2019.

¹⁰⁵ Informant 33, 2019.

contingencies that have forced them to sell their land to the best buyer in a context of need, those whose land was not considered for the project suffer from externalities associated with wind energy development without receiving adequate economic compensation. Finally, these experiences and narratives are also modified by gendered dimensions as Migdalia and Juanita's cases show. Now, let us explore the experiences of landless people vis-à-vis wind energy expansion.

Living without land: social differentiation and urban economy

According to data from INEGI, approximately 2,100 people live in La Venta (INEGI 2016). From this number, the vast majority are landowners, the immediate family of landowners, or labourers working for the wind energy companies. Because of the nature of the *ejido*, only the minority of the population do not have rights over land. When I enquired about landless people in the community, my informants would tell me that there were between 90-100 landless individuals in the town. This subgroup is constituted by two broad groups: migrants who came to La Venta from the neighbouring states of Chiapas and Veracruz; and landowners' female descendants who were not able to inherit land because of the regulations in the Mexican Agrarian Law. The experiences and narratives from these two groups show that patterns of social differentiation among them are related to the extent to which individuals have been able to insert themselves into the urban economy resulting from wind energy expansion. While some of them have successfully explored business ventures in town, others have been forced to migrate as opportunities to work in agriculture or for wind energy enterprises have decreased in the last few years.

Concepcion's case provides insights into the patterns of social differentiation affecting one of these sub-groups. Before moving in to La Venta she lived in Mexico City, where she met her husband. Through a relative living in town, her husband was offered to work on the land of an *ejidatario*. Despite living in the town for nearly 45 years, they were never able to become *ejidatarios* because they never had the means to invest in a tract of land. When interviewing her, Concepcion told me that when she tried to buy some land for her family, the prices rocketed because of the speculation created by the wind energy enterprise. In line with what other members of the community told me, Concepcion reported that the price per hectare suddenly reached between 200,000 to 300,000 pesos – between £8,500 and 12,500¹⁰⁶. It was thus impossible for her to acquire land.

In this context, Concepcion's income depends on her integration in the urban economy resulting from wind energy expansion. Before her husband died, she would sell seafood, poultry and prepared food to members of La Venta. Her husband would be in charge of fishing and of buying

¹⁰⁶ Informant 9, 2018.

poultry from the producers. After her husband died in late 2017, she stopped selling these products and she depends entirely on her children¹⁰⁷. Concepcion constantly emphasised that benefits resulting from wind energy expansion are just for landowners and that landless people are forced to find their livelihoods in different sectors. For Concepcion, two examples illuminate this trend. First, she explained how her husband died without the support of public healthcare, in spite of having worked for over 20 years for the wind energy enterprises. She told me that after 1995, her husband started working for a set of sub-contractors related to wind energy companies like Rocha, Huasteca or Diamante¹⁰⁸. Although these enterprises asked for his paperwork and a monthly payment in order to register him to the public health system, they never contributed to this system themselves. When her husband fell ill and was in a diabetic coma, he was not accepted into the public hospital because he was not registered in the system¹⁰⁹. That is to say, the enterprises were never obliged to contribute to the public health system. Second, one of her sons worked as a welder for the enterprise during the construction phase. However, when the operational phase started, he was unable to continue working in the town. Her son, along with many others in Concepcion's words, were forced to leave the community and look for another job. Her son recently returned to the town to see whether the enterprises contributed towards his public health registration¹¹⁰. However, he discovered that because of the way in which his contracts worked, signing a new contract every three weeks, the enterprises were never obliged to contribute.

Concepcion's case illustrates the challenges facing landless people in La Venta. Not only has she recently experienced an economic shock because her husband died and she is not able to sell seafood and poultry anymore, but also her case shows how her family's livelihoods depends upon successful integration with the urban economy. Her husband and son's predicaments illustrate the new forms of exploitation related to non-agricultural labour.

The other subgroup that integrates this category is made up of landowners' female descendants who were not able to inherit land because of the regulations in the Mexican Agrarian Law. As abovementioned, before the regularisation of the *ejido*, women were not able to inherit land within the *ejidal* system (Cotula 2007, 32). Carolina's example, for instance, provides insights into this subgroup. She was born in La Venta, but her family moved to Mexico City when she was 12 years old. She came back to town when she was 17 years old. Although her father was a landowner, she did not get to inherit any land because her brother, the first and only male, was granted the property rights when their father died¹¹¹. When Acciona started to negotiate with landowners, her

¹⁰⁷ Informant 9, 2018.

¹⁰⁸ These are the names of third enterprises related to wind energy projects in the region.

¹⁰⁹ Informant 9, 2018.

¹¹⁰ Informant 9, 2018.

¹¹¹ Informant 11, 2018.

brother decided to participate in the project. After her brother died, he decided to pass the rights to his wife and children. In this sense, Carolina remained landless.

She emphasises how before wind energy expansion she would survive by selling tortillas to her neighbours and doing domestic labour. However, after the wind rush, Carolina emphasises how competition has increased in the town, not only because more people come to La Venta now to sell their products, but also because community members prefer to go to other towns to buy their essential products¹¹². When the construction phase started, she would sell prepared food to wind energy employees. As mentioned by other landowners, when workers started to leave La Venta, she had to close her business and explore new ventures. Now, she sells soda and snacks to children attending the school in front of her house. However, she emphasises that the money she makes is barely enough for her to survive. In addition to the income obtained from the grocery shop, her son works for some of the *ejidatarios* as an agricultural labourer, albeit on an irregular basis. This means that he only works during the harvest season¹¹³. For the rest of the year he is obliged to diversify his source of income and he therefore works in sectors like construction.

Carolina's case provides insights into the gendered inequalities associated with landless people in La Venta and the consequences these asymmetries have brought into the local level. When Carolina's brother inherited land, she was forced to diversify her livelihood in the context of wind energy expansion. However, she was not successful at integrating herself into the urban economy and she had to explore new business ventures. Nowadays, her income depends on what she makes from selling goods to students and what her son, who works irregularly for other *ejidatarios*, earns. Following this, let us explore the commonalities between these two subgroups vis-à-vis wind energy expansion.

Landless peoples' experiences vis-à-vis wind energy

Although the experiences and narratives resulting from wind power have affected both groups in a particular way, they also share a common thread: they oppose the narrative that portrays wind energy as an industry that has brought benefits for the community in general. Three elements corroborate this trend: the growth of the urban economy, creation of jobs and the construction of infrastructure in town.

Landless people, in this sense, have been affected by the unequal outcomes resulting from the growth of the urban economy associated with wind energy expansion. While those working in services were happy when the construction phase started because of the high number of people coming to the town, this situation rapidly changed once the operation phase started. The idea that landowners from La Venta are well-off started spreading across the region and a high number of

¹¹² Informant 11, 2018.

¹¹³ Informant 11, 2018.

people from other communities started to sell their products in the town. This not only increased competition but also forced those who had small shops to shut them down and to branch out into new business ventures, like Carolina¹¹⁴. Along the same lines, Valeria, for instance opened up a small canteen where she would cook meals for five engineers when the construction phase started. This lasted for about one year. When the operation phase started, most of the workers left the town and she found herself struggling to keep the canteen going because of competition with other businesses in the *ejido*. Nowadays, she cooks empanadas every fortnight and sells them to other members of the community¹¹⁵. This is also in line with Carolina's comments on how she stopped preparing tortillas and she had to diversify her income by selling soda and candy to students¹¹⁶. In this sense, while individuals like Concepcion managed to continue with her business venture, others like Carolina and Valeria were forced to branch out and explore occasional ventures.

Another aspect where landless people's narratives contrast with landowners' accounts has to do with the general benefits brought to the community in terms of jobs. When wind power companies came to town, landless families had a positive experience not only because they were able to make money out of the wave of workers coming to town, but also because they thought family members would be hired by wind companies at some point or another – and they were, at least temporarily. However, once the construction was over and the operational phase started, the number of jobs reduced and workers had to look for a job elsewhere. Huesca-Perez, Sheinbaun and Koppel's research corroborates this trend. They estimate that, during construction, manufacturing and installation, wind power can create between 0.43 and 2.51 jobs per MW, compared to 0.27 during the operation phase (Huesca-Pérez, Sheinbaum-Pardo, and Köppel 2016, 954). This resonates with Concepcion's case, mentioned above. While interviewing her, she insisted that one of the biggest issues resulting from wind energy expansion in town is that those who did not get a job with the wind company were forced to migrate to other parts of the country, or even to the US. Moreover, those who stayed for jobs in non-agricultural sectors came across new kinds of exploitation like administering contracts every three weeks or the lack of accountability in terms of social benefits for workers. It seems, therefore, that once the wind energy construction phase is over, displaced labour cannot be re-absorbed into other productive sectors in town, changing employment levels and income distribution (Gamu, Le Billon, and Spiegel 2015, 171; Ross 2007, 241).

Finally, landless people's narratives challenge the idea that the wind energy industry has brought benefits for the community through the construction of basic services and infrastructure. One of

¹¹⁴ Informant 11, 2018.

¹¹⁵ Informant 46, 2018.

¹¹⁶ Informant 11, 2018.

the most striking examples comes again from Concepcion. She argues that although La Venta produces electric energy, her quarterly electricity bill amounted to 4,000 pesos – almost £160¹¹⁷. For a widow who only manages with the help of her family, this seems to be absurd. What she finds contradictory, however, is that according to a documentary she watched, *Acciona* obtained a profit of 460 million euros from the wind farm. She does not understand, in this sense, how she has to pay 4,000 pesos when the company is obtaining millions from the *ejido*¹¹⁸. In a similar vein, Carolina's experience of a sports centre being built in front of her house follows the same pattern. When she had a look at the sports centre blueprint, she thought it was a good idea because they were planning to build a common room, parking lots, showers and a football pitch. However, they did not finish the project because, according to her, the *ejidal* assembly used the money for their own purposes. From the original plan, they only managed to build a dusty running track and a football field¹¹⁹.

To sum up, landless people in La Venta have contrasting experiences and narratives concerning wind energy expansion. Unlike landowners, landless people have suffered from the expansion of the urban economy resulting from the wind energy industry. This subgroup tends to highlight how in spite of a higher purchasing power in town, competition has increased, and they have been obliged to explore new business adventures with uneven outcomes. Some of my informants have managed to keep their business running, until facing an economic shock, while others, like Carolina, were forced to branch out into various business ventures. Along the same lines, the narrative portraying wind energy as an industry that brings benefits for the whole community does not hold true for them. Not only have they experienced an increase in their electricity bills, but they have been forced to experience poor conditions as labourers in non-agricultural sectors. This can be observed with the case of Concepcion's children and husband, who both worked for the wind industry but received no social benefits.

Final Remarks: 25 years of rural change in La Venta

Almost 25 years after the first windmill came to La Venta, it is possible to observe how wind energy has exacerbated patterns of social differentiation in two aspects: among landowners and between landowners and landless people. This chapter started by setting out the land context in which wind energy has taken place in La Venta. It has argued that wind energy takes place in a context of a productive shift towards cattle grazing, the abandonment of agriculture and a tendency towards land concentration. Wind energy, in this context, has exacerbated these dynamics by increasing patterns of social differentiation among landowners. While those with

¹¹⁷ Informant 9, 2018.

¹¹⁸ Informant 9, 2018.

¹¹⁹ Informant 11, 2018.

more than 20 hectares of land are able to combine wind energy investments with productive activities, those with less than 20 hectares barely manage to survive with the wind energy rents. Other subgroups, such as those who have sold their land and those whose land was not included in the project, also experience a particular set of challenges brought about by wind energy enterprises. This chapter has also argued that those without land have been affected by the growth of the urban economy in the town. Their narratives contrast with the idea that wind energy as an industry has brought benefits for the whole community. Not only has this population experienced different kinds of exploitation associated with non-agricultural labour but they have been obliged to diversify their income, some with more success than others. In this sense, long-term wind energy development in the town has resulted in different material and social relations between local people and wind energy, with actors benefitting – or not – in various ways, linked to the land ownership situation in town.

Now, let us move to the next chapter in order to explore the different reactions on the ground resulting from wind energy development in a more contested and controversial case, Eólica del Sur wind farm.

6. Mobilisation, Land Tenure and Citizenship in Eólica del Sur Wind Farm

Hitherto, the empirical section of this thesis has analysed the historical evolution of two wind energy projects in different land tenure systems. The previous chapter explored how patterns of social differentiation in the Eurús project have been exacerbated in the long-term because of wind energy expansion with well-defined land ownership. Now, let us explore a different analytical moment in a project, Eólica del Sur, that was installed in 2019 in a context of land complexity where different political groups claim ownership over the land. This chapter, therefore, analyses the different reactions on the ground to the development of Eólica del Sur wind farm in the Isthmus of Tehuantepec by analysing their claims over land and how they connect to ideas of citizenship, authority and recognition.

Wind energy projects present variegated reactions on the ground. They can be supported, opposed or some people may even have a neutral attitude towards them. In the Mexican case, because of the novelty and the contested nature of wind energy expansion in the Isthmus of Tehuantepec, much of the current scholarship presents a bias towards those groups who oppose wind energy. Howe and Boyer, for instance, present wind energy development in the region as the imposition of an eco-authoritarian discourse on local populations (Howe & Boyer, 2015). Dunlap's account, along the same lines, portrays wind energy as a neo-colonial project imposed upon the local population. His depiction of the Free Prior and Informed Consent (FPIC) procedure suggests that the goal of the government and wind enterprises was to engineer and to fabricate the social terrain needed for resource extraction (Dunlap 2017a). Oceransky's viewpoint, along the same lines, is that wind energy is an innovative privatisation project where: "private contracts between a cartel of powerful and wealthy companies and indigenous people suffering economic hardship as a result of centuries of exploitation and neglect" (Oceransky 2010a, 516). More recently, Sellwood and Valdivia portray wind energy cleanliness as a set of practices and procedures that fabricate wind territories as new zones of material appropriation. The construction of the Isthmus as a space suitable for capital flow overlooks local land uses and people (Sellwood and Valdivia 2018, 205).

Although these papers are insightful, they overlook how wind energy projects provoke uneven reactions on the ground (Borras and Franco 2013). While certain groups and individuals may oppose them, some others may support them, or they may even be indifferent about these projects. Bearing this in mind, this chapter will provide insights on a so far understudied group in the literature: landowners. These individuals rent their land to wind energy enterprises for 25 to 30 years with the option for automatic renewal. By studying this group's accounts and experiences, it is possible to gain insights into the reasons behind support for wind energy projects. Along the same lines, this chapter will explore the motivations and rationale behind a small fraction of the

population in Juchitán, the *Comité Melendre*, who did not oppose nor support the project. In this sense, I try to go beyond the narrative portraying landowners as the winners and opposition groups as the losers of wind energy expansion by depicting the tensions and politics present within and across groups.

The argument organising this chapter is that the diverse reactions to Eólica del Sur wind farm rest on contrasting interpretations of who owns the land in the region. In a context of land complexity – as analysed in chapter four – proprietors consider that land should be held under a small-scale ownership scheme, while opposition groups believe that land is collective and should be governed according to indigenous systems. At the same time, those who neither oppose nor support the investment consider that a popular vote should determine what should be done with the project. The diverse landownership interpretations, therefore, articulate the variegated claims around citizenship, authority and state-making (Lund 2016; Rasmussen and Lund 2018). This shows the importance of linking agrarian questions about the ownership and use of land with wider investments in wind energy.

This chapter will start by detailing the third phase of Eólica del Sur wind farm¹²⁰ and will pay particular attention to the FPIC procedure, where different standpoints vis-à-vis wind energy can be explored. Afterwards, this chapter will explore landowners' accounts. Thirdly, the chapter will analyse opposition groups and individuals' standpoints as well as their views on landownership in the region. Fourthly, it will explore the account of a small group in the region, *Comité Melendre*, who neither opposed nor supported the wind project. Finally, the chapter will summarise and compare the different accounts and experiences of wind energy development.

Eólica del Sur evolution and the Juchitán phase

As mentioned in chapter four, Eólica del Sur's evolution in the Isthmus of Tehuantepec can be divided into three phases, starting from 2004, when the first contracts were signed, to the present, when construction has just finished: these are San Mateo, San Dionisio and Juchitán. Each of these phases presents different configurations of four key variables (see table 6). First, negotiation with agrarian authorities or landowners. Whereas in the first two phases enterprise employees undertook negotiations with different agrarian authorities, in the third phase they undertook negotiations directly with landowners. Second, the phases involve different ethnicities. Whereas in the first two phases conflict started in Ikootz areas, in the last phase conflict involved both Zapotec and Ikootz peoples¹²¹. Third, the level of conflict shifted from a direct conflict between the host communities and opposition groups to an institutional conflict through the FPIC

¹²⁰ For the other two phases, see chapter four.

¹²¹ This is because the project moved from Ikootz areas in the south of the Isthmus to Zapotec areas in the north of the Isthmus.

procedure and the case presented at the SCJN by the APOYO network. Finally, energy reform in Mexico also played out in important ways across all three phases. While during the first two phases, the regulatory framework did not refer to the societal impacts of wind energy projects (Huesca-Pérez, Sheinbaum-Pardo, and Köppel 2018, 3), in the third phase the project had to follow the guidelines established in the new national regulation by conducting an official indigenous consultation procedure according to international standards (ILO 1989).

Table 6. Phases in Eólica del Sur Wind Farm

Phase <i>Variable</i>	San Mateo	San Dionisio	Juchitán
Land negotiations	<i>Bienes comunales</i> Commissariat	<i>Bienes comunales</i> Commissariat	Landowners
Ethnicities	Ikootz	Ikootz & Zapotecs	Zapotecs
Conflict perspectives	Direct Conflict	Direct & Institutional conflict	Mostly within institutional boundaries
Energy Reform	Before	Before	After

Source: Own elaboration

For the purposes of this chapter, which focuses on a comparison of groups with diverse reactions to wind energy, the analysis will focus on the third phase: Juchitán. This is because this phase enables us to distinguish between landowners, opposition groups and those with indifferent opinions to wind energy.

After conflict escalated during the San Dionsio del Mar phase, in the first days of January 2013 Eólica del Sur consortium, announced the project would be retired from San Dionsio del Mar jurisdiction and would be relocated to two municipalities in the north of the Isthmus: Juchitán and El Espinal (Adams 2014). Unlike the other towns in the Isthmus where land is held under *bienes comunales* schemes, the landownership context in Juchitán and El Espinal – small ownership – allowed Eólica del Sur to approach landowners and committees representing them directly. The decision, therefore, about whether a wind farm could be installed would depend directly on the landowners and not on collective assemblies. The municipality, in this context, would only be in charge of providing the land use change authorisation (Huesca-Pérez, Sheinbaum-Pardo, and Köppel 2016, 926). It is important to highlight, however, that in the period between the announcement of the new wind energy farm location and the start of the construction phase, the Mexican government approved the energy reform in 2013. Whereas before the reform, public consultation processes with local populations were not mandatory, the new regulation not only establishes a Social Impact Assessment as a requirement for energy sector projects but it also requires that a FPIC procedure is carried out according to international standards in indigenous areas (Huesca-Pérez, Sheinbaum-Pardo, and Köppel 2018, 3). Because the Isthmus of

Tehuantepec is predominantly an indigenous area, one of the first consultation processes started in 2013 in El Espinal and in 2014 in Juchitán with disparate outcomes. Whereas in El Espinal the four phases of the FPIC procedure took less than two weeks, in Juchitán the process was heavily contested and was thus carried out from December 2014 to the last day of July 2015 (Advisory Group 2015; Municipal Presidency of El Espinal 2017).

The reason for this difference rests on two elements. On the one hand, the PRI ruled El Espinal during the FPIC. This party had always shown sympathy towards wind energy expansion in the region and the consultation process was just a step to corroborate the intention of the municipality to host Eólica del Sur wind farm. By contrast, the opposition under the Revolutionary Democratic Party (PRD) ruled Juchitán. In order to gain political legitimacy, they held a critical view on wind energy expansion and called for a consultation process where different viewpoints had the chance to make their voices heard. This enabled opposition groups, through an opposition network, to build alliances with NGOs and media outlets, who acted as pressure groups for the transparency and fairness of this process.

The different parties in power in the municipalities and the way in which opposition groups made their voices heard led to asymmetric concessions made by Eólica del Sur in the two towns. Whereas in El Espinal, the enterprise agreed to pay 15 million pesos – £629,400 – to obtain land change authorisation (López 2018), in Juchitán the enterprise agreed to pay 65 million pesos – £2,517,000 – to the same end, and promised to provide the municipality with three windmills, a sports facility and a cultural centre. El Espinal landowners did not accept the difference in the amount paid by the enterprise and they threatened to cancel the contracts if the enterprise did not even out the amount of money provided to Juchitán. In this context, the enterprise agreed to provide 20 million pesos and the federal government agreed to provide another 30 million pesos to the fund (López 2018). The money would be invested in sewage systems, a water treatment plant and in the amelioration of agricultural practices inside the wind energy polygon¹²². It is important to mention that until February 2019, El Espinal municipality had not yet received the payment. As a consequence, landowners have blocked the wind farm on numerous occasions, causing significant losses to the company owing to uncertainty surrounding the project (Tsnova 2016).

The asymmetries generated in this last phase illustrate the process behind the development of the biggest wind farm in Latin America in the two municipalities. It is important, therefore, to understand the variegated attitudes to Eólica del Sur because they inform us on the different claims over land in the area. Let us start by examining the landowners' standpoint.

¹²² Informant 28, 2017.

Landholders: Land is Ours and We Have to Decide What Happens to it

Contracts between Mareña Renovable and landholders in El Espinal and Juchitán were first signed in 2004. The original purpose of the contracts was to reserve this land and to assess the viability of a potential wind energy project in 2020. However, because of the difficulties faced by the enterprise in the south of the Isthmus, as explained in chapter four, they decided to relocate the project and to negotiate with landowners to this end. The negotiation process, in this context, was different in the two municipalities.

In Juchitán, the process sought to increase the quantity of land because the area under lease was too small to host a wind project on its own. As Esteban, a landowner committee representative with 30 hectares of land in the project puts it: “Mareña Renovable had not paid us for two years. We tried to get hold of them on several occasions, but we could not do it. It is in this moment when we decided to organise ourselves into a committee. The purpose was to get what Mareña owned us”¹²³. In this context, landowners were told that Mareña Renovable had announced that it would not pursue the installation of a wind energy project and that it would leave the region. They in turn sought to rescind the contracts in order to lease their land to a different wind energy project. It was at this moment they received a call from the engineer Eduardo Centeno – one of Eólica del Sur’s investors – saying that he would buy the contracts from Eólica del Sur and he would honour the contracts with landowners. The only condition was that the land reserved for the project would need to increase in size.

The original 30 landowners with contracts represented only 20 percent of the land needed for the project. Therefore, a negotiation process with landowners surrounding the original wind energy polygon started. According to Esteban, landowners convinced local people themselves and not through intermediaries or enterprise officials like in other towns of the region. As he put it: “We all had acquaintances and relatives in Juchitán. For instance, I have a couple of uncles with tracts of land. In total, among the five individuals who were active in the committee, we managed to convince over 100 people to join the project”¹²⁴. Convincing landholders to join the project proved to be difficult. However, Esteban would speak with them about the benefits associated with wind energy on their land in terms of infrastructure, ownership and surplus in the long-term. Because these new landowners joined the project following Esteban’s invitation, they were incorporated into the existing committee.

In El Espinal, on the other hand, although landowners also signed contracts with Mareña Renovable in 2004, the project followed a different evolution. Land reserved by the enterprise, approximately 250 hectares, was a greater amount than in Juchitán, to the extent that according

¹²³ Informant 21, 2017.

¹²⁴ Informant 21, 2017.

to my informant, Lorenzo, the wind energy enterprise told them that the area could host an entire wind energy project on its own¹²⁵. Just as in Juchitán, landholders were also told that Mareña would cancel their contracts. As a result, they decided to organise themselves into a committee involving over 160 members to speed up the process and to be able to lease the land to a different project. Lorenzo, committee president, and four other landowners took the lead in the negotiation process with the enterprise.

Two challenges, however, came to the fore in El Espinal because of this decision. On the one hand, Eduardo Centeno never mentioned to the committee that he was also negotiating at the same time with landholders in Juchitán. This created a set of asymmetries between the two municipalities that would later materialise with the FPIC procedure. On the other hand, while some of the landowners accepted that this committee would take the lead in negotiations to rescind the contract, they were not happy with the same committee negotiating with the enterprise for a new project. This is because the committee members were associated with the PRI and the wind energy enterprise. As a result, a set of landowners sympathising with the main opposition party, the PRD, decided to establish themselves as a second committee.

The difference between these two committees can be observed according to their standpoints vis-à-vis the FPIC procedure in the town. For the committee led by Lorenzo, the procedure was an exemplary process that not only included different viewpoints in El Espinal, but also gave them the chance to negotiate and to obtain benefits from the enterprise, like the creation of the committee of evaluation, an athletics team and a youth orchestra funded by Eólica del Sur. For the other committee, however, the procedure was fabricated in order to bring legitimacy to a process that had already been decided. For my informant Ivan, president of the second committee, the fact that the consultation process lasted only two weeks was the epitome of a rigged process¹²⁶.

Until February 2019, at least five committees had been formed from members of the existing committees. The integration of these committees obeys to the fact that, according to Ivan, it is easier for Eólica del Sur to negotiate with five committees than with two or three¹²⁷. Each one of the committees has had concessions from the enterprise in terms of benefits, work for their relatives or payment for externalities resulting from the wind energy industry. At the same time this has also undermined the communication and coordination of actions among committees¹²⁸. Furthermore, another committee, the sixth one, was founded in 2018 by some of the members of Ivan's committee. This committee consists of a family of eight landowners that decided to withdraw their land from the project because of the social and environmental impacts resulting

¹²⁵ Informant 25, 2017.

¹²⁶ Informant 3, 2018.

¹²⁷ Informant 3, 2019.

¹²⁸ Informant 3, 2019.

from the wind energy industry. This committee has sought to rescind their contracts and to retire their land from the project in order to create a nature reserve in the middle of the wind energy polygon. The members have undertaken legal action against Eólica del Sur not only in Mexico but also at the IADB (Observatorio de Derechos Territoriales 2017). The reason for this is that the 15 million pesos that Eólica del Sur paid for land use authorisation is not enough to offset the negative effects experienced by landowners and the community in general.

To sum up, the differences between landowners in Eólica del Sur can be understood in relation to two spaces: municipalities and committees. Concerning the first, it is important to track how the consultation process generated uneven outcomes between municipalities. Whereas in El Espinal the FPIC procedure only lasted for 2 weeks, in Juchitán the process took just over eight months. In El Espinal, where consultation apparently ran smoothly, landholders and community in general were able to negotiate some benefits with the enterprise such as the payment of 15 million pesos and funding for sports and cultural activities. In Juchitán, on the other hand, negotiations were heavily contested, and the process took longer than expected. The high levels of contestation allowed the municipality to negotiate key benefits from the enterprise: three windmills for Juchitán, the construction of a sports centre, a community centre and, most importantly, the payment of 65 million pesos in order to obtain the land use authorisation. The disparate outcomes in the consultation process fostered a situation where El Espinal landholders felt dispossessed. In this sense, through actions like road and wind farm blockages, landholders pushed for the receipt of a payment analogous to the one that Juchitán received. Because the different committees were able to work together on this demand, the government promised to contribute 30 million pesos and the enterprise said they would pay the rest. However, as of February 2019, the payment had not yet been received by the municipality or the landowners. It is also possible to observe differences within the committees themselves. Committees of landowners are far from being homogeneous groups with the same demands. In El Espinal, this is observed in relation to the six committees and with the standpoint of each committee vis-à-vis the wind energy enterprise. Whereas the first committee considers that the enterprise has taken the necessary steps to contribute to the social development of the community through the payment of taxes and the funding of social initiatives, Victor's committee tends to highlight that the enterprise has taken advantage of them and the community in general throughout the process¹²⁹.

Land is ours! Finding a common thread among landholders

In spite of disagreements between municipalities and committees, landholders tend to agree on one common thread: in the context of landownership complexity in the region, they have taken the necessary steps to certify their ownership of the land they lease with the National RAN.

¹²⁹ Informant 42, 2017.

Proprietors consider land as an asset from which they can obtain profits in the long-term. When Esteban was talking the other landholders into agreeing to the Eólica del Sur contract, he would argue that the value of their land would increase significantly after they agreed to lease it. He would use his own land and his own signature as an example. As he put it, “When I was trying to convince people, I would tell them – I myself signed a lease of 30 hectares of land, you only have 10, you only have 5 and the other guy 3; if we happen to lose it all, who would be more unfortunate? You – they would say – because you have 30 hectares of land. I have already signed – I would tell them – so it is your turn now”¹³⁰. Likewise, Esteban would also mention the diverse benefits that would come to their land if they signed the contract. Esteban said he had the following pitch prepared in order to convince landholders:

In rainy seasons, roads are inaccessible. We can go to our land but only with a horse, with a cart or on foot. If you walk, however, you have to take care of your animals, milk your cows and come back to town with gallons of milk. What does wind energy imply? Yes, there will be a transformation, machinery going in and out of your parcel, but in the end, there will be a road that will be suitable for use all year round¹³¹.

Along the same lines, Esteban would also mention that their land value would increase exponentially. As he would put it to other landholders: “After the wind project is done, your land will increase its value. Today – I would tell them – a hectare of land is worth only 50,000 pesos but tomorrow you should be able to sell it for twice or thrice its value. And this will benefit you and your family”¹³². As this quote emphasises, the possibility of obtaining profit is a reason for landowners to accept this industry. It is worth pointing out, in this sense, that this acceptance is only possible if there is certainty concerning landownership. By highlighting their rights over land, proprietors also see the opportunity of branching out into new business ventures, notably tourism. One of the proprietors, for instance, told me the following:

Wind energy also attracts tourists. Many of them come to wind energy farms to get a tour or to take plenty of pictures. This offers a business opportunity to landowners. This wind farm – Eólica del Sur – will be the biggest one in Latin America and, as a result, it offers benefits not only to Juchitán but also to the country because the entire world will now have their eyes set on Mexico, Oaxaca and Juchitán¹³³.

Because benefits are centred on their land, the final decision on whether the wind farm should be built is up to landowners, not the wider community in the region. This is why they consider that the obligation to conduct a FPIC procedure according to international standards is an imposition by the Mexican Government and international organisations. In the words of the president of the landowners committee of Juchitán:

Why do we have to know and to comply with everything related to the prior consultation process if we are the landowners? Why do you have to ask Juan or Pedro if they want a wind project in

¹³⁰ Informant 21, 2017.

¹³¹ Informant 21, 2017

¹³² Informant 21, 2017.

¹³³ Informant 12, 2017.

Juchitán? This land was not a gift or something given. My father bought this terrain and all of the other landowners did the same exact thing. It is not fair that the government and the international organisations are trying to decide over our own property¹³⁴.

As this quote underscores, the conducting of a FPIC procedure is an authoritarian imposition on their terrain. In this sense, landowners emphasise that they have taken the necessary steps to register their land. This is why they do not consider themselves as *ejidatarios* or commoners anymore. They are landholders and they have ultimate rights over the future of their land. As the same informant told me:

We are neither *ejidatarios* nor commoners. We have our property titles, we signed up for the RAN and, therefore, we are small landowners [...] In Juchitán, there is a municipal authority in charge of issuing the land titling. When we receive the land title, we take it to the Public Notary so that it can be processed in the Public Property Registry and the RAN. Each landowner, in this sense, respects other landholders' properties because we have the titling and we know the limits of our terrain¹³⁵.

By acquiring legal certainty over their land, proprietors avoid impasses related to collective decision-making that could undermine their relationship with the land in terms of surplus and benefits. Landholders consider that with the decree of 1954 (see chapter four) the government invaded them and declared that all of the land under the small ownership scheme would transition into collective land under a *bienes comunales* scheme. However, authorities were never able to name a *bienes comunales* commissariat because landowners were completely opposed to this. As one of my informants from the committee of landowners told me: "My parents decided to present a legal action against the government's decision and when I was 18 years old, I started defending the people's interests in the 64,000 hectares invaded by the government. People never wanted to be ruled under *bienes comunales* scheme"¹³⁶.

By ascertaining ownership over land, the profit obtained from the wind energy industry enables them to escape from the hardship associated with agriculture in the region. That is to say, wind energy is a rupture from the past where economic stresses and crises resulting from agricultural practices were the norm. From their standpoint, productive activities in the region were heavily affected by the adverse climatological conditions. Agriculture was expensive and productivity did not meet people's expectations. One of the landholders with only 7 hectares of land, for instance, mentioned that before the wind energy project he would only plant in one or two hectares. Even if he could afford to hire one or two peasants for the cropping season, his productivity would still be low¹³⁷. In addition to climatological conditions, there was a lack of social programmes and public support for landholders. The vice-president of the landowners committee in Juchitán told

¹³⁴ Informant 12, 2017.

¹³⁵ Informant 25, 2017.

¹³⁶ Informant 12, 2017.

¹³⁷ Informant 37, 2017.

me that water scarcity was never an element that social programmes considered in the region, in spite of the Benito Juárez dam. As he put it:

Before, we developed two main activities in the region: we would cultivate, and we would raise cattle. However, water scarcity has generated a critical downward trend in the profit we would have had ten years ago. Before the wind energy rush, there were a bunch of idle parcels. The cause of such inactivity was not that peasants did not want to work the land, but that there was a generalised lack of public resources for agriculture. There are people who have large swathes of land and they cannot take advantage of it because they do not have the resources that would allow them to do so. Another salient thing is water. The irrigation channels coming from the dam are not enough. We tried different crops like sugarcane or rice, but we did not succeed because of water scarcity¹³⁸.

This is why, from a landowners' standpoint, wind energy is a great opportunity to bring modernity and development to the region owing to three reasons. First, because it represents a never-ending source of energy from which they could all benefit. As one of my informants put it: "today, we have this inexhaustible resource that is wind energy and we are looking forward to exploiting it. This is why we think so positively of these wind energy projects. It is wonderful for us"¹³⁹. Second, because wind energy will finally bring certainty in terms of land titling. As my informant put it: "Nowadays, with the wind energy projects in the region, we have more certainty in the region. Approximately 95 to 97 percent of the landowners now have a land title and they have stopped with these stories that Juchitán is an *ejido* or communal land"¹⁴⁰. What this means is that they can sell and inherit land without any concern¹⁴¹. Finally, the benefits will spread out to the region in general. This not only because they will enable money to circulate among local communities but also because of infrastructure works and investments in both sports and cultural centres.

Moving to secure land titles: towards an agrarian citizenry in Juchitán

In a context of land uncertainty, as explained in chapter four, wind energy expansion plays a key role in establishing a valid claim over land. For landowners, the attempt to regulate their land through a FPIC procedure is an imposition from the government and international organisations upon their land. When claiming ownership over their land, therefore, not only are they rejecting their identification with indigenous forms of land ownership and organisation, they are also delegitimising the authority of the Mexican state and international organisations. Furthermore, they are rejecting the authority of the Presidential decree of 1964, which declared the entire area as collectively owned land and, at the same time, they are recognising the decree of 1964, which allows certain forms of small ownership in the region. Wind energy plays a salient role in this process.

¹³⁸ Informant 49, 2017.

¹³⁹ Informant 49, 2017.

¹⁴⁰ Informant 12, 2017.

¹⁴¹ Informant 21, 2019.

To move to secure land titles with the help of wind energy enterprises and through the creation of legal rental contracts moves land from an uncertain form of property rights to one that is secure. By registering their tracts of land not only at a local level but also at a national level with the RAN, landowners establishing a valid claim to land as well as recognising the authority of these institutions vis-à-vis landownership in the region. The possibility of having a land title, therefore, creates the opportunity to profit individually from the contracts as well as creating a new property-owning citizen in the region who no longer not identifies with communal or indigenous communities. These agents, carriers of modernity and technological shift in the region, create a new dynamic in the area, aspiring to combine wind energy and agriculture with other potential business ventures such as tourism.

To sum up, this subsection explored the composition of landowners' committees in Juchitán and El Espinal and the differences they have in relation to political affiliation and municipal space in the region. This chapter argues that the common thread to be found among landowners is their belief that they have taken the necessary steps to legitimise their claim over land. Wind energy expansion, in this sense, offers the opportunity to ascertain this claim while promoting modernity and a technological shift in the region. Now, let us explore a different standpoint in the region: those who oppose wind energy expansion.

Opposing Wind Power Expansion in Juchitán: If a Windmill Comes, Millions Will Follow

Groups opposing Eólica del Sur wind project converge around the APOYO network. For one of the members of the Human Rights Centre Tepeyac, APOYO is a space where an ensemble of organisations articulate actions to defend the territory with two elements in mind. On the one hand, it is a space where diverse organisations unify their demands around common extractive threats affecting the region – mining activities, gas pipelines, Economic Special Zones and wind energy. On the other hand, the articulation is a direct response to the never-ending changing nature of the enterprises coming to the region. In this space, demands converge and diverge within and across towns according to the needs of the region¹⁴². Both the flexible and uncertain nature of the network make the opposition actions to Eólica del Sur difficult to trace back to a particular organisation or individual.

It is possible, nonetheless, to identify seven organisations that have played a key role in the Eólica del Sur process: the APIITDTT, the Popular Assembly of the People of Juchitán (APPJ), Tepeyac Human Rights Centre, The Assembly of San Dionsio del Mar, the Assembly of San Mateo del Mar, the Álvaro Obregon Communitarian Cabildo and Yansa Mexico. Tensions and

¹⁴² Informant 5, 2017.

contradictions have been present along the way owing to differences in terms of local populations, organisation, structure and funders. However, Eólica del Sur project enabled them to converge in terms of actions and strategies.

In order to obtain a better grasp of the tensions and contradictions present within this ensemble of organisations, it is important to highlight the individual characters working behind these organisations. Bettina Cruz and Rodrigo Flores have held leading roles in the APIITDTT. Because they started their political careers while they were young as part of the Coalition of Workers, Peasants and Students of the Isthmus (COICEI), they have been able to build successful alliances not only with the Zapatista Struggle but also with international NGOs connected to this movement. Similarly, the political moment experienced in Oaxaca in 2006, after the creation of Popular Assembly of the Peoples of Oaxaca (APPO), marks a key moment for the broadening and expansion of forms of resistance across the state (Hesketh 2017, 130). The APIITDTT, created in 2007, has been the most discernible one acting as an umbrella for smaller organisations. Their role, thus, is to act as intermediaries and to connect demands and struggles emerging from these communities to their allies in different spheres and of different sizes.

In particular, their work is connected to the struggles articulated against wind energy power taking place in seven communities: Alvaro Obregon, Santa Maria de Lima, Chicapa de Castro, San Dionisio del Mar, Huamuchil and Unión Hidalgo. Because of their role as an umbrella organisation, both characters have been in the spotlight and have been incarcerated, receiving multiple threats against their lives as well. In January 2018, the Inter-American Commission of Human Rights (IACHR) recommended precautionary measures for their families after a series of incidents seemed to put their lives at risk (IACHR 2018).

APIITDTT coordinates actions around Eólica del Sur with Yansa Mexico, based in Ixtepec City. Yansa Mexico is an international organisation registered in New York trying to implement the first communitarian wind farm in Latin America. The purpose of such a wind farm is not only to foster collective capabilities but also to act as a financial trust that allows the community to re-invest in similar projects in the future. By splitting profits from wind energy companies equally between the community and Yansa, the project seeks to ensure long-term sustainability for both actors (The Yansa Group 2018). The community would be able to invest in agriculture and similar productive projects in the future. The enterprise, on the other hand, would be allowed to finance future initiatives around the world.

The APIITDTT also coordinates its actions with the APPJ. This organisation was founded in 2006 after contracts between landowners and wind companies were signed in the south of the town with a lack of accountability from the enterprise to the community (Hesketh 2017, 117). Carlos Sanchez, one of the APPJ founders, remembers how in 2006 contracts signed between community

members and wind companies were teeming with technical language. This caused a set of issues not only because of the high level of illiteracy among local populations, but also because Spanish is not their mother tongue. In this context, the APPJ in collaboration with the APIITDDT translated contracts into Zapotec so that people could understand the implications of these documents¹⁴³. Although APPJ actions have centred around the development of Bii-Hioxo wind farm, this organisation also participated in Eólica del Sur, especially during the FPIC procedure.

Along with the APIITDDT and the APPJ, another relevant organisation mobilising against Eólica del Sur is the Tepeyac Human Rights Centre. Tepeyac is an organisation connected to the church that started working in the south of the region, specifically San Mateo del Mar, over two decades ago. According to my informant Marcelino, one of the representatives of this organisation, the difference between Tepeyac and other organisations is that they do not try to lead social movements or to undertake legal actions. Rather, they aim to accompany and support local organisations in their demands and proposals¹⁴⁴. Concerning Eólica del Sur, their role has been localised to communities in the south of the region and has consisted in a dual role. Firstly, they have shown community members the potential of wind energy and the dangers associated with the current configurations of wind energy in the region. They connected grassroots actions emerging from San Mateo del Mar to wider processes of opposition and resistance taking place in the region. This ended up being a key step in making visible the struggle in San Mateo to other actors and organisations.

Another set of grassroots organisations also participate actively in the APOYO network. These organisations and social movements are grouped together because they have gained importance in the local space after wind energy enterprises – Preneal Energia, Mareña Renovable or Eólica del Sur – tried to gain access to their territories in order to install windmills. However, rather than coordinating the creation of broader alliances themselves, they have relied on the previous organisations, and especially on the APIITDDT, as intermediaries with actors across scales. The Assembly of San Mateo del Mar, the Assembly of San Dionisio del Mar and the Communitarian Cabildo of Alvaro Obregon are grassroots organisations, albeit with different compositions, that have played a key role in local mobilisation processes and in coordinating and making visible the challenges faced by local communities in the region.

Land is collective and should be governed accordingly

Although there are several differences across groups in terms of strategies and approaches to opposing wind energy projects, there is a common thread among opposition groups and individuals: the belief that wind farm development in the region has not followed the correct

¹⁴³ Informant 8, 2017.

¹⁴⁴ Informant 2, 2017.

procedure according to the International Labour Organization (ILO) Convention for Indigenous and Tribal Peoples Convention (ILO 1989). This argument is based on three main ideas. Firstly, Eólica del Sur and the government have not respected the fact that land is collectively owned under the scheme of *bienes comunales*¹⁴⁵. This is why instead of approaching landowners directly, the enterprise should have approached the *bienes comunales* commissariat. This institution, made up of approximately 8,000 individuals and their descendants, would deliberate and decide on whether a wind farm can be installed on their territory. For my informant Carlos Sánchez, the leading voice on Radio Totopo community radio, wind power development in Juchitán is illegal because wind companies have not yet received formal authorisation from the *bienes comunales* commissariat. Indeed, the last formal assembly took place in 1978¹⁴⁶. As he himself puts it: “Legally, Juchitán has 68,000 hectares of land under collective ownership and this was formally recognised in 1964. We showed that more than 8,000 people have rights over this land. However, this was never recognised by COCEI or by the municipal government”¹⁴⁷.

In the same vein, for my informant Mariano Lopez, an active member of the APPJ, one of the things that needs to be solved before any further development in the region takes place is to provide land certainty for the community in the Isthmus. He highlights that during the prior consultation process, the APPJ actively called the RAN to express itself concerning the land ownership context in the region. As he highlighted: “we demanded the participation of a RAN representative. His role would be to explain the prevalent landownership scheme in Juchitán. We had a Presidential decree stating that land is collective. However, they denied this proposal on a number of occasions”¹⁴⁸.

¹⁴⁵ Land under common goods scheme is land that was given to indigenous populations after the Mexican Revolution of 1910. This landownership scheme often recognises individual rights to land. However, all members are considered to have the right to decide equally over the commonly held land (Friede 2016).

¹⁴⁶ Informant 8, 2017.

¹⁴⁷ Informant 8, 2017.

¹⁴⁸ Informant 5, 2017.



Figure 6. Opposers to wind energy projects. Source: APIITDTT

The recognition of collective land ownership in Juchitán is not an end in itself. For my informants, it is important to emphasise what the collective nature of land entails. For an APIITDTT member, for instance, both the government and the enterprise need to acknowledge that the collective nature of land is an element that enabled indigenous people to identify within and across communities. As Bettina puts it: “the collective nature of land in Juchitán is not only about land. It is something intangible that constitutes, ultimately, what you are. It is our identity, our way of being, our cultural space, our ritual and our beliefs”¹⁴⁹. Along the same lines, for one of the youngest informants at APIITDTT, the collective nature of land allows for the collective dynamics of communities to be articulated. As another member of the APIITDTT puts it: “land is something that goes beyond the place you live in. The concept of territory implies more than the resource itself. It is about seeing that the territory, for us, as indigenous peoples, is more related to how everything is connected and not about the differences”¹⁵⁰. This is why Carlos Sanchez, from Radio Totopo, explains how the territory is something sacred for Zapotec populations. As he argues, this is something that wind enterprises have not understood. As he puts it: “for us, it is important to conserve and to defend the territory close to a place known as Yuguya in the lagoon area invaded by one of the wind companies. This is because there are seven sacred places for us

¹⁴⁹ Informant 4, 2018.

¹⁵⁰ Informant 23, 2018.

Zapotecs. It is a historic site for us. In this sense, it is not only a sacred space but also a space of subsistence with high quality soils”¹⁵¹.

Secondly, opposition groups agree on the idea that the FPIC procedure was not legitimate because a set of administrative actions took place before enterprises obtained local communities’ consent. Even if the prior consent procedure only took place in 2015, land leasing agreements were signed with landowners between 2003 and 2005. That is to say, 10 years before the community deliberation process. These actions proved to be highly problematic in the region. Carlos Sanchez from Radio Totopo argues that: “Both the Federal and the local government authorised the enterprises to start signing contracts. However, for the ILO 169 Convention, the fact of reserving land is illegal in itself because communities’ consent is not prior anymore. This is because enterprises signed the contract before consent from the commoners was obtained”¹⁵². Along the same lines, for Mariano Lopez, the prior consultation process was culturally inappropriate. He told me that during the procedure he pushed for a proper consultation process according to the ILO convention respecting both indigenous culture and identity. He underscored that the first consultation phase was undertaken three or four days after the Day of the Dead rituals. This was not adequate because people were still doing tasks related to this important celebration in the region¹⁵³. These insights show that for opposition members, the consultation process was far from being prior, free and informed in the community in general.

Finally, it is worth pointing out that for the opposition members wind energy is no different at all to the extractive projects that have been implemented by the Mexican government in the region for the last 50 years. The problem with these previous projects, as one of my informants from the APIITDTT highlights, is that they were imposed upon populations, causing poverty and unemployment, rather than offering the promised employment and social development. This pattern of dispossession started with the Benito Juarez dam. As Bettina puts it: “land on which they decided to build the dam was acquired through a set of deceitful acts. Not only did they displace at least one of the towns to get hold of the land, they also divided the communities between those with large areas of land and those who are landless. This is because the irrigation system happened to be built on the lands of wealthy landowners who not only had bigger areas of land but also had a big number of cattle”¹⁵⁴.

This pattern was reproduced as well when the Dovali refinery was built in the ‘70s in the south of the region. As Bettina puts it: “as for the refinery, it is worth mentioning that, although they did utilise local labour, there were also important social impacts like displacement of agriculture

¹⁵¹ Informant 8, 2017.

¹⁵² Informant 8, 2017.

¹⁵³ Informant 5, 2018.

¹⁵⁴ Informant 4, 2018.

because of pollution, displacement of local communities and, most importantly, the creation of a city, Salina Cruz, in the region to attract specialised labour”¹⁵⁵. However, social, economic and cultural impacts resulting from the refinery were not only limited to the city of Salina Cruz and its peripheries but extended to a wider area in the Isthmus. This is because infrastructure associated with oil extraction was built across the Isthmus and along the coast of the Gulf of Mexico. For my informant Marcelino Nolasco, this is the reason why wind energy will reproduce the same patterns of inequality and dispossession provoked by other industries. In his own words: “these projects in the long-term have generated dispossession, pollution and social division within and across communities. Most importantly, however, these projects culturally destroy the host communities by denying their indigenous identity”¹⁵⁶. For opposition groups, therefore, the problem with previous extractive projects is that they never asked local institutions whether they wanted a project of this magnitude to take place in their territory.

To sum up, opposition members’ standpoint is based on the idea that wind energy expansion has not considered the collective nature of the land and thus the nature of decision-making and identity of indigenous communities in the region. Not only did the enterprises not follow the collective institutions governing land in the region, they also engaged in contract negotiations before obtaining collective consent from the community in general. This is why, for opposition members, wind energy seems to repeat patterns of land control and dispossession implemented by other industries in the region.

Beyond opposition as a homogeneous group

The complex and heterogeneous nature behind the APOYO network is present in terms of two fundamental disagreements concerning their strategies in the future. On the one hand, there is a disagreement about whether the network should be opposing the FPIC procedure itself or the fact that a set of administrative actions were undertaken before the procedure started. Whereas for the APIITDTT and the Yansa group, the main demand is to emphasise the shortcomings behind the implementation of the FPIC procedure, notably that administrative actions took place before the consultation process started; for APPJ members the strategy relies on making the consultation procedure for the enterprises and the government a highly bureaucratic process. In effect, Mariano Lopez from the APPJ proposes not only that indigenous communities set the conditions, place and context for the consultation procedure themselves, but also that this process lasts at least six years. As he puts it:

We propose, as APPJ, two main things. First, indigenous communities have to be consulted on how they want the consultation procedure to take place [...] Secondly, we do not want the procedure to be over in less than one year. We propose that the minimum amount of time the prior

¹⁵⁵ Informant 4, 2018.

¹⁵⁶ Informant 2, 2017.

consultation should last is for six years. Of course, there will be impasses along the way, but we will have to polish it according to our needs and not because of the enterprise's sense of urgency¹⁵⁷.

For the APIITDTT and Yansa, in contrast, strategies around the consultation procedure should be focused on the actions that precede and follow this process. If authorities do not provide a neutral and safe ground for deliberation, the consultation process would not achieve its original purpose. This is why, in their opinion, it is a priority to delay the process. If conditions for deliberation are not met from the beginning, the procedure would just be a translation of conflict into a different space¹⁵⁸.

Another point of disagreement among opposition members has to do with the role wind energy should play in the future of the region. Whereas groups like Tepeyac Human Rights Centre and the APIITDTT agree on the idea that wind energy could be beneficial for the region under a different arrangement, other sections like the APPJ and some of the grassroots assemblies seem to oppose wind energy development in all of its forms. Marcelino Nolasco from the Tepeyac Centre, for instance, told me that they do not consider themselves as anti-wind energy. Rather, they disagree with the strategies and unevenness of power relations on which this industry's development is taking place. As he himself puts it:

We are not against wind energy; we are not against producing green energy. Rather we are against the way in which these projects provoke pollution, dispossession and division in the communities. These projects destroy indigenous peoples' identities. What we propose, hence, is that each community should decide what they want. If we promote a free consultation procedure, if we propose autonomy, then each community has to decide¹⁵⁹.

For other opposition members, on the other hand, the mere possibility of an additional windmill in the region is something they are not willing to tolerate. For Carlos Sanchez, APPJ member, even a community-owned farm would symbolise the same as a wind farm brought by the government or the enterprises. When asking whether he would be willing to back such a project, he said: "I think that right now it would be hard to participate in a community-owned project. For us, even a windmill represents invasion, division and persecution. A windmill represents something wrong. Right now, we do not see a windmill as something that could benefit our lives, we do not know whether this will change". The insights presented above show that opposition groups are far from being a homogeneous section at the local level and tensions and contradictions are present within and across opposition groups.

Governing land according to indigenous institutions: towards a collective citizenship

In a context of land uncertainty, as explained in chapter four, wind expansion helps opposition groups to articulate a different claim for land. According to opposition members, following what

¹⁵⁷ Informant 5, 2017.

¹⁵⁸ Informant 23, 2018.

¹⁵⁹ Informant 2, 2017.

the 1964 presidential decree established, land in the region is collective and should be governed accordingly. What this implies is that the commoners' assembly should be the maximum local authority deciding on land concessions to third entities. The way in which wind energy power enterprises have operated in the region, by negotiating individual leasing agreements, is illegal. By emphasising the need to revive and to rearticulate the commoners' assembly, comprised originally of approximately 8,000 individuals, opposition members seek to question the authority of the institutions that have legitimised wind energy expansion in the region.

By ascertaining the collective nature of land and its implications upon the social, cultural and political life of the communities, opposition groups claim a collective idea of citizenship in the region. This idea is based not only on the prevalence of collective practices of social organisation like *tequio*¹⁶⁰, but also by the presence of indigenous institutions of governance within and across the community. Alvaro Obregon is the paragon of this idea of citizenship. This is because the town is slowly seeking to implement a self-governance process known as “Usos y Costumbres” based on a consensus decision-making process at a general assembly – also known as *cabildo* – which is led by the elders' council as maximum authority. The consensus decision-making process not only rejects the representative democracy existent in Mexico but also the local government by trying to recognise a new form and process of authority in the local space.

It is important to mention, however, that the rejection of the local government does not imply a complete dismissal of the authority of the state among opposition members. Rather, it lies on certain recognition of the authority of this political entity as guarantor of the rights of indigenous people. In effect, by articulating the FPIC procedure as one of the main arguments for their opposition strategies, opposition members recognise the state as an entity whose duty is to guarantee a neutral space where deliberation between the communities takes place. This is why, in order to be able to follow self-governance models, opposition members rest upon the authority of the state as guarantor of rights.

To sum up, this sub-section has explored opposition members' standpoints vis-à-vis wind energy development in the region. It has argued that opposition to wind energy is based on the idea that land in the region is collective and should be governed accordingly through the commoners' assembly. Wind energy expansion has not respected this institution and, therefore, it should be considered illegal. What this implies is that opposition members promote an idea of collective citizenship on a territorial basis expressed by a dismissal of the authority at the local government but by the recognition of the state as guarantor of indigenous rights. With this in mind, let us now

¹⁶⁰ *Tequio* refers to obligatory work for members of the community.

briefly explore the standpoint of those individuals who neither supported nor opposed Eólica del Sur.

Neither For nor Against: Those Who are in the Middle

Hitherto, this chapter had provided insights into the narratives of groups and individuals who oppose and support Eólica del Sur wind farm. It is important to point out that there are also groups who neither support nor oppose wind farm construction. Rather, their viewpoint is nuanced and rests on the idea that although wind energy has fostered a context of social unrest in the town, it has also promoted benefits and opportunities for local communities. The decision as to whether a wind farm should be built should not be left only to landowners nor to the groups that oppose the development of this industry in the region. Rather, the general population should be the one deciding on the future of wind energy in the Isthmus.

It is insightful to analyse the case of Comité Melendre, an active NGO and political organisation in the region working on 17 programmes around a number of themes in Juchitán: citizen action and participation, and social work and culture. These programmes range from electoral participation to the creation of a category of basic goods for local communities. Their participation in wind conflicts is recent in comparison to other organisations in the region. It started when they hosted a show at Radio Totopo. When the community radio became an active participant in the conflict around the Bii-Hioxo wind farm in the south of Juchitán, Comité Melendre participated as observers in the process. Taking into account the lack of intermediaries from civil society in the conflict, this organisation started to coordinate the negotiations between opposition groups and state-level government.

According to Comité Melendre president, Gubidxa Guerrero, this was a hard time because coordinating negotiations between these two stakeholders not only required a high knowledge of the local situation but it also put the organisation members at risk ¹⁶¹. In 2013, with this experience in mind, Comité Melendre in one of their radio shows called for the conduction of a FPIC procedure for every future wind energy project coming to the region. In Gubidxa's words: "This is the point where our proposal for a referendum to decide on the wind energy farm became a reality. This standpoint has not really changed because it is based on the political and social history of the region as well as the context. It was from this point that we started to participate in the procedure" ¹⁶².

This organisation, therefore, gained attention during the FPIC procedure because they proposed that the decision as to whether the wind farm should be built or not should depend on the general

¹⁶¹ Informant 51, 2017.

¹⁶² Informant 51, 2017.

population and not on two exclusive sectors – opposition groups and landowners. They proposed that the final decision be made by popular vote. Their rationale is based on two key elements. Firstly, on a singular interpretation of who owns the land in the agrarian core of Juchitán. For them, the original owner of the land in the region can be traced back to the time when the Spaniards conquered Mexico. As a Comité Melendre member puts it:

Under this scheme the territory is not the exclusive property of a group of commoners registered in the agrarian reform. Rather it is the inalienable property of all the members of the community as well as all of the descendants. Their occupation does not really matter. They can be hunters, peasants or they can devote themselves to another kind of labour. However, the territory belongs to all of the people living in Juchitán, regardless of what they do for a living¹⁶³.

As this quote emphasises, their standpoint is closer to the narrative held by opposition groups in that they consider that land is collective. However, it differs in that for them, the legitimacy of who can decide what will happen to the land of Juchitán does not rely on a particular institution. Rather, for them the process has to be traced back to the original owner of the land: all of the indigenous community in Juchitán. This is why they propose a referendum on Eólica del Sur wind farm. On the other hand, Comité Melendre highlights the impossibility of deciding on the wind farm in the FPIC procedure with a show of hands. It seems that, for them, the FPIC procedure was not free nor was it consented to, and the outcome is non-binding because participation was low. In effect, according to Comité Melendre, only 1.5 percent of the local population attended the consultation process. As they put it themselves, it is like if in a community of 1,000 inhabitants, only 15 people had taken a decision and the rest, 985 people, were forced to accept the outcome (Comité Melendre 2015). As Gubidxa puts it:

We live in a city with 100,000 inhabitants. In one way or another, we are *sui generis* indigenous peoples because we are urbanised, and we have a good number of attended years of school per capita. I was not viable, therefore, to undertake a consultation process as mentioned in the 169 ILO convention. I think there is a prejudice in this framework as it considers that indigenous peoples are from small rural communities with the indigenous assembly as the only forum or organisation. This is not the case in Juchitán and it is impossible to hold an assembly with more than 100,000 people¹⁶⁴.

As this quote emphasises, the contradiction lying between an indigenous population and a modern space makes the idea of a consultation process decided by a show of hands an unviable idea. This is why, in simple terms, land has to be associated with the ensemble of people living in Juchitán and this should be recognised through a popular vote.

Both the idea of territory as something that belongs to the extended community and the acceptance that Mexicans live under a system of representative democracy have proved to be key elements in the articulation of Comité Melendre's unique proposal regarding the consultation procedure. This has brought tensions and conflict with other groups in the region. In relation to landowners,

¹⁶³ Informant 51, 2017.

¹⁶⁴ Informant 51, 2017.

they were expecting Comité Melendre to validate the narrative portraying wind energy as an industry that has brought benefits for the community in general. In relation to opposition groups, on the other hand, Gubidxa were expecting Comité Melendre to reject the wind energy project because of administrative actions before obtaining consent at the FPIC procedure. Some APIITDTT members corroborated this opinion of Comité Melendre. Among other elements, opposition members considered that by proposing to take the decision to a popular vote, they were denying an effective opportunity to undertake a deliberative process. In effect, if electoral institutions interfered in the process, some of the vices associated with representative democracy would be present in the consultation procedure. Notably, the presence of political clientelism among the local population¹⁶⁵.

To sum up, the idea of citizenship held by Comité Melendre is based on the idea that Juchitán is an indigenous community in a modern setting. While they agree on the idea that the land of Juchitán should be governed collectively, they differ on the political institutions that should govern the region. This is because they consider that it is impossible that an indigenous assembly deliberates with over 100,000 individuals at the same time. By doing this, not only do they reject legitimacy behind indigenous forms of organisation, they also emphasise their recognition of the state and its decision-making process through representative democracy. This is why Comité Melendre places emphasis on holding an election in which the vast majority of the population of Juchitán participates in order to decide whether the wind farm should be installed.

The Politics of Wind in Eólica del Sur Wind Farm: Who Owns the Land Owns the Wind?

This chapter has analysed the different reactions on the ground resulting from wind energy development in the region (see table 7). The different reactions on the ground articulated around wind energy depend on the approach different groups take vis-à-vis landownership in the region. The different claims over land, therefore, are also connected to elements of property, citizenship, state-making and authority.

Table 7. Comparative table between different reactions concerning wind energy

Group	Landholders	Opposition	Comité Melendre
<i>Organisation</i>	Committees	APOYO Network	NGO Comité Melendre
<i>Number of organisations</i>	One committee in Juchitán and six in El Espinal	7 organisations	One organisation
<i>Landownership</i>	Small landownership	Collective landownership	Indigenous ownership referred as Indigenous Republics

¹⁶⁵ Informant 4, 2018.

<i>Prior Consultation</i>	Against prior consultation	For prior consultation procedure with deliberation	For prior consultation procedure and popular vote
<i>Objective</i>	Obtain certainty over land ownership	Indigenous style of life	Embrace duality between modernity and indigeneity
<i>Position towards wind energy</i>	Support	Opposition	Neutral

Source: Own elaboration

Landowners consider land as a productive asset from which a set of diverse uses can be detached. These uses range from using windmills as a tourist attraction for the region to making a surplus when seeking to sell the land. This is why they consider that they have taken the necessary steps to certify their ownership of the land. In this context of land ownership complexity, wind energy expansion helps them to obtain certainty over land by claiming a new idea of citizenship that recognises the authority of local institutions vis-à-vis landownership in the region. For opposition groups, on the other hand, land in the region is collective and should be governed through the commoners' assemblies. By conserving this ownership status not only will land be able to foster collective capabilities, it will also be able to allow indigenous cosmogonies and styles of life in the region. This is why they claim an indigenous citizenship that rejects the local authority of the government but that does not completely dismiss the authority of the state, as epitomised by the importance of the FPIC procedure. Finally, for those groups situated in the middle, land has to be understood in relation to an inherent contradiction in contemporary Juchitán: the fact that an indigenous area has embraced modernity and urbanisation. This is why collective assemblies that would not be able to accommodate more than 100,000 people cannot govern land anymore. In this sense, their idea of citizenship lies between recognition of a certain degree of authority behind indigenous institutions and of certain representative tools of the state. To sum up, the complexity governing land ownership in the region after a set of contradictory presidential decrees has enabled a situation where different claims connected to citizenship, recognition and state-making have articulated and mobilised groups and individuals in relation to wind energy.

Now, let us move to a different section in order to explore the effects of the September 2017 earthquakes in the region and how different groups, opposing or supporting wind energy, utilised the disasters according to their own interests.

7. Post-relief efforts in the Isthmus of Tehuantepec

On September 7th, 2017, at 11:34 pm the strongest earthquake in the last 100 years shook southern Mexico, concentrating most of its destructive force in the Isthmus of Tehuantepec – one of the key areas for wind energy development in the country since the 90s. A second earthquake with a magnitude of 6.1 hit the region on the morning of September 23rd. Although the intensity was lower than the previous earthquake, the epicentre happened to be located just a few kilometres away from one of the main cities in the region: Ixtepec. As a consequence, the degree of destruction in the region ended up being similar to the one caused by the previous earthquake. Dwellings and buildings that were highly affected after the first seismic event, were on the brink of collapse in the aftermath of this second disaster.

The context of vulnerability, emergency and unrest brought about by the earthquakes modified the scenario behind wind energy development because it was a rupture in the everyday life of the region. The morning after the earthquake, wind companies started to invest in the social context by lending machinery and actively supporting post-relief efforts, especially in Juchitán and El Espinal, where Eólica del Sur was being built at that moment. According to my informants residing in these two cities, on the first days after the tremors it was normal to see machinery labelled with the enterprise's symbol removing rubble and debris from the streets. Similarly, wind companies would send emergency food packages to families to help them deal with the widespread context of scarcity in the region at the time. While it was normal for wind companies to provide help in this context, for local people their intentions were not clear at all. Some of them would say that the companies would charge them afterwards for their service. Along the same lines, I heard people saying that they would never leave their dwellings or terrains because wind energy companies would come and install windmills on them¹⁶⁶. The high scepticism vis-à-vis wind companies' role in relief efforts shared among some of the local population is symptomatic of the extent to which wind energy pathways are modified by local politics of contestation, resistance and support, as seen in previous chapters.

By drawing on ethnographic methods conducted over the span of three years in the Isthmus, this chapter argues that the seismic events were used in the interest of different actors according to their position vis-à-vis wind energy investments. While for the government and the wind companies the disasters were a tool to advance a territorial re-arrangement to further the next wave of wind energy farms in the region, for opposition groups to this industry, the disaster was

¹⁶⁶ I also came across the farfetched idea that the earthquake was actually caused by the wind energy companies. Some people think that the earthquakes were actually bombs planted by the companies in order to have a clear terrain upon which they could install windmills. Although this account does not make sense, it puts into perspective the extent to which wind energy development is controversial in the region.

an opportunity to articulate collective processes of resistance. To this end, this chapter comprises four sections. Firstly, it will depict the differentiated impacts resulting from the seismic events in the region. Second, it will draw on the theoretical debate of the politics of post-relief efforts and on the need to establish a nuanced account of the different forces at play in these spaces. Afterwards, the chapter will argue that stakeholders promoting wind investments have taken advantage of the context to articulate the next wave of wind energy farms coming to the region in the future. Fourth, this chapter will explore the process through which opposition groups to wind energy development have participated in relief efforts. Based on a project implemented by the APIITDTT and Yansa Mexico, this chapter will explore how the disasters were an opportunity to articulate collective processes of organisation in areas affected or yet to be affected by extractive projects. This chapter will conclude with a reflection on the politics of post-relief efforts in the Isthmus of Tehuantepec.

On the Differentiated Effects of September Earthquakes in the Isthmus

The worst damage caused by the earthquake was in the states of Chiapas and Oaxaca where approximately 110,000 dwellings and 2,000 schools collapsed or were severely affected (Poole and Renique 2017, 387). Impacts, however, were particularly severe in the Isthmus of Tehuantepec where the quake affected the vast majority of the buildings. As table 8 shows, in three out of four municipalities that concentrate over 1,500 windmills, more than 70% of dwellings were affected by the seismic event. It is important to highlight the case of Juchitán city, town hosting a section of Eólica del Sur, where 85 percent of the dwellings presented damages. In a similar vein, it is important to underscore the case of Unión Hidalgo, the town selected to host the next wind energy project, where 77 percent of dwellings were affected. To put it another way, two key towns for wind energy development at that moment were the two most affected towns in the entire region. This marked a fertile ground both for wind energy investments and for those mobilising against this industry, as we will see in this chapter.

Table 8. Number of Dwellings affected by the Earthquake in 4 municipalities in the Isthmus

Municipality	Number of Dwellings (2010)	Number of Houses with:		Percentage of Affected Dwellings
		Partial Damage	Total Damage	
Asunción Ixtaltepec	4228	1,351	1,623	70.34
Juchitán City	17,646	7,613	7,474	85.49
Unión Hidalgo	3,645	1,882	929	77.11
El Espinal	2,279	820	266	47.65

Source: (Government of Mexico 2019)

To put the magnitude of the disaster into perspective, it is important to estimate how many people in the region were affected by the tremors. According to national figures, the average number of individuals living per dwelling in the state of Oaxaca is 3.8 (INEGI 2019). If we extrapolate the

average number of individuals to the numbers of damaged households in the four municipalities, it is possible to state that 83,440 people in the region were affected because of the seismic events. Yet, the consequences of these disasters transcended the household level. In dwellings where kitchens collapsed, for instance, families found themselves in need of finding new spaces to cook – they would normally rent a space – or the need to be financially solvent to acquire food in a local context marked by general scarcity. Along the same lines, in most of the towns in the region, the municipal markets were either highly affected or on the brink of collapse. This meant that the original areas for commercial exchange and where people would go to sell their products on a daily basis was damaged. To put it another way, the shock affected not only the everyday life of families but also the whole economic life of towns and villages in the Isthmus.

However, not all of the spaces in the Isthmus were affected in the same fashion. Two spaces are worth highlighting to make this case. First, it is salient to mention that in spite of the strong quake, none of the 1,500 windmills collapsed nor presented damages. Impacts were present in the substations built by CFE and so wind harvesting had to pause for one month. Nevertheless, and specifically in La Venta, wind harvesting was resumed only ten days after the main tremor. This shows that in spite of the social context in the region, wind power could return to normal in just a few weeks. This connects us to the second space of exception: La Venta and the minimal impacts of the tremor in this town. In effect, while Juchitán and Unión Hidalgo were heavily affected, in La Venta only two dwellings and one school were damaged. This shows not only that there is a connection between the bonanza experienced with the sugarcane industry and the capacity of buildings to withstand damage, but also the fact that the earthquake has different impacts according to the soil type. The proximity of La Venta to the foothills meant that the quake intensity was lower than in other areas of the region.

These two exceptions show that the disaster and its after affects were characterised more by the condition of poverty and vulnerability experienced in the Isthmus than by the impact on the physical environment (Oliver-Smith 1999, 74). That is to say, the physical magnitude of the earthquake overlapped with societal issues, poverty and vulnerability that prefigured the disaster. Bearing this in mind, this chapter will focus its analysis on those areas that were severely affected by the quake and where mobilisations, interests and politics of relief efforts resulting from the disaster were more visible¹⁶⁷.

‘Every Disaster is an Opportunity you must Seize’: The Politics of Relief Efforts

Disasters are a tragedy for many but for some they are also an opportunity. As Forbes Magazine puts it: “Every disaster is an opportunity you must seize” (Diermeirer 2011). This is because

¹⁶⁷ This is not to say that consequences of the quakes were not experienced in La Venta.

natural disasters create opportunities, especially for companies, to bring positive changes for their communities and the general population. By citing the examples of Apple in Tokyo and Wal-Mart's response to Hurricane Katrina, Forbes emphasises how when disaster strikes a "company becomes not just an anonymous provider of goods and services but also a member of the community" (Diermeirer 2011). That is to say, disasters represent an opportunity for accumulation and for becoming visible to the general population. At the same time, however, disaster may enable positive change for a set of reasons. According to Mochizuki and Chan (2017, 331) the disaster brings natural hazard risks to the attention of policymakers. This means that disasters alter the status quo and offer a set of opportunities for new ideas and change that compete with pressures to restore disrupted systems as quickly as possible to pre-disaster conditions. In this sense, disaster relief efforts are messy and heterogeneous scenarios in which a different set of interests are at play. This can be observed in the Isthmus of Tehuantepec and the situation brought by the September Earthquakes.

Disaster Capitalism is a concept that draws on Naomi Klein's book *The Shock Doctrine*. She refers to this concept as the orchestrated raids on the public sphere in the wake of catastrophic events, combined with the treatment of disasters as exciting market opportunities (Klein 2007, 6). After Klein's engagement with the concept, scholars have analysed distinctive elements of disaster capitalism such as violence or corporate interest (Loewenstein 2018; Yee 2018). For Schuller and Maldonado (2016, 62), along the same lines, disaster capitalism refers to the process whereby national and transnational governmental institutions use a catastrophe to promote and empower a set of private, neoliberal and capitalist interests for accumulation and profit. To put it another way, disaster opens new grounds for accumulation to extend social and economic policies that support the status quo (Cretney 2017, 11:4). There are two defining elements of disaster capitalism. On the one hand, what is defined as non-profiteering and is observed in the increasing number of contracts given to third-party and private stakeholders like non-profit organisations and corporations in post-disaster reconstruction. This expansion of the so-called 'third sector' is justified by a systematic undermining of the state in Latin America since the 1980s. On the other hand, disaster creates a context for long-term liberalisation and policy reform. Catastrophes, in this context, are a fertile ground for implementing neoliberal policies because of a sense of emergency that demands quick action and the provision of emergency assistance. After a disaster, local governments need to provide a quick response and usually big amounts of financial assistance to respond, and that usually comes at the expense of specific policy agendas that seek to reach a deeper level of market integration (Paudel and Le Billon 2018, 24). Disaster capitalism, in this sense, emphasises the instrumental importance that catastrophes have to bolster the political, ideological and economic interests of elite groups.

Disaster collectivism, on the other hand, is based on Solnit's (2009) work on 'A Paradise Built in Hell' where she depicts how after a disaster occurs, voluntary help among the victims is observed. As Solnit herself puts it, this concept refers to the: "sense of immersion in the moment and solidarity with others caused by the rupture of everyday life"(Solnit 2009, 5; Llewellyn 2018). What this concept refers to is the need to explore the way in which various ways of politics are facilitated through diverse practices after a disaster, notably at a grassroots level. The over-reliance on disaster capitalism and crisis vis-à-vis relief efforts neglects the variegated alternatives and their potential for emancipatory change. If the vulnerabilities highlighted by the disaster are mediated through capitalism, there is also the potential to address these social elements of catastrophe by reshaping collective organisation (Cretney 2017, 11:5). Disaster, in this sense, is a period in which social change may bolster forms of alternative politics that antagonise the interests of elite groups. This is because disaster and its subsequent recovery are intense periods of change in which new values and practices can develop. In this sense, the case of kitchen reconstruction implemented by the APIITDTT and Yansa Mexico provides insights into forms of emancipatory politics that emerge in post-disaster recovery. In Cretney's (2017, 11:7) words: "the potential of these forms of disaster action through recovery lies in the potential for opening up new spaces and opportunities that foster the cultivation of different practices, relationships and perspectives".

With these two framings in mind, it is salient to consider disaster recovery as a period of intense politicisation articulated around forms of reconstruction and various interests trying to advance different agendas. The politics of relief efforts enable us to understand who is in power, who is cast aside by observing what is prioritised in the rebuild, and who is targeted by relief efforts. Relief efforts are, thus, a multiplicity of processes, at different scales, that can either advance or challenge the status quo and, in this case, wind energy development. The complex and heterogeneous politics of relief efforts allows us to move analytically beyond a singular framing of disaster capitalism and to appraise the possibilities for radical action against wind energy investments that emerge through community and activist forms of catastrophe recovery. However, these politics have to be situated in the local space and analysed in relation to the marginalisation and vulnerability that affect various social groups. This is why the opportunities with which different sectors promoted their interests cannot be analysed on the same ground.

The analytical focus on the societal and human-environment relations that prefigure the disaster demands that we analyse the situation of vulnerability and of marginalisation in which communities in the region have been living for decades (Oliver-Smith 1999, 75). The humanitarian crisis declared after the tremors by international organisations is not contingent on the context of scarcity, panic and uncertainty that spread in the region (OCRM 2017). Rather, it is the result of social and cultural processes that have been taking place in the region for decades

(Calhoun 2010, 16). This is why for the politics of relief efforts in the Isthmus the most significant element to consider is not the quake in itself but how pre-disaster elements allowed for a particular form of relief efforts vis-à-vis wind energy expansion. In this vein, the actions of the government and the enterprises to prepare the terrain for the next wave of wind energy farms cannot be compared to the actions undertaken by the APIITDTT to foster collective processes of resistance. This is because there are power asymmetries in terms of strategies, tools and networks. However, the two interests at play contributed to the multiplicity of interconnected processes of reconstruction that sought to advance or to neutralise wind energy expansion.

‘I Invited my Friends to Rebuild the Isthmus of Tehuantepec’: Peña Nieto

In the final keynote of the Annual Mexican Industrial Conference in October 2017, the President of Mexico, Enrique Peña Nieto, invited the industrial entrepreneurs in Mexico to participate in the reconstruction process in the Isthmus of Tehuantepec by offering potential solutions to people whose dwellings had collapsed (Diario de Antequera 2017). He argued that, in the context of the declaration of the region as a Special Economic Zone, should they decide to invest in reconstruction they would not pay taxes for the first 10 years and they would only be charged 50 percent of the total contribution directed towards employees’ pensions and health services (Bessi and Navarro F. 2017). Along this line, the federal government began to focus its aid actions on collecting private sector donations and public funds through a trust known as Fuerza Mexico. Resources in the fund were meant to be used not only to rebuild schools and historic buildings but also to be distributed on an individual basis to earthquake victims in the form of debit cards for the purchase of materials from selected vendors (Poole and Renique 2017, 389). A group of private investors and businesspersons were selected as responsible for the management and expenditure of the public funding, individual donations and contributions coming from the private sector. However, as the Regional Council for the Reconstructions of Our Towns in the Isthmus of Tehuantepec (RCROTIT) puts it, the problem with these events is that: “the people the President invited to participate in the reconstruction process are not local masons or handymen. Rather, he is inviting entrepreneurs, corporations and construction companies to make business in the Isthmus” (Bessi and Navarro F. 2017). This process not only neglects the agency that local people may have in the reconstruction process but also underscored the idea of the Isthmus as a key area for investments to bring ‘development’ through post-relief efforts.



Figure 7. Debris and rubble in Asunción Ixtaltepec. Source: Own Elaboration

During my fieldwork research, and especially during my participation in the reconstruction project implemented by the APIITDTT and Yansa Mexico as mentioned in my methodology chapter, I was able to observe the process through which a set of actions were being articulated in order to advance a territorial re-arrangement in the region. The goal of this re-arrangement is to foster accumulation opportunities, to promote the expansion of extractive projects in the Isthmus and to further the expansion of wind energy projects in the future. These processes involved different elements, ranging from providing financial support exclusively to dwelling owners to dealing with lists to identify programme beneficiaries among local communities. The common thread among these processes, however, is to portray local people as recipients of development by depicting their construction techniques as rudimentary and pre-modern and emphasising the urgent need of the region to finally embrace modernity. In this chapter, I will depict six processes through which this phenomenon came into place in those towns of the Isthmus severely affected by the disasters.

The first shock revolved around the way in which the government decided to allocate resources after the tremors. To those families whose dwelling collapsed, the government provided them with 120,000 Mexican pesos – around £4,650 – to help them with the reconstruction process. Those families, on the other hand, whose houses only suffered partial damage were only entitled to receive 15,000 Mexican pesos – around £581 – in order to undertake repairs. To identify the beneficiaries, various brigades of students visited every house in the town and villages to assess the extent of the damage. These brigades would assign a code to each dwelling and, afterwards,

affected people would receive the funds. Out of the 120,000 Mexican pesos destined for total loss, a quarter could be spent freely. In the first few weeks after the tremor, I would go to the supermarket only to find people getting TV sets or alcohol. If the quantity allocated to each household was insufficient from the beginning, the lack of control over the utilisation of this resource made the contingency bigger. Similarly, 15,000 Mexican pesos were also insufficient to cope with partial damages that ranged from small cracks to collapsed walls. The asymmetries and contradictions in resource allocation resulting from this governmental approach were enhanced after the second tremor. Because brigades had already undertaken a damage census, those families whose houses collapsed after the second tremor were not considered programme beneficiaries. It was possible, in this sense, to find families that received resources for partial damage and whose dwellings did not have safety conditions after more than 1,000 tremor replicas. By the first time I left the field in March 2018, the different levels of government were deciding to undertake a second census. However, the timing and the way in which reconstruction resources were allocated proved to create asymmetries in the region.

The second shock is related to the way in which the programme beneficiaries were identified. This can be observed through two elements: property proof and allocation of resources in remote areas. Concerning the former, if one wanted to receive the resources allocated by the government, a property proof was mandatory. Those individuals and families who were renting or who were living in someone else's dwelling were the most affected in the aftermath of the earthquakes. I would like to elaborate on the case of my informant Esperanza. Before the shock she used to live in her cousin's house. This dwelling collapsed on the day the earthquake hit. When the reconstruction programme was announced, she was asked to leave the terrain. Esperanza, who is the mother of six children and a victim of domestic violence, suddenly found herself without a place to live. Since she was not a proprietor, she was not entitled to government help and because she did not have her own land, she could not be helped by NGOs that were building houses for local populations. Esperanza was obliged to look for extra jobs in order to provide for her family. Although her husband offered to build a wooden house for her, she did not want to go and live with him because of the context of violence. Towards the end of my fieldwork, Esperanza was allowed to live in a dwelling belonging to a family member. However, she never received any kind of help from the government or from any organisations, except for food packages. Concerning the second element, it is worth mentioning that the use of resources in remote villages where the census was carried out by authorities¹⁶⁸ was discretionary. I was told on several occasions that families whose houses had collapsed did not receive money because they did not have a good relationship with the local authority or municipal president. Along the same lines, I was told that

¹⁶⁸ In remote villages where volunteers' brigades could not come, the authorities were charged with the task of undertaking the official census of damages.

local authorities' relatives in some villages received more than one total loss bank card to conduct repairs. Because the census was undertaken in a chaotic context without taking into account various social elements that characterise the region, the allocation of resources, while positive, was also unfair and created social asymmetries in the region.

A third shock can be identified in relation to relief efforts taking place in the Isthmus: finding material for the houses. If more than 70 percent of the houses are damaged in a town or village, it is possible to imagine the context of scarcity that spread across the region materials-wise. The bank cards and, therefore, the funds provided by the government could only be spent at a specific shop. As highlighted by Poole and Renique (2017, 390), this system brought an important stimulus for the construction industry in Mexico, which had declined by almost 4 percent in the year before the seismic events. In these vendors, local people could not find traditional materials such as palm or mud that had been used for decades for vernacular construction. Rather, they would find overpriced industrial materials like cement, metal sheets or rods. Not only was material speculation so spread out that the government had to close some of the shops because of high prices, but also the waiting time for the materials was approximately 45 working days. This meant that for people buying materials at the end of December, their order would only be delivered in mid-February. In addition to the general scarcity, it was also possible to identify the neglect of traditional knowledge and practices in relation to construction materials. The fact that people could only buy materials in specific shops overlooked the value and use that local people had given to them and the crafts associated with them. In every village, it would be possible to find people that would know how to use traditional materials for roofs, or that would know how to build walls from mud. That is to say, these traditional crafts can boost the local economy by providing people with employment opportunities and by enhancing bartering within and across communities. The idea, in this vein, that materials could only be acquired in established shops increased the feeling among the local population that the government was making business and ended up discouraging the local economy. Local people would complain that while their traditional techniques were neglected by government officials, consultants and construction enterprises were everywhere in the region offering their services.

A fourth shock took place in relation to the way in which people were re-building their dwellings. One of the common issues I came across while conducting fieldwork was that people would start building their houses with the same technical mistakes that made them collapse in the first place. What they would usually do is that they would hire a mason and he would just dig a hole into the ground in order to install the rods and to start raising the walls. In order to avoid these mistakes, the federal government put in place a programme to provide families with technical assistance. Once your dwelling had been counted towards the census, you would be sent a company representative to advise you on technical issues. These companies would also offer their services

to build your dwelling in exchange for the resources from the reconstruction programme. I would often hear people say that they signed a contract with an enterprise, they gave them their bank cards and the employees had not been back in a long time. As a consequence, the reconstruction process had not started yet. I was also told on several occasions that constructors would offer people three choices concerning housing: one option for 90,000 Mexican pesos – £3,481 – a second option for 120,000 pesos – £4,642 – and a third option for 150,000 pesos – £5,802. In case the family did not have the additional 30,000 pesos or had already spent some of the resources allocated by the government, the enterprises offered a credit to be repaid in the next 30 years. It is important to say, nonetheless, that not all of the families had the resources to apply for credit and generally only those with land assets could apply for it. Along the same lines, even if the houses built by the enterprises would address the technical mistakes around construction, the housing options presented a major flaw for local populations: they overlooked local needs. The blueprints for the most expensive house, for instance, would offer a space of approximately 48 square metres with two bedrooms, a kitchen and a bathroom. For local populations, however, both bathrooms and kitchens are usually outside of the main house. The solution offered by the enterprise therefore not only overlooked local needs but also established local populations as subjects of development by increasing enterprises' opportunities to conduct their business in the region.



Figure 8. Code in collapsed dwelling in Asuncion Ixtaltepec. Source: Own Elaboration

Once people had started building their houses or while they were waiting for their house to be built, it was uncertain whether the government would check how people were spending the money allocated for reconstruction. This is what I refer to as the fifth shock. Sometimes I would hear people saying they were sure government officials would appear all of a sudden in communities, checking the notes and expenses of every family whose dwelling had been affected by the tremors. However, it was never more than a rumour, as it was never clear whether the government had the means to evaluate peoples' utilisation of the official resources. By the end of January 2018, I was told that certain members of the community had been hired as external evaluators to check whether the money given to families was used in a correct way. According to my informants, this created a context where collective forms or organisation such as *tequio*¹⁶⁹ or *guarandaracanee*¹⁷⁰ were being disarticulated because people were suspicious of whether their neighbours would tell government officials how the money was being used. This measure provoked a context where instead of underlining collective participation, people would just be considered passive subjects to whom aid was to be provided. In addition, this process has to be considered in relation to a transition from collective forms of landownership towards a more individualised type of property. The discouragement and undermining of collective forms of organisation not only affects the social fabric of indigenous communities but also enables property regularisation. This is because negotiating with individuals rather than with assemblies is more convenient for stakeholders behind extractive projects.

The last shock I would like to elaborate upon is the process through which relief efforts undertaken by the government and the construction enterprises were actually preparing and engineering the social terrain needed for the next wind farms to be installed in Unión Hidalgo. While in the field, I was in touch with a variety of people working on government agencies, NGOs and civil society who were interested in reconstruction efforts in Unión Hidalgo. I would often see in the newspapers how enterprises like Bimbo – one of the largest Mexican companies –, Modelo – the largest brewery in the Mexican market –, Televisa – the largest mass multimedia company in Hispanic America – or AXA – a French multinational insurance company – were interested in long-term reconstruction and relief efforts in Unión Hidalgo. I could not help wondering why these kinds of enterprises all of a sudden be interested in Unión Hidalgo and not in Juchitán – the main economic centre and the most damaged city in the region. Likewise, another experience came from my everyday participation in post-relief efforts in the region. Since I wanted to be aware of a broad range of phenomena taking place around the reconstruction process,

¹⁶⁹ *Tequio* makes reference to mandatory work inside the community.

¹⁷⁰ *Guarandaracanee* refers to mutual help between families when building a dwelling or throwing a party.

I would often be present at meetings, events and sessions organised by a range of actors. I soon came to realise that wind energy companies, through third-party companies and persons, were participating in relief efforts in Unión Hidalgo. This is because the next wind farm project will be hosted by this town. Bearing this mind, it seems that government, enterprise and supporters are fabricating the social terrain needed to legitimise wind energy harvesting in the town through participation in relief efforts. By building dwellings, bakeries and schools, among other projects, not only do they try to win people's sympathy, but they also take advantage of the context of scarcity in order to advance their interests. This is because throughout the different phases of the prior consultation process, it is salient to have popular support not only to counteract opposition but also to legitimise the process itself.

It is important to elaborate further on the process through which the FPIC procedure has evolved in the town in the context of the disasters. As one of my informants mentions, the wind enterprises have assumed the main role in the relief efforts in town, overshadowing the government's duties. When asking her about the first days after the tremor, she told me that:

While clearing all of the rubble in town, the enterprises and the machinery would have a banner related to the wind enterprise. In this context, some people have assumed, and others have promoted, the wind enterprise's beneficence for the town. Landowners, for instance, constantly tell the local inhabitants that, if they accept the project, the enterprise will rebuild the streets, build a hospital and offer jobs in reconstruction¹⁷¹.

As my informant stated, everything now in the town is about the benefits that the enterprise will bring to the town if the project is accepted. The problem with this, as my informant put it, is that reconstruction should be the goal of the state and not the wind enterprise. As she highlighted: "They play with peoples' needs and they make sure that it is the enterprise that is visible in relief efforts. This is information concealment because they make people believe that if the project is accepted the enterprise will build, rebuild, bring benefits, etc."¹⁷²

In the context of the FPIC procedure sessions that have been held in the town, the enterprise has shown interest in the processes taking place around the procedure. This can be observed, according to my informants, through two dynamics. First, and along the lines of the above stated, the enterprise has assumed the main role in the promotion and diffusion of the process. They pay the person who prints the fliers about the session, the communitarian radio, local loudspeaker cars, the venue owner. As my informants puts it: "It is not a free and informed procedure because the enterprise is paying people. There are many expectations around this project in the town". Second, during this session, the enterprise pays people to heckle and to undermine those who are opposing wind energy projects. According to my informants, they have a strict show of hands in the same vein. They have signs to show where people have to raise their hands or they know that

¹⁷¹ Informant 34, 2019.

¹⁷² Informant 34, 2019.

when someone raises it, the other people have to do the same. In this sense, what these people do is they silence the voices opposing wind energy, contradicting the principle of freedom established by the procedure. As expressed in these interviews, wind enterprises have taken advantage of the relief situation to become visible and to establish their own importance vis-à-vis post-relief efforts¹⁷³.

To sum up, relief efforts articulated by the government and the enterprise seem to be focused on three elements. First, by focusing the main programme on allocating resources to proprietors in the aftermath of the earthquake, asymmetries are being created in the towns of the Isthmus of Tehuantepec. Those families without a house who are nonetheless affected by the tremors have to look to NGOs or charities in the area for aid. Second, there is a general neglect of traditional knowledge and crafts. By taking local inhabitants as subjects for development, authorities are portraying the idea that modern materials are best suited to protect buildings from future earthquakes. Along the same lines, they are neglecting a set of crafts that foster a collective local economy. If a family needs palm, for instance, they barter with someone to not only cut it down, but also to work with it. Similarly, if a family wants to build a mud wall, they can find someone locally who knows how to work with the mud and that can build it. This overlaps with the context where reconstruction efforts in the region will represent a boom for industry in the national level. Finally, relief efforts are a key element in relation to the further development of wind farms in the region. In effect, it seems that by assuming the main role in reconstruction in the town of Unión Hidalgo, wind enterprises are fabricating and engineering the social terrain needed for the next wind farm project in the region.

‘If We Work with Women, We Can Defend our Land’ Articulating Resistance from the Bottom through Kitchen Reconstruction

Hitherto, we have identified a process that through a set of diverse shocks is trying to reconfigure land arrangements and extractive projects in the region. However, it is important to stress that these projects are not applied to the population as passive entities. Rather, and as mentioned in the previous sections, disasters and the opportunities they bring are also capitalised upon by different sectors. In the case of the September earthquakes, sectors opposing wind energy investments have utilised the earthquakes as an opportunity to reconfigure citizenship and communitarian relations within and across communities. This is the case of the project entitled: “Rebuilding the Heart of the Isthmus of Tehuantepec”. The APIITDIT and Yansa Mexico put this project into action in order to help women rebuild their kitchens collectively to boost totopo commercialisation and the economic and social activities articulated around this product. The

¹⁷³ Informant 34, 2019.

production of totopo implies not only bolstering agricultural activities related to the native maize, but also ancillary activities such as palm-cutting, adobe making and even woodcutting. The objective is, therefore, to foster economic autonomy and to revitalise traditional and vernacular knowledge in the region.

The project decided to work with communities that have engaged in resistance processes against extractive projects, like San Dionisio del Mar or San Francisco del Mar, but also with communities where wind energy projects have not yet arrived, but have already been signalled by wind energy stakeholders. By focusing on fostering communitarian organisation the project has two main objectives: to repair social divisions and conflicts caused by extractive projects within and across communities and to construe new resistance processes through a basic crop in the region: maize. Concerning the latter, it was interesting to see how social fabric had been disintegrated and affected in those towns that had been protesting against extractive projects in their territory. In San Dionisio, for instance, families accepting aid from groups opposing wind energy projects were immediately associated with taking a stance in the conflict. Along the same lines, in San Francisco del Mar, the conflicts provoked by negotiations with wind energy companies were constantly raised in meetings. In this sense, receiving aid from groups opposed to wind energy was heavily questioned by those groups supporting this industry. Concerning the former, the construction of new resistance processes in communities where wind projects have not yet arrived, the project identified leaders and the lack of conflicts in order to foster communitarian capabilities. In this sense, the project tried to contest the top-down rationale imposed by both the government and wind energy enterprises in the reconstruction process by centring its work on women and key communities for wind energy investments.

In its first phase, the project consisted of building or repairing kitchens for 50 women in six different communities: San Dionisio del Mar, San Francisco del Mar, Chicapa de Castro, Huamuchil, Juchitán and Santa Rosa de Lima (see table 9). The project beneficiaries would be chosen from women and families that had not received help from the government or from any other organisation. To put it another way, the population targeted by the project was the most vulnerable one in each community. In each town, the project team would identify three or four women that had participated already in resistance processes or that showed sympathy towards opposition groups to extractive projects – be it windmills, dams or oil refineries. These women would be in charge of acting like brokers and finding more women inside the community that complied with the conditions previously established by the project's rules of operation. The brokers would usually select two types of beneficiaries in the towns: family or acquaintances and elder women or single mothers who did not have any government or social support whatsoever.



Figure 9. 'No to windmills. If not us, who? If not now, when? Source: Own elaboration

Word about this project started to spread quickly and in some communities the list of potential beneficiaries went beyond 300 individuals. Once the list had been established, project members would go to the communities to take pictures of the kitchens and to assess what resources were needed in each case. In the house visits, if the project considered that women wanted to participate because they were looking for a second kitchen or they had not had a kitchen before, they were removed from the list. After the list had been tidied up in this way, it was time to select who in the community had the right to get the first kitchen built. This was usually done through a raffle or a show of hands after a deliberative exercise. The goal of selecting the order on this basis was to avoid any future complaints and to start fostering organisational capabilities among women. After the order had been decided¹⁷⁴, the project members would go to the communities to explain how the reconstruction process would take place. It was clearly established that the project would not seek to obtain governmental help and that it would not provide women and families with construction materials or with labour following a traditional assistentialist approach. Rather, beneficiaries would be working under *tequio* forms with both local material and labour without the intervention of external actors. By rejecting participation and intervention from external actors, the project ultimately sought to show that organisation from the bottom can be a viable way to articulate resistance processes and to start paving the way towards self-determination.

¹⁷⁴ In some communities, the process took longer than expected. In Juchitán, for instance, the list was not yet ready by the time I left the field in March 2018.

Table 9. Communities participating in the kitchen reconstruction project

Community	Extractive Project
San Dionisio del Mar	<i>Mareña Renovable</i> in 2011
San Francisco del Mar	Wind Energy Project in March 2017
Chicapa de Castro	Not yet
Huamuchil	Not yet
Santa Rosa de Lima	Not yet
Juchitán	More than 11 wind farms in the region since 2006

Source: Own elaboration

Some participants were disappointed by the rules of operation and decided not to participate in the project. This was either because they did not consider working in reconstruction, in a context where there was a lot of help, was worth it or because they did not have the time to participate in collective dynamics like *tequio*. Those who decided to stay and participate in the project, however, were divided into teams of five in order to facilitate the movement of material and to avoid a long wait to get the kitchen finished. By splitting the number of beneficiaries in this way, they were not only seeking to be more efficient in the reconstruction process but also to establish resistance cells for the future against extractive projects. This is another space where the difference between communities who had been destined for extractive projects and those who had not yet received these projects was salient. While in towns like Chicapa, reconstruction processes were organised with minimal differences taking place within and across teams – mostly to do with gossip – to the extent that 20 kitchens were finished in less than two months; in towns like Juchitán or San Dionisio del Mar, the organisation process was completely different. In the former, divisions across political parties and opposition organisations were evident among the target population. For instance, in one case a woman chosen by the project managers to organise the list suddenly stopped going to the meetings because she was promised some help by a politician related to the PRI. Similarly, in San Dionisio del Mar, division was latent. Firstly, the idea that women would manage the project of kitchen reconstruction was not accepted by the Indigenous Assembly of San Dionisio del Mar. Because the Assembly had played a key role in resistance processes against *Mareña Renovable* and the top positions were held by men, the idea that a group of women could coordinate the relief process was not welcomed by its members. In this context, constant efforts were made by the Assembly to take over the distribution of materials. To put it another way, social divisions resulting from the expansion of extractive projects in the communities could be seen in the dynamics articulating the project evolution.

Although the construction process took longer than expected and some women were not willing to participate when the rules of operation were explained, in every community the project was able to identify at least one woman with organisational capabilities. The role of this leader was not only to lead and to coordinate the project in each of the communities, but also to foster small groups that could coordinate resistance actions to defend the territory in the future. That is to say,

through working with kitchens and maize, the project sought to engage with different forms of economy, the creation and maintenance of forms of economic solidarity and forms of organising that re-articulate and negotiate values, norms and practices of the local communities (Cretney 2017, 11:6). However, while the bottom-up reconstruction process articulated leadership roles and communitarian processes in towns in the region, it was also possible to see how the project was confronted with four broader phenomena: the interaction with political parties, machismo, interactions with external donors and ideas of modernity.

Concerning the first challenge, interaction with political parties, to manage such a project in a context where political parties and government agencies are present meant that various women decided to leave the project because they received help from other agencies or associations related to political parties more quickly. In the context of urgency and aid coming from different sectors, it was really hard for project members to ask women to wait for their turn when they could approach a politician or an association to get support. The participation in the project, therefore, decreased in numbers as external actors, including national and international NGOs, started to intervene in the region. This is because it was easier for women and households to obtain help and material from someone than to collaborate collectively in reconstruction and reutilisation of materials.

Secondly, the idea that the project was being managed by women would cause some issues with men in communities. In the case of San Dionisio, projects leaders did not have a good relationship with Assembly members. The idea that women on their own could decide who would get a kitchen built on their terrain was not accepted by the male members of the Assembly. Along the same lines, I often heard how certain beneficiaries stopped coming to the meetings because their husbands would not allow them to attend. To this end, I would like to highlight the case of my informant Laura. She was the project leader in Juchitán, and she gathered approximately 20 to 25 women to participate in the project. She was one of the most active team members when she suddenly disappeared one day. She would neither answer her phone nor would she open the door when team members went look for her. In consequence, women who were close to her did not know whether the project would continue or how other teams were organising themselves. When project members started enquiring into what had happened, they were told that Laura stopped going to the meeting because her husband would not allow it. Apparently, the minute he realised that Laura was getting a leadership role in the community, he was concerned about her safety, so he asked her not to attend the meetings anymore.

A third challenge had to do with the rhythm and divisions brought about to communities by donors. Both national and international donors that went to the Isthmus wanted things to be done in compliance with their rhythm because they needed to justify that progress to other partners. As a result, the project dynamics were put under a lot of pressure because self-organisation processes

in a community take a longer amount of time to take off. One of the most critical events that took place while I was conducting fieldwork was the moment when donors considered that the process would be accelerated by providing the community with the material without the intervention of the project team. What happened, however, is that when they took the material to the community there was no previous arrangement and the people just thought they could simply grab what they wanted. The list order was thus neglected, and conflict articulated around gossip and prior conflicts arose in the community because a couple of teams took material that was meant for another group of women.

Finally, the fourth challenge is how self-organisation from the bottom was challenged by the idea of how modernity should look in towns and villages of the Isthmus. In the context of a project that tried to rebuild kitchens by using local materials and traditional knowledge in order to foster self-sufficiency, there was a clash of concepts – between modernity and tradition – within communities. People would assume that in order to be protected from a disaster, they needed to use industrial materials for their kitchens. In effect, community members would assume that traditional knowledge and local materials are of inferior quality to the industrial materials used in cities or in modern construction. Project team members would often hear people complaining about the decision to use palm – because it would light up easily with fireworks –, adobe – because it washes out with the rain – or even wood – because it breaks out due to humidity. In this sense, the promotion of local and traditional materials was confronted with the idea of what development should look like in local communities.



Figure 10. Reconstruction of kitchen with tequio and local materials in San Francisco del Mar. Source: Own elaboration

The challenges mentioned above ended up being outweighed by the opportunities generated by the project at the bottom. This is not only because they promote the idea that people can gain autonomy and self-sufficiency through collective organisation and without the government's intervention, but also through the identification of leadership roles and who will be able to continue or to undertake new resistance processes when future wind projects make their way into host communities.

Final Remarks

This chapter has depicted the different impacts of the earthquake in the two case studies explored by this dissertation. It has also argued that disaster has to be analysed as a period of intense politicisation where different practices of and interests in reconstruction and wind energy development are at play. By drawing on ethnographic methods conducted after disaster, this chapter has argued that it is important to explore the different aspects and facets of relief efforts in order to move beyond a singular framing of disaster capitalism. This allows us not only to conceptualise the relief efforts vis-à-vis long-term social and economic processes that emerge after disaster occurs in the local context, but it also enables us to see a multiplicity of processes that can both entrench or challenge the continuity of wind energy investments in the Isthmus. To only underscore the efforts undertaken by government and wind energy enterprises would neglect the alternative forms of resistance that emerge in relief efforts and that reconfigure wind energy pathways. In this sense, while government and wind enterprises through alliances with civil society are using relief efforts to prepare and further wind energy investments in the region, for opposition groups relief efforts have served to foster collective processes of resistance in communities that have been affected or that will be affected by wind energy investments in the future.

Now, after the exploration of both case studies and the process whereby the earthquake has modified wind energy pathways in the Isthmus, let us move to the next chapter where dimensions of support and opposition to wind investments across the two cases will be explored.

8. Eurus and Eólica del Sur Wind Farms: Social and Political Dynamics of Opposition to Wind Energy Projects in the Isthmus of Tehuantepec

This dissertation has explored how, why and by whom wind energy is contested in the Isthmus of Tehuantepec across two cases with different land tenure systems: Eurus and Eólica del Sur. In the former, a land tenure system with well-defined individual rights has enabled a situation where opposition to wind energy has been disbanded in the long-term in spite of an increasing social differentiation among social groups in La Venta. Defined rights and the possibility to rent one's land have provoked an articulation of opposition strategies around obtaining a better deal from wind companies, rather than around whether wind energy projects should be developed at all. In the latter case, Eólica del Sur wind farm, different ownership claims over a complex land tenure system fuelled various attitudes towards wind energy that are intertwined with ideas of citizenship, recognition, authority and state-making, as chapter six shows. This is because while those who support wind energy development see this industry as an opportunity to establish a valid claim over land and to obtain recognition from the state, those who oppose wind energy claim a collective idea of citizenship constructed on a territorial basis according to indigenous systems of government.

This chapter brings together the analysis of the two cases, exploring how, why and by whom wind energy is contested in the Isthmus of Tehuantepec drawing on the five different analytical moments explored in chapter three. By analysing the empirical findings, the chapter argues that three elements, varying across the two cases, influence opposition and support to wind energy in the Isthmus of Tehuantepec: land tenure system, indigeneity and the politics of benefit distribution. Concerning the first dimension, as chapter four established, two different land tenure systems have fuelled various standpoints vis-à-vis wind energy. This theme illuminates the diverse socio-material arrangements associated with wind energy investments. The second dimension, indigeneity, arises from the analysis of chapter six. The comparison between landowners' accounts and opposition members' standpoints enables us to observe that one of the reasons that motivates reactions for or against wind energy is whether individuals consider themselves indigenous. This theme therefore informs the reasons for mobilisation and the connection to place-based historical demands that link to claims of citizenship, authority and state-making. While opposition members state their claims to indigenous citizenship based on collective forms of governance, those who support wind investments seek to implement a new agrarian citizenry based on the registration and legitimation of their land titles. Finally, the dimension of the politics of benefit distribution, arising from chapters five and six, allows us to

track the uneven outcomes resulting from wind expansion by identifying winners and losers. While those in support of wind energy consider the wind industry as a chance to enhance productivity and modernity in the region while accumulating wealth, for those in opposition, the industry is repeating the patterns of dispossession and accumulation shown by other extractive projects in the region.

As chapter seven underscores, the earthquakes that struck the region in September 2017 acted as a rupture where different citizens and social groups – from wind energy companies to indigenous opposition groups – converged upon relief efforts. At the same time, and after the sense of emergency had declined, the disaster reconfigured social relations, identities and the politics of wind energy in the region. To put it another way, the earthquakes modified the social and political dynamics of opposition to and support for wind energy owing to the following reasons. First, the effects were highly differentiated in the two cases under scrutiny. Whereas in La Venta only a school and two dwellings were damaged, in Juchitán the effects were significant. Secondly, a variety of actors promoted their interests when participating in relief efforts, as analysed in chapter seven. Finally, and most importantly, the disaster can be analysed as a rupture that reconfigured interests, politics and identities around wind energy expansion in the region (Calhoun 2010; Cretney 2017). Hence, dimensions of opposition and support were altered because the rupture created opportunities that were seized upon by different actors such as wind energy companies or organised crime.

This chapter comprises three sections. It starts by comparing the social and political dynamics of opposition and support across the two projects considering the following variables: land tenure, indigeneity and politics of benefit distribution. Following this, the chapter proceeds to analyse the process through which the post-earthquake relief efforts are reconfiguring the three variables within the region. Finally, this chapter concludes with a reflection on wind energy and contestation in the Isthmus of Tehuantepec.

Eólica del Sur and Eurus: The Two Biggest Wind Farms in Latin America

Eólica del Sur and Eurus wind farms are the two most significant wind energy projects in the Isthmus of Tehuantepec. Eurus wind farm, built in 2008, was until 2019 the biggest wind farm in Latin America. This changed when Eólica del Sur wind farm was completed. Because of their evolution in terms of opposition and support practices and the temporalities in which they were developed, both projects prove to be insightful for grasping the politics of wind energy, the nature of contestation as well as mobilisation in the region. In spite of their different implementation pathways, the emergence of certain types of politics in the two cases can be analysed through the interplay of three variables identified across the two cases: land tenure, indigeneity and the politics of benefit distribution.

Because of their different temporality, the two wind farms and their implementation pathways enable us to grasp the dynamics of the wind-land-energy nexus in the Isthmus of Tehuantepec. The insights obtained from both cases, therefore, not only provide a potential answer to the original research question but also connect the different analytical moments presented in chapter five by shedding light on how processes of agrarian change resulting from wind energy expansion, related to identity, land and the politics of distribution, bring uneven outcomes to the local space. Eólica del Sur, on the one hand, shows us that in the short-term wind energy investments, by requiring certainty over land, articulate a set of winners in the region that see themselves as bearers of modernity and that claim the right to benefit from these investments. At the same time, this wind farm also shows how large-scale wind power investments dismiss collective tenure of land and indigenous identity because they are an impediment to the rationale needed for this industry's constant expansion. Eurús, on the other hand, sheds light on how this land requirement articulates a set of winners and losers in the long-term, reinforcing patterns of accumulation, dispossession and social differentiation. This wind farm shows how large landholders seem to capitalise on the wind industry by diversifying their income and investing in technology and machinery for their productivity. In contrast, those with small areas of land barely manage to survive and those without land are forced to integrate into the urban economy with disparate outcomes. The three elements of the two case studies therefore inform not only on the various forms that wind commodification can take according to the land ownership scheme, but also provide insights into the configuration of class dynamics within and across communities in the Isthmus of Tehuantepec, both in the short and in the long-term.

Land Tenure

Land tenure certainty is an important dimension for the analysis of support for and opposition to wind energy in both case studies. Different forms of land ownership present in the region have brought variegated socio-material arrangements to the two case studies in terms of conflicts, processes of access and exclusion to land and forms of mobilisation vis-à-vis wind energy. While in La Venta the process of regularisation provoked a situation where claims over land are well-defined and mobilisation to wind energy investments is confined within contract negotiation, in the case of Eólica del Sur, property rights hover between a collective status and small-ownership schemes. This has provoked not only a different perspective in terms of mobilisation, going beyond contract negotiation and questioning wind energy development itself, but has also raised issues of exclusion from and dispossession of land and livelihoods. In this sense, claims over land ownership are essential for shedding light on why, how and by whom wind energy is contested in the Isthmus, highlighting the different implications resulting from wind investments in the region.

La Venta is an *ejido* founded in 1951 around the Pan-American Highway connecting Alaska with Patagonia. The initial allocations of land sought to provide 148 *ejidatarios* with 10 hectares of land each and 110 *ejidatarios* with 20 hectares each. As Aurélia Mitchel underscores, in the case of La Venta, a post-revolutionary *ejido* tried to implement a new idea of citizenship vis-à-vis the state. Rather than being considered as indigenous peoples, *ejidatarios* were considered as peasants by the new federal government (Michel 2009, 496). *Ejidots*, therefore, establish themselves as a fundamental element in a new top-down and direct relationship between the central government and the peasant communities that overlooks the municipal organisations and guarantees representation from the state in rural areas (Velázquez et al. 2009, 396). To put it another way, land redistribution the *ejido* sought to dismantle the political and territorial structures associated with indigenous people and to tie the peasant's sector to the state tutelage (Hesketh 2019, 1479). This trend was further reinforced in 1998 when *ejidatarios* decided to sign up for the PROCEDURE (RAN 2018a). While before the reform *ejidatarios* did not have a clear title to the land, making it impossible to lease, sell or use land as collateral (Schmidt and Gruben 1992, 2), PROCEDURE enabled them to have full rights over land by obtaining and ceding the right of usufruct when complying with certain conditions. In addition, to protect those rights, the constitutional right to a new *ejido* was eliminated, limiting the risk of expropriating new lands (Schmidt and Gruben 1992, 2). It is in this context that wind energy expansion takes place in La Venta. The foundation of the *ejido* and the agrarian reform proved to be essential in the configuration of new agrarian members with well-defined rights, under the control of the state and away from prior forms of collective tenure associated with indigenous groups. This not only limited the claims around land in the context of wind energy expansion, but also modified mobilisation as well as people's expectations of the wind industry. This is because the possibility that a company at one point or another will lease their land, enabling them to obtain a profit, has made them hold a rather positive view of wind energy expansion.

In Juchitán, on the other hand, the complex land system has dominated the agrarian setting since the second half of the twentieth century. As explained in chapter four, three presidential decrees have contributed to this situation. First, on November 21, 1962, President López Mateos decreed the expropriation of 47,000 hectares of land in the Isthmus (Binford 1993, 90). Afterwards, in 1964, Juchitán received legal recognition in a presidential resolution that ordered the expropriation of 68,000 hectares to be divided between 8,000 individuals (Bailón Corres and Zermeño 1987, 11). Finally, a presidential decree in 1966 from Díaz Ordaz decided to limit the resolution to only 43,000 hectares – 5,000 of irrigated land and 38,000 hectares of rain-fed land – and to exclude from the execution 25,000 hectares of irrigated land owned by 3,800 persons (Binford 1985, 191). However, this decree never materialised, as there were ambiguities and irregularities surrounding the issuance of land titles. The contradictory presidential decrees

opened a space for diverse demands over land, because different groups interpreted the titles according to their own interests. By claiming to be the only legitimate interpreter of the titles, each group established its role in the political struggle and at the same time delegitimised other groups promoting contrasting interests. While landowners with big areas of land justified their right to sell and to purchase land through the titles issued by Diaz Ordaz, farmers with little land and indigenous groups rejected the legitimacy of such titles and demanded the collectivisation of land, as established in the 1964 decree (Binford 1985). Although these contradictory interpretations vis-à-vis land ownership in the region have been present for a long time, wind energy expansion proves to be key to the return of the land debate at the present moment. This occurs through mobilisations, dispossession and new forms of accumulation. It has been documented, for instance, how the beginning of the construction process in the Santa Teresa bar led to exclusions of areas that are essential for fishermen. This process, at the same time, was contested by the local populations, allowing the installation of a barricade and enabling the consolidation of indigenous forms of authority. At the same time, in the area of Juchitán, the process behind Eólica del Sur led to the consolidation of landowners as an effective pressure group in mobilisations and consultation forums, by claiming that they are the only ones to decide whether a wind farm can be installed on their land.

While the different ownership regimes have brought different socio-material arrangements, they are also essential for the dynamics of opposition and support, as they connect us to broader local-based demands articulated around citizenship, state-making and authority (Lund 2011; Lund and Rachman 2016; Rasmussen and Lund 2018; Sikor and Lund 2009; Lund and Eilenberg 2017). On the one hand, for instance, landowners claim property over land in order to assert a new kind of agrarian citizenship that fosters agricultural productivity and modernity. To obtain secure land titles with the help of wind energy enterprises through the creation of rental contracts repositions land from an uncertain form of property, open to contestations, to one that is secure for the next 30 or 60 years. By registering their tracts of land not only at the local level but also at a national level through the RAN, landowners are establishing a valid claim to land and recognising the presence of the state in the region through federal institutions. In this sense, the possibility of having a land title creates a new property-owning citizen in the region, who no longer identifies with either communal or indigenous communities. These actors create a new dynamic in the area as they aspire to combine wind energy, intensive agriculture and other potential business ventures such as tourism. In this vein, they become visible to the state as bearers of modernity, expressing a different mentality. On the other hand, for indigenous people, claims over land prove to be useful to affirm their indigeneity and collective practices on a territorial basis. By ascertaining the collective nature of land and its implications upon the social, cultural and political life of the communities, opposition groups claim a collective idea of citizenship in the region. This idea

focuses not only on the prevalence of collective practices of social organisation like *tequio*, but also on the presence of indigenous institutions of governance within and across communities based on consensus decision-making through an elders' council. The consensus decision-making process not only rejects representative democracy and the political party system existent in Mexico but also the local government by trying to recognise a new form and process of authority in the local space. The different landownership regimes, and the ideas connected to how land should be governed, therefore, shed light on one of the reasons why social groups and individuals mobilise against or for wind energy.

The multiple debates held in the informative phase of the FPIC procedure are insightful of the relationship between landownership and wind energy expansion. Roberto Robledo, for instance, the former landowners' committee president, argued that unlike opposition groups, landowners had the right to decide over their lands. In his own words: "They – opposition groups – talk about rights. What kind of rights? How many hectares do they own in order to have rights? We, as landowners, should have the rights over land" (Government of Mexico 2015, 20). In this quote, it is possible to observe that landowners consider that their right to decide over their land has been neglected because of the action of opposition groups to wind energy development. In this sense, from their point of view, their property rights legitimise them as decision-makers in relation to wind energy development. To underscore this argument, Roberto Robledo went on to say that: "we landowners are tired that other people can participate in decision-making processes where only landowners should be involved. Why are they involved if they do not even own a square centimetre of land? (Government of Mexico 2015, 21). For opposition groups, on the other hand, property rights should be defined in relation to the presidential decree of 1964. As Héctor Sánchez, former municipal president of Juchitán, argued in the procedure:

When wind energy companies arrived to Juchitán, they obliged each individual to give out his or her land title to certify it and to facilitate its conversion into private property. None of the documents wind energy companies have are valid because these are communal lands, converted into *ejido* because of a presidential decree. This is not a matter of preference, as there is a law that needs to be enforced. We are standing on 68,000 hectares of communal land that belong to Juchitán (Government of Mexico 2015, 25)

As this quote shows, for those opposing wind energy, the steps that landowners have taken to certify their land are invalid because land in Juchitán does not follow a small-landownership scheme. Rather, it is collective land under the *bienes comunales* scheme. It is important to mention, however, that for opposition groups the collective nature of land obeys not to an *ejido*, but to a communal land that was granted to the region because they are an indigenous group. As the same Hector Sanchez highlighted in the procedure:

This is the reality and we have to understand it. When we say that we all have the right to decide over land, it is because we are commoners, relatives of commoners or direct descendants. In consequence, we all have the right to be consulted and we have the right to obtain benefits, even if we are landless. We are commoners, do not forget it (Government of Mexico 2015, 26)

As this quote highlights, to be commoners is closely related to indigenous identity. In this sense, indigenous identity configures itself as a key dimension in support of and in opposition to wind energy, as we will see in the next subsection.

Indigenous Identity

Indigenous identity is the second element that explains the social and political dynamics of opposition to and support for wind energy. In La Venta, as mentioned above, the creation of the *ejido* sought to establish a direct relationship between new organisations – *ejidal* landowners – and the state by disbanding indigenous forms of organisation. This is why even if La Venta may be classified as an indigenous town and people still follow Zapotec traditions, when it comes to landownership, they consider themselves *ejidatarios* rather than commoners. This not only marks a striking difference in relation to Eólica del Sur but also explains why opposition practices in this case revolved around getting better contracts.

Indigeneity has proven to be the main tool of opposition against Eólica del Sur. This is expressed in terms of the demand to live according to collective practices, dynamics and knowledges (Assies 2000; Martí I Puig 2010; Jung 2003). To this demand, the notion of territory as a place where the holistic elements of indigeneity take place is essential. This is why, as Martí I Puig emphasises (2010, 83), in the past few years the discourses of indigenous movements in Latin America have increasingly linked territoriality, self-government and jurisdiction as expressions of self-determination. This notion, self-determination, includes a system of government exercised by the communities, the implementation of alternate juridical systems of justice, the application of differential regulations regarding landownership and the legitimation of self-defence against the interference of the market (Esteva 2009, 131). More specifically in Latin America, the demand for autonomy has been able to connect the cultural and symbolic elements of indigenous well-being to the material aspects of land and territory. The territory, in this sense, has to be analysed as a multidimensional fundament that allows for the reproduction of different ways of indigenous life and self-determination, including cultural and symbolic elements (Webber 2018, 198). With this in mind, land is not a just resource for economic subsistence nor just an essential element for livelihood strategies; it is also a pre-requisite for the conceptualisations of autonomy and indigenous self-determination.

The connection between demands for self-determination and territorial control allows indigenous people to have access to non-commodified land and to produce a variety of food crops for self-consumption. As Vergara-Camus puts it, access to land has allowed for the decoupling of social reproduction from the pure logic of the market and enabled people to protect themselves in part from the growing monetisation of the relations of reproduction and production (Vergara-Camus 2015, 169). The indigenous emphasis on land, therefore, is a struggle not simply for the means of production and reproduction, but also for control over a specific geographical area upon which

other types of social and political relations can flourish. Rather than a source of wealth and monetary accumulation, land is understood as the only way to ensure self-sufficiency and well-being. It is worth mentioning, nevertheless, that the need to engage in market relations to meet material needs obliges indigenous people to engage and to interact with broader structures of society. It is in this context that the development of self-determination requires the support of the state, not only in terms of a fair distribution of land and natural resources but also to facilitate the process through which indigenous people control their means of subsistence and production (Vergara-Camus and Kay 2017, 225). This is why the attempt to achieve self-determination does not imply indigenous group's desire for isolation. Rather, it encompasses a higher participation, visibility and engagement of indigenous people in society while strengthening social, political and cultural indigenous institutions (Assies 2000, 12).

To this end, the international human rights movement has played an important role in the configuration of indigenous demands for autonomy. This is because there has been a slow expansion of international law into the area of cultural rights. This implies a challenge to the link between international law and the dichotomy of the individual and the state that has shaped international standards of justice (Jung 2003, 443). The ILO Convention 169 epitomises this by establishing that states should respect: “the aspirations of indigenous peoples to exercise control over their own institutions, ways of life and economic development and to maintain and develop their identities, languages and religions within the frameworks of the States in which they live” (International Labour Organization (ILO) 1989). In addition to the protection of cultural integrity through the recognition of social, cultural, religious and spiritual traditions, the convention also refers to the rights to land by introducing notions of territory and habitat (Jung 2003, 444). In this vein, the demand for autonomy ought to be analysed in light of the interplay between land as a foundational basis for the flourishing of social and cultural dynamics and the state as guarantor of these collective rights.

The demand for autonomy is not something exclusive to indigenous movements opposing green extractivism nor to the Isthmus of Tehuantepec. At the local level, an emerging indigenous movement erupted in the 80s as a direct result of two processes. The need to protect the territory against extractive projects in the Isthmus and the formation of indigenous professional cadres led to the consolidation of social movements like the COCEI and UCIZONI (Lucio López 2016), as explored in chapter four. At the national level, however, a pivotal moment for the articulation of this demand is the Zapatista Army of National Liberation (EZLN) uprising in 1994 in the neighbouring state of Chiapas. The *Zapatistas* were able to build solidarity networks in Mexico and Latin America fostering ‘territories in resistance’ in collaboration with other social movements (Harvey 2016, Zibechi 2011). These alternative geographies (Reyes 2015) are characterised by claims around the land, autonomy from the state and political parties, a shift to

horizontal forms of organisation and, most importantly, the increasing participation of women in leadership positions. Social movements in the Isthmus such as the APIITDTT and the APPJ adapted these principles to the place-based historical inequalities and conflicts of the Isthmus of Tehuantepec, as chapters six and seven show. When interviewing a member of the APIITDTT on land ownership, as mentioned in chapter six, she told me that land is something that connects them with the collective and holistic nature of indigeneity. In her own words, land in the region:

Is not only land; it is something that allows you to be and to build other relations. It is something that allows for the possibility to cultivate, to work the land and to think collectively. Land is something intangible that ultimately constitutes what you are. It is our identity, our way of being, our cultural space, and our beliefs¹⁷⁵

As this quote emphasises, indigenous identity relies on the affirmation, through land, of collective units with particular dynamics, practices, languages and knowledges. Isabel Jiménez, during the informative phase of the FPIC procedure, highlighted how the land allows people like her, traditional healers, to continue with their work inside the communities. As she put it:

As a traditional healer I can tell you that each medicinal plant has its own territory as well as each species. Windmills enclose us and they prevent us from existing because there is no way to survive. They affect the sea, the crops and the fauna. By enclosing us and our land, the medicinal plants do not survive anymore, nor do the animals used for remedies like the armadillo used for cough syrups, or the iguana... (Government of Mexico 2015)

This quote reflects how land allows for the articulation of collective knowledges and lifestyles that are inherent to indigenous peoples. The 169 Convention by the ILO acquires, as expressed by my interviewees, a significant relevance in this context. This is because this legal tool protects their territory from extractive projects like wind energy by emphasising the right of indigenous people to be consulted (Gutiérrez Rivas and Del Pozo Martínez 2019, 10). As Pedro Orozco puts it: “Windmills are invading our territory. The 169 ILO Convention established that we are the rightful owners of this land and that we should have autonomy” (Government of Mexico 2015). The presentation of a legal case at the SCJN can be observed in this duality between self-determination and the state. As my informants highlighted, wind energy enterprises signed contracts 10 years before the consultation was undertaken, violating the fact that consent has to be given by host communities before projects start. In addition, the FPIC procedure was not culturally appropriate because it did not respect local traditions taking place a few days before the procedure started¹⁷⁶. In this context, by appealing to the state, they were hoping that their right to self-determination would be respected by wind energy enterprises.

On the contrary, groups supporting wind energy, notably landowners, in spite of respecting certain indigenous traditions, do not see themselves as indigenous people anymore. Rather, as highlighted in chapters five and six, they consider themselves as a new kind of agrarian citizen whose

¹⁷⁵ Informant 4, 2018.

¹⁷⁶ Informants 8 & 5, 2017.

objective is to modernise and to industrialise the Isthmus of Tehuantepec. In this context, landowners associate indigenous populations with backward practices, social deprivation and marginalisation. This is because the collective nature of land and indigenous ways of life contradict the rationality required for agrarian modernisation and accumulation in the region. When talking about indigeneity and cultural practices associated to them, one of the landowners' committee members told me the following:

From what I have seen, they do not do anything to change their lifestyle. This makes me mad at them. I tell them – you have the money, you have the land inside an *Électricité de France* (EDF) project, and also you have land inside the Bii-Hioxo wind farm. You have land in two different projects. Get a car for yourself. If you do not have a driving permit, just hire a driver. But, no, I cannot convince them. They do not want to spend their money, they just keep it at the bank or in their house [...] There is this farmer, you would not say he is wealthy. Well, he owns more than 60 hectares of land and he leases them to three different projects. But I do not know why he walks every day for more than three kilometres when he could easily get a car for himself¹⁷⁷

As this quote emphasises, the mentality held by indigenous peoples is something that hinders the expansion of wind energy investments. This is because indigenous people, instead of seeing themselves as agents of change, are stuck in backward practices. When one of the landowners talked about the traditions held by indigenous people, he said the following:

In La Ventosa, for instance, when a member of the family gets married, they sell the house to be able to throw a party [...] if this happens, they do not have a house anymore and they are obliged to live with the brother, with the cousin or with the uncle. However, what they want is to sell the house to be able to throw a party that lasts four or five days, where the entire community is invited. They have a different mentality¹⁷⁸

As this quote shows, the attitudes held by indigenous groups is something that hinders wind energy development in the region. This is because their traditions contradict the rationality required for agrarian modernisation and accumulation in the region. In this sense, in terms of identity, landowners appraise themselves as a group that has embraced modernity and social development in the region. As the following remarks from a former municipal president of El Espinal emphasise, indigenous people have not taken advantage of some of the opportunities they have been presented:

My grandparents used to hire *mareños*¹⁷⁹ to clear some of the land we had and to do housekeeping labour [...] When these indigenous people rejected wind energy projects, five of them came to work for my family. They have always done it. They come with sandals, with a small musette and on public transportation. I always tell them – you know that just for signing the contract with a wind energy enterprise they gave me 10,000 pesos – around £400. Then they paid me 2,000 pesos – around £80 – per hectare to reserve the land, and they will also pay me for the social aspect and the externalities. Then the native asked me – did they pay you that much? – I replied to him –yes, and there is much more to come. This is because the project we just accepted for our town is the

¹⁷⁷ Informant 21, 2017.

¹⁷⁸ Informant 37, 2017.

¹⁷⁹ *Mareños* refers to indigenous Ikootz people living in the south of the lagoon area in the Isthmus of Tehuantepec.

one your people rejected. You finally had the chance to turn your wasteland into something productive and you let it go¹⁸⁰

From a landowners' standpoint indigenous groups and their collective logic is something that is blocking wind energy from further expansion.

To sum up, as this subsection shows, indigenous identity is a key element in the articulation of dynamics of support for and opposition to wind energy. While opposition groups assert their indigenous identity and its connection with territorial elements based on the 169 ILO Convention, for those who support wind energy, indigenous dynamics are in opposition to the kind of logic wind energy expansion requires.

Politics of Benefit Distribution

Another element that plays an important role in the construction of social opposition to and support for wind energy is the politics of benefit distribution resulting from wind energy among and between groups. This theme connects wind energy expansion to locally based histories of extractivism, dispossession and patterns of accumulation undertaken within and across local communities. This becomes clear with the Eurus wind farm case where opposition strategies were based on the idea that it was possible to obtain a better deal and a better payment from wind energy companies, as issues around land tenure and indigeneity were not contested. The insights provided by this discussion, therefore, enable us to connect place-based dynamics with the way in which wind energy constructs winners and losers at the local level.

For opposition groups, wind energy presents the same patterns of dispossession and disempowerment as other industries that have expanded in the region since the second half of the twentieth century with the eternal promise of social development. Ultimately, however, they have brought poverty, displacement and dispossession because they never asked local communities for their consent¹⁸¹. The same extractivist rationale is, thus, reproduced by wind energy investments, as stated in chapter six. In the informative phase of the FPIC procedure, opposition groups were able to articulate in a clear way, and for a larger audience, the unconformities resulting from wind industry in the region. Héctor Sánchez, former municipal president of Juchitán, emphasised that wind energy investments are making a profit while taking advantage of the local population. When referring to the quantities of money that companies are able to extract from Juchitán, he said the following:

Enterprises and government argue that wind energy farms in the Isthmus represent an investment of 7,000 million pesos – £280 million. However, nothing is left for us in Juchitán. How much do we leave here for the electricity bill? Are they at least providing us with some windmills for the community? There is nothing, they are giving us absolutely nothing. What is our legacy for the

¹⁸⁰ Informant 28, 2017.

¹⁸¹ Informant 2 & 4, 2017.

younger generations? We are just giving away land for Spanish enterprises and people (Government of Mexico 2015, 26)

What this quote reflects is that among opposition groups there is a feeling that wind energy is reproducing patterns of accumulation and dispossession in the Isthmus of Tehuantepec. By not contributing to electricity services in the region nor to the reduction of bills, wind energy companies reproduce extractivist logics by appropriating resources in certain places like the Isthmus of Tehuantepec for the development and prosperity of other urban centres and enterprises, where the energy is bought by private actors (Acosta 2013). The same feeling of abandonment and dispossession is present when opposition members raised the issue of the minimal local taxes paid by wind energy companies in the region. In effect, opposers mentioned that wind energy enterprises have evaded taxes since they first came to the Isthmus of Tehuantepec. David Henestrosa, journalist in the region and long-term ally of the APIITDTT underscored the following arguments:

Enterprises came to the Isthmus and said: we will bring social development and employment for you. However, these enterprises do not live up to their words. They recently promoted an amparo¹⁸² to avoid being liable for an income tax passed by the municipal government [...] These enterprises, however, owe more than 3,000 million pesos – £120 million – to Juchitán. If these enterprises really cared about Juchitán, they would pay this amount. Yet, they evade taxes. This amount would allow us to build an arts school or a medicine school to promote culture and science in the town. With that money, we would be able to employ many people in the near future. However, enterprises are just not interested in doing that (Government of Mexico 2015, 29)

Another important point raised by those in opposition to wind energy is the question of justice and disparities between the Isthmus of Tehuantepec and other places in the world in terms of rent paid by wind companies. Bettina Cruz, for instance, argued that wind enterprises in Mexico offer a risible payment to landowners and community in the region. Again, by asserting this point, the extractivist nature of wind projects is shown again. As Bettina Cruz exemplified:

In the United States, Ireland and Canary Islands there are plenty of wind farms. When reserving land, they offer approximately 600 pesos – £24 – per hectare. Here, they offer between 150 and 250 pesos – £10 and £6 – for the same piece of land. For a windmill, they offer between 31,250 pesos and 61,250 pesos – between £2400 and £1200. In the Isthmus, they only give us between 4,000 and 5,000 pesos – between £160 and £200. Concerning Mega Watt production, these countries pay to the landowners approximately 50,000 pesos – around £2,000 – and in Mexico, they do not even offer a quantity for this concept (Government of Mexico 2015, 19).

What these quotes underscore is the feeling that wind energy is reproducing patterns of accumulation and dispossession in the Isthmus of Tehuantepec. My informants in La Venta second the insights provided by Juchitán. As mentioned in chapter four, Solidarity Group La Venta started to gain force in the community when they were able to compare a contract between landholders and wind companies in the state of Texas with the contracts they had just signed. From this moment, opposition strategies concentrated on the idea that the company should pay a better rent to landowners and offer employment for their relatives. This resonates with insights

¹⁸² Legal instrument of the protection of constitutional rights.

from Stock and Birkenholtz's (2019, 18) work by showing that the goal of expanding low carbon projects is not agrarian and social development, nor is it about better social arrangements for rural areas, but instead they aim to enhance capital accumulation without modifying capitalist and extractivist logics. The politics of benefit distribution, therefore, shed light on local-based existing patterns of accumulation and how they are exacerbated and reproduced by wind energy investments.

For those in support of wind energy, on the other hand, this industry is an opportunity to finally obtain certainty over their land and, therefore, a new space for accumulation by benefiting from wind power rents. By being able to invest wind energy rent into productivity and technology on their land, they will finally become competitive in the national context and will be able to overcome the hardship associated with the harsh climatological conditions of the region that have affected their productivity for decades. A key element in this process, therefore, is the certainty over land needed not only by landholders, but also by wind companies in order to obtain credits from international partners such as the IADB or the WB (Government of Mexico 2015, 26). Héctor Sánchez shed light on the process whereby wind enterprises would facilitate the conversion of land into private property during the informative phase of the FPIC procedure. As he emphasised:

When wind energy companies started to come to the Isthmus, they obliged each landowner to provide their land titles, be it a documentation from the RAN or a certificate from the commissariat of *bienes comunales* in order to do the necessary paperwork for the transformation of the land title into private property (Government of Mexico 2015, 25)

The President of the landowners' committee for Eólica del Sur in Juchitán corroborated this phenomenon. He recounted that wind companies showed great interest in helping landowners with the necessary procedures to register and to obtain certainty over their tracts of land. He remembered that before wind companies came to the region, agreements over land would be reached with a handshake or with a verbal contract between landowners. Sometimes this would work and other sometimes, however, this would bring problems to the community. In this vein, because the enterprise needed land certainty, they offered to pay for the paperwork of all of the landowners who decided to sign a contract with them. The procedure to this end would be threefold. First, it would mean to seek certification at the municipal level. Afterwards, a federal public notary needs to certify the titling. Finally, the property needs to be registered at the Public Registry of Private Property. The entire procedure represents a significant investment for landowners. However, because Eólica del Sur agreed to pay for the procedure, it ended up being convenient. In the words of the committee president: "landowners not only saved a lot of money, but also obtained legal support for their ownership"¹⁸³. By doing this, landowners are not only

¹⁸³ Informant 21, 2019.

able to sell land complying with the law but are also able to inherit land according to the rules established by the Mexican government. The legal transformation inside the wind polygon for Eólica del Sur has been so significant that approximately 80 percent of the landowners have certified their property over land¹⁸⁴.

The ownership certification over the land, therefore, gives them the possibility to establish an official contract, to make a profit and to transform the productive landscape of the region by avoiding collective impasses related to agriculture. As one of the landowners put it: “It is about re-investing the money and not just saving it”¹⁸⁵. In other words, the certainty over land allows farmers to become competitive at a national level because they are now able to reinvest the money they receive. As he stated:

The landholder who receives an economic benefit tries to ameliorate cattle quality. Before, we would have cattle with poor milk productivity. Today, landowners have the possibility to go to other states in the country like Veracruz and Chiapas to buy different breeds of cattle. They are also able to afford high-quality grass. If a drought strikes the region, we can now, after many years, undertake the necessary measures to protect our cattle¹⁸⁶

As this quote emphasises, it is important to observe landowners as stakeholders whose interest is to increase the region’s productivity and competitiveness, not just to accumulate and save money. This resonates with insights from Naumann and Rudolph (2020, 99), for whom renewable energies are thought to help to diversify land use and farmers’ income in order to strengthen the local economy through new productive ventures. This is why, for landholders, the disparities and unfairness resulting from the expansion of this industry are the natural product of patterns of social differentiation and accumulation in the rural setting of Juchitán. For them, they have the right to keep the profits from wind energy because the land they own was not a gift. Rather, it was the product of their families’ efforts and mentality in the past. A former congressman, who is now part of an organisation that conglomerates landowners in the region, recounted that the land owned by his family is the product of a long-term effort that started in 1964 with the decree that classified his land as *ejido*. As he himself puts it:

Here in Juchitán, the government invaded us in 1964. They invaded all of the terrains held under a small ownership scheme and afterwards they declared the land as an *ejido*. However, they were never able to name an *ejidal* authority because the people, especially landowners, were opposed to this. My parents, among others, decided to present a legal case against the government’s decision and, when I was 18 years old, I started defending the people’s interests within the 64,000 hectares invaded by the government. People in Juchitán never wanted the *ejido*...¹⁸⁷

As this quote highlights, landowners see themselves as rightful owners of the land and they do not understand why the extended community of Juchitán wants to interfere in the decision of what

¹⁸⁴ Informant 21, 2019.

¹⁸⁵ Informant 49, 2017.

¹⁸⁶ Informant 21, 2017.

¹⁸⁷ Informant 12, 2017.

should happen to the land. What these insights show is that, in a context where wind power companies reproduce extractivist patterns, certain people capture rent. In effect, those with the property titles resulting from the 1966 resolution in Juchitán and those with the *ejidal* rights in La Venta can benefit from new opportunities resulting from wind energy investments. Through rent payments landowners are, therefore, able to invest in agricultural productivity and new business ventures. At the same time, the conversion of land tracts into private property in the area of Juchitán consolidates an exclusion of populations that claim collective ownership, as tracts are registered at federal institutions with the aid of wind enterprises. It is, therefore, through the dimension of politics of benefit distribution that we are able to see how existing patterns of accumulation and differentiation are reproduced by the growth of the wind industry in the region.

It is important to mention, however, that the winners and losers of the politics of benefit distribution are not as clear cut as they may appear to be and that these uneven outcomes also exacerbate uneven outcomes among landowners. This is because local communities are unequally equipped to invest the money received from wind companies into productive activities. Economic, cultural and social inequalities differentiate people's abilities to take advantage from wind rents and to reverse the harsh climatological conditions of the region. As Levien (2012a, 963) puts it, even if the landowners seem to be the winners, they go through dramatic differentiation on the basis of people's ability to survive wind energy, though without polarisation into recognisable and antagonistic agrarian classes. After 25 years of wind energy expansion, landowners with more than 20 hectares capitalised on transformation brought about wind energy through investments in machinery and productivity. On the other hand, those with less than 20 hectares barely manage to survive because wind rents do not make a difference in terms of investments. However, unlike cases described by Baka (2016) or Stock and Birkenholtz (2019), where smallholding peasants lost vital wage-labour opportunities as land under cultivation was transformed for energy purposes, in the case of wind energy the process is different. Because most of the land can be cultivated, small landholders can still use the land for the purposes of household reproduction. In addition, wind energy rents act like a sort of insurance that prevents them from selling their land as a contingency or in case of a crisis. As a result, it can be seen in the case of La Venta that in the long-term there is a process of differentiation arising between those who are able to accumulate, usually those with more than 20 hectares of land, and those who barely manage to survive and therefore remain in a pauperised state. As a consequence, even if landowners support wind energy expansion, it is possible to elucidate the uneven ways in which they benefit from it.

To sum up, the politics of benefit-sharing are salient for the dynamics of opposition to and support for wind energy in the Isthmus of Tehuantepec, as the case of La Venta shows. While opposition groups consider that wind energy is reproducing patterns of accumulation and dispossession generated by other extractive industries without leaving any benefit for local populations, for

those supporting this industry, wind energy not only enables their claims over land but also allows them to become competitive in the national context and to ultimately overcome the harsh climatological conditions of the region. This theme allows us to understand support for and opposition to wind energy in connection with local patterns of accumulation and exclusion arising from wind energy. The division between winners and losers, however, is not as clear-cut as it may seem owing to patterns of differentiation in the social, economic and cultural dimensions affecting landholders' ability to take advantage of wind energy. In the long-term, therefore, wind energy expansion exacerbates patterns of social differentiation between those who have large swathes of land and those with small holdings.

Social and Political Dynamics of Opposition and Support in Eurus and Eólica del Sur Wind Farms

The three lenses presented above shed light on the answer to the thesis question of how, why and by whom wind energy is contested in the Isthmus of Tehuantepec. The two case studies present a unique configuration of the three lenses, allowing us to explore the different social and political dynamics of opposition to and support for wind energy. The three lenses are used for analytical reasons and they are not present on their own in either of the two wind farms under consideration. Rather, they intertwine with each other and, in the stakeholders' accounts, are combined as a set of demands and viewpoints. It is important, however, to analyse how they come together in the two wind farms.

In Eurus wind farm, the politics of benefit distribution is the most visible dimension because opposition to wind energy was centred on obtaining a better contract from wind companies and never leaned towards land ownership or indigeneity. As my informants underscored, Solidarity Group La Venta started to negotiate with the first wind farm when they got hold of contracts between landowners and wind energy companies in the state of Texas and became aware of the disparate rents paid in the two sites. Following this, when the Eurus project from Acciona Energy came to town, the same group expressed three basic demands: a higher payment for the concept of right of wind, employment for *ejidatarios*' relatives and a higher commission for the removal of rubble and debris from the construction site. The other two lenses did not dominate this pathway for two reasons. On the one hand, because La Venta is an *ejido* founded in 1951, landownership was well-defined and never contested. Except for conflicts in relation to boundaries between parcels, *ejidatarios* have always been aware of who owns which piece of land. This trend, in the long-term, minimised the possibility of a different strategy for opposition, as landowners know that sooner or later a wind project will come to lease their land. On the other hand, and as established in this chapter, the creation of the *ejido* sought to integrate the peasantry into an official channel vis-à-vis the state by undermining and dismantling indigenous forms of landownership. This contributed to a new form of citizenship where peasants, rather than considering themselves as indigenous, prefer to be associated with the *ejido* and the Mexican

state. To put it another way, as land rights were clearly defined since the creation of the *ejido* and indigeneity took a secondary role in *ejidatarios*' accounts, opposition strategies revolved around the obtention of benefits from wind enterprises.

As projects, notably Eólica del Sur, expanded towards the south of the Isthmus and started to cut across different ethnicities, the other analytical lenses come into play and gain importance for the contestation of wind energy projects. As established in chapters four and six, opposition strategies in Eólica del Sur project revolved around landownership claims and indigenous identity. The contradictory presidential claims in relation to landownership in the agrarian core of Juchitán have fostered two claims over land: the declaration of the area as a collective area according to the 1964 decree and the existence of a small-ownership scheme according to the decree of 1966. Different groups have championed these claims in the area, playing out a key role in wind energy expansion. While those groups opposing wind energy claim that land is collective and should be governed according to indigenous institutions, those supporting these investments claim that they have taken the necessary steps to certify their ownership over land. This connects us to the second analytical lens at play: indigeneity. While for those who oppose wind energy, indigenous identity is connected to a territorial and collective claim over land, those who support wind energy expansion do not consider themselves as indigenous. Rather, they see themselves as agents of change in charge of bringing modernity and development to the region through land certainty resulting from wind energy expansion. In this sense, unlike the Eurus wind farm, the two dimensions which critically determine opposition to wind energy are landownership context and indigenous identity. This does not mean that the politics of benefit distribution are overlooked in this wind energy pathway. Rather, the benefits have to be analysed in relation to the other two dimensions. This is because if wind energy projects were to be built according to collective land schemes, the outcomes of this industry would be different to what has been observed so far in the region.

As a result, the three analytical lenses provide insights into the research question posed by this dissertation, suggesting different perspectives on agrarian change and renewable energy expansion in the Isthmus of Tehuantepec. This is because they signal social and political relations that emerge as the renewable energy rush interacts with what otherwise has been classified as idle or wasteland. First, the three lenses underscore the importance of the landownership context for wind energy expansion. In cases where land rights are well-defined, contestation around wind energy would be centred on benefit distribution. In cases where land ownership claims are persistent, contestation would most likely be stronger and centred on wind development per se. The extent to which these claims will revolve around benefit distribution or indigeneity will depend on local-based histories. In the Isthmus, for instance, as chapters four and six established,

opposition has to be analysed in relation to local industries that have reproduced extractivist logics since the beginning of the 19th century.

Second, these lenses also highlight the importance of asking the agrarian question in relation to indigenous movements and identity. The land certainty needed by wind energy investments opposes the basic principal of indigeneity: the possibility to have a collective land where indigenous ways of self-governance flourish. Just as Kay (2015, 81) argues, it is important to track how agrarian issues gain prominence in the interplay between renewable energies and indigenous areas. It would seem that the more renewable energies start to expand in indigenous territories, the more the contestation is centred on wind energy development itself.

Finally, the politics of benefit distribution help us to articulate two elements in relation to agrarian change in terms of winners and losers. While at the beginning of the wind farm project, as in Eólica del Sur wind farm, landowners may seem like the exclusive winners from this industry, it is important to observe how in the long-term, patterns of social differentiation are exacerbated and only those with more than 20 hectares of land inside the wind farm are able to accumulate and to invest in productive activities. The politics of benefit distribution, therefore, allow us to engage with classic agrarian questions in relation to wind energy expansion, exploring the locally based patterns of accumulation and dispossession. In sum, these three analytical lenses allow us to observe political and social dynamics that emerge as wind energy investment expands across different landownership systems in Mexico.

However, the September 2017 earthquakes acted as a moment of rupture in wind energy development, disturbing these patterns and altering interests, identities and politics in relation to wind energy development. The next subsection analyses how the disaster is reconfiguring social and political dynamics of opposition to and support for wind energy.

September Earthquake and the Reconfiguration of Opposition and Support to Wind Energy in the Isthmus of Tehuantepec

As chapter seven mentions, the effects of the September earthquakes were different in the two wind farms under study. While in La Venta only two dwellings and a school collapsed, meaning the politics of wind energy remained unaltered in the town, in Juchitán approximately 70 percent of the dwellings were damaged, affecting the social and political dynamics of opposition to and support for wind energy. The earthquakes acted first as a moment of convergence and, second, as a moment of rupture that reconfigured interests and politics of wind energy development in the region.

The disasters acted as a hiatus in wind energy development in the region. Just after the tremors, different sectors came together in order to participate in post-relief efforts, leaving aside the contentious politics and patterns of patronage and clientelism among different groups. Wind

energy companies, notably Eólica del Sur, stopped the construction process of the wind farm in order to lend machinery to the municipal governments of both Juchitán and El Espinal. In the first few days after the first major tremor, it was possible to see machinery removing debris and rubble with Eólica del Sur and other companies' logos. Similarly, I would often run into wind energy enterprise employees distributing emergency food packages and construction materials to the general population. At the same time, opposition groups also started to participate in post-relief efforts by serving as brokers between organisations at different levels and some of the communities. When I started visiting the towns where wind energy opposition groups operated, I would see dwellings full of tuna cans, bottles of water and second-hand clothing. In this sense, the earthquakes and the subsequent post-relief efforts ought to be analysed as a moment of convergence and collaboration between diverse groups in the region. In effect, as Glass (2001, 71) points out, the evidence suggests that disaster victims tend to respond effectively and creatively by forming groups that have roles, rules and division of labour. That is to say, there is an informal, spontaneous movement of people, efforts and supplies towards the disaster area (Auf der Heide 2003, 463). In the Isthmus, there was convergence towards the disaster and this phenomenon interrupted the politics of wind energy.

As the sense of urgency and emergency gave way to a more normalised account of life, it was possible to observe how different actors used the September earthquakes as an opportunity to promote their own interests in wind energy development. As stated in chapter seven, for those actors supporting wind energy investments, the disasters served as an opportunity to promote a territorialisation of the region through the declaration of a Special Economic Zone with the previous government, or the undertaking of the Isthmus Development Plan with Obrador's administration. The new government in office is seeking to invest over 280 million pesos in dwelling reconstruction and to attract both national and international private investors (AMLO 2019). For opposition groups, on the other hand, the disaster and its post-relief efforts were also an opportunity to promote collective processes of organisations in towns that have hosted wind energy projects or that will be targeted by new wind energy projects.

The earthquake and the slow reconstruction process can be analysed as a rupture of everyday life that is re-configuring interests, politics and identities in relation to wind energy development in the region (Cretney 2017, 11:6). To put it another way, the politics of opposition to and support for wind energy are being reconfigured because of the rupture the earthquake provoked with new actors coming to the region and a wave of investments concentrated in the Isthmus of Tehuantepec. Even if the reconstruction process in the Isthmus will take at least a decade to finalise, it is possible to observe certain trends that reconfigure the three themes presented in this chapter. Below, I will elaborate on how the three analytical lenses presented in this chapter are being altered by the politics of post-relief efforts in the Isthmus of Tehuantepec.

Disaster and Landownership

As mentioned in chapter seven, the reconfiguration provoked by post-relief efforts was visible in the case of Unión Hidalgo. There was considerable interest from Mexican enterprises to participate in long-term reconstruction and relief efforts in the town. This coincided with the fact that the next wind farm project will be hosted by Unión Hidalgo. By building dwellings, bakeries and schools, among other projects, wind enterprises assumed the main role in the relief efforts in the town, overshadowing the government's duties and roles. In addition, enterprises have also assumed the main role in terms of the promotion of the next FPIC procedure by booking the venues and inviting people to the sessions. Facing these diverse attempts to promote wind energy investments and to prepare the terrain needed for wind energy extraction, opposition groups have also taken the necessary steps to counteract the context promoted by wind enterprises.

Opposition group members have tracked the initial *comuneros* in the town of Unión Hidalgo mentioned in the 1964 decree and have tried to call for a general meeting in order to declare new agrarian authorities. According to Norberto Altamirano, approximately 90 members of the initial list still live in the town and they have their certificates from the Agrarian Registry (Valdivieso Parada 2019). If they were to reconvene the agrarian authority, new dynamics would be in place for wind energy investments for three reasons. Firstly, it would imply that the maximum authority in terms of land property would be the communal assembly and not the municipality. To put it another way, the land use permit granted to the enterprises would be agreed by the assembly according to the rules established in the Agrarian Law. Secondly, the assembly would be in charge of checking existing land change authorisation permits and assigning future ones. This means that commoners would be in charge of checking whether it is pertinent to install wind energy infrastructure on land that was meant exclusively for agricultural use. Finally, the commoner's commissariat would seek to clarify the situation of the common land that has been enclosed by certain people during the time where the commissariat was not able to rule over land. For instance, Norberto recounts how commoners that used to graze on common lands have enclosed land because there was no competent authority to regulate on these matters (Valdivieso Parada 2019). As a result, they have benefited by leasing land that should be governed collectively by the Commoners' Commissariat.

The re-establishment of the agrarian authority has been gaining momentum during the post-relief efforts because of two elements. On the one hand, in July 2018, the Agrarian Tribunal recognised the Commoners' Commissariat in a neighbouring town of Unión Hidalgo, Santo Domingo Zanatepec. This meant that the tribunal declared 823 individuals as commoners and granted them with the authority to decide over matters of land following the regulations established in the Agrarian Law (DOF 2019). The possibility to obtain a similar recognition in Unión Hidalgo has galvanised hopes and expectations around wind energy development and the wind farms planned

for the town. As a member of the commoners' assembly in Unión Hidalgo puts it: "landownership in Unión Hidalgo is collective, it is not private property. Contracts, therefore, are not valid nor binding. Landowners have their land registered in a process that is completely illegal [...] We have a legal case at the Agrarian Tribunal, but it is stuck because authorities support the enterprises and not the community"¹⁸⁸. On the other hand, after the earthquake, the commoners decided to participate actively in the reconstruction efforts. My informants recounted how in a context where federal authorities were absent in the town, the commoners decided to undertake the first census to assess the magnitude and impact of the tremor in the town. A few days after the disaster, with the help of national NGOs, they decided to build a communitarian kitchen where they offer meals for more than 100 people every day. The collective kitchen has been used as a place to foster collective organisation and to provide basic support for people whose dwellings were lost. The kitchen, therefore, serves to make visible the people in town who are not receiving wind energy rents and that have been forgotten both by landowners and enterprises¹⁸⁹. Most importantly, however, is that this project has positioned them and their project with community members.

The post-relief efforts, therefore, are providing the opportunity for opposition groups in Unión Hidalgo to achieve the recognition of a collective authority over land issues. By tracking down the names and relatives of the original commoners mentioned in the 1964 resolution, they are seeking to modify the context of wind energy development in the future. The establishment of a collective agrarian authority would mean that they would be responsible of assigning permits for land use to wind energy enterprises. Rather than approaching the municipal authorities, enterprises would have to achieve consensus in the assembly. Through this legal case and the establishment of a collective kitchen, opposition groups in Unión Hidalgo are trying to emphasise the irregularities and illegalities resulting from wind energy expansion.

Disaster and Indigeneity

The disaster and the subsequent relief efforts, as chapter seven shows, have been used by different actors in order to promote their interests vis-à-vis wind energy expansion. While enterprises and government have tried to promote a territorial reconfiguration to continue wind energy expansion, opposition groups have relied on the promotion of collective efforts of reconstruction on a smaller scale. Each one of these attempts to participate in relief efforts has different implications in terms of identity and indigeneity.

The kitchen reconstruction project implemented by Yansa Mexico and APIITDTT seeks to promote indigeneity in a two-fold process. On the one hand, they seek to promote reconstruction

¹⁸⁸ Informant 34, 2019.

¹⁸⁹ Informant 34, 2019.

according to indigenous practices like *tequio*, where all of the members of the community need to participate or to provide support for someone's kitchen in exchange for future support when their construction process starts. By doing this, opposition members seek to emphasise that the process does not need to rely on government officials nor external aid and that effective collective organisation can be the solution for issues and constraints faced by the community. On the other hand, by rebuilding kitchens, the project seeks to emphasise the salience of the territory for local people and communities. By highlighting the importance of maize for everyday life, project members make reference to diverse spaces of production and exchange for the local communities. It is emphasised, for instance, that in order to process maize, land and labour are needed to cultivate endemic maize. Once the maize has been harvested, they highlight not only the need for a local market but also of people who are able to transform the maize into *totopos* according to traditional knowledge. In this vein, these reconstruction efforts highlight the importance of the territory as a space for knowledge and for subsistence. These two processes underscore the importance of collective practices and of collective land tenure, salient for indigeneity, in post-relief efforts and the need to protect these spaces from the intervention of wind energy companies and further extractive undertakings. This is why for opposition members, the consolidation of small groups of women able to commercialise *totopos* and indigenous maize is essential in the protection and construction of indigenous territories and identities post-disaster and vis-à-vis wind investments.

The post-relief efforts undertaken by wind energy enterprises and government, on the other hand, have been used to promote a territorial reconfiguration based on the need to bring modernity and social development to the region. The help provided to people who can certify their landownership, for instance, has exacerbated the inequalities within and across communities. This is because those who are not able to provide a proof of ownership have been excluded from official aid as well as from NGOs seeking to build temporary dwellings. Moreover, in the official reconstruction plans there is a neglect of traditional knowledge and of traditional materials that can be obtained from the territory. Chapter seven highlighted how the blueprints of the houses to be built in the region overlooked traditional knowledge by integrating into a single space what would otherwise be separated in vernacular and indigenous architecture. Along the same lines, it is emphasised how the official bank accounts for reconstruction did not support the acquisition of traditional materials such as clay or palm tree that could be obtained from common lands. This meant that the houses to be rebuilt would have to use modern construction materials that may not be efficient for the climatological conditions of the region. By doing this, the official reconstruction attempts ignore the importance of the territory and of traditional crafts that rely on those materials. It seems, therefore, that the government and enterprises' attempts rely on the idea

of the local inhabitant as a passive entity to whom aid is provided and move away from collective forms of indigenous organisation.

The two rationales in post-relief efforts have, in this sense, different consequences in terms of indigeneity. While opposition groups promote a reconstruction processes based on collective practices, emphasising the importance of organisation and the territory, the government and official enterprises advance a vision of modernity in the region, where individuals move slowly away from sources of traditional knowledge and the idea of the territory as a source of subsistence. The two ideas do not come without tensions and contradictions and, as chapter seven explains, they are affected by external pressures. For instance, the time required for collective organisation is longer than certain community members expected, and in consequence, they have withdrawn their participation in the project in order to receive external aid. It is important, however, to track these relief efforts and to observe their interlinkages with indigeneity.

Disaster and the Politics of Benefit Distribution

Because the analytical theme of the politics of benefit distribution prevailed in the opposition accounts and strategies articulated around Eurús wind farm, it is salient to see how this analytical lens has been slowly reconfigured after the earthquakes. As chapter four mentions, one of the key strategies for the long-term disbandment of the opposition was the establishment of a workers' union associated with the enterprise and the government. The union has been a key player in wind investments, acting as a broker among community, landowners and wind enterprise. The reconfiguration provoked by the disaster has brought new actors to the region that seem to threaten the power of the union leader in La Venta and, hence, the politics of benefit distribution.

Extractive industries are not exempt from the influence of organised crime. The literature has documented the process whereby hydropower, mining and oil extraction activities are modified by organised crime (Ruggiero and South 2013; Lohmuller 2015). Renewable energies, along the same lines, have become lucrative business opportunities for organised crime groups. In the Italian case, for instance, Cannapelle, Ricardi and Standridge (2013, 319) argue that investments in wind energy farms have become a lucrative business opportunity for organised crime groups because of the lack of clear regulations in permits and the high profitability of the investments (Caneppele, Riccardi, and Standridge 2013, 336). This resonates, for instance, with the fact that the 'lord of the wind' was arrested in the south of Italy for acting as an intermediary between local bosses and politicians by securing all of the permits required to build and deliver windmills to different operators (Tondo 2019).

In the Isthmus of Tehuantepec, Alexander Dunlap has documented how drug trafficking and illicit activities have affected opposition strategies, especially in the town of Alvaro Obregon (Dunlap 2018b, 159). Along a similar line, organised crime participation in the wind industry is something

that I often came across while interviewing people. One of the families in the region, the Terán, had gained a reputation for controlling and disbanding actors who were opposing wind energy investments in the region. One of my key informants, for instance, recounted how before certain meetings with the wind enterprise he would receive calls from people associated with the Terán family threatening him to keep his mouth shut if he did not want to face serious consequences¹⁹⁰. Some other informants also recounted the process whereby the Terán family had gained power in the previous years. While at the beginning of the wind rush, they would be in charge of extorting landowners and opposition groups that represented an obstacle for wind companies, as the family became more powerful, they started extorting the wind companies through two main strategies. On the one hand, the family offered protection to wind companies and their employees from other criminal groups in the region and from groups opposing wind energy development. On the other hand, they started to participate as constructors in the wind projects. This meant that they would agglomerate a large number of workers and machinery and could control any problem resulting from other employees. The Terán family, in this context, became so powerful that not only did they seek to expand their networks through new associations like the workers' union in La Venta, but they also started to participate in the political life of the region (Olivera 2019).

The earthquake, the context resulting from the politics of relief efforts and the new investments coming into the region precipitated a reconfiguration of the organised crime groups undertaking activities in the region. Some of my informants told me that right after the earthquake, organised crime groups from the north of the country, who operated with a different range of methods, came to the Isthmus to participate in wind energy investments¹⁹¹. Because these new groups needed to assert their power and influence over the area of the Isthmus, they provoked the fall of the Terán family. First, the kingpin's daughter, who ran for the municipal presidency in Juchitán, was shot dead outside a well-known bar in June 2018 (Matías 2018). Second, the kingpin, first incarcerated in April 2017 and released in August 2018, was re-arrested by the Federal Police and incarcerated in a maximum security prison in the north of Mexico (Martínez 2018). Third, the kingpin's son and other Terán family members were arrested in January 2019 for carrying weapons for exclusive use of the Mexican army (El Universal Estatal 2019). These three events reduced the ability of the Terán family to exert their presence in the Isthmus because of constant arrests, executions and disputes with other organised crime groups.

¹⁹⁰ Informant 42, 2019.

¹⁹¹ The earthquake was one of the many elements affecting a reconfiguration in organised crime in the region. The arrival of Trump to office in the US along with the progressive legalisation of marijuana in some of the states seem to have upset the local criminal dynamics. This means that organised crime groups have been forced to branch out their activities into migrant smuggling, petrol trafficking or even avocado business in the local spaces.

The fall of the Terán family had broader repercussions in the area where relief efforts were being coordinated. In January 2019, a narcomanta¹⁹² appeared outside Juchitán stating that the rest of the Terán family had 24 hours to leave the region if they did not want to face the consequences of staying (Oaxaca Político 2019). Similarly, in La Venta another narcomanta appeared with the following message: “For the union leader [...] If you love your family, take them with you. There will not be another warning. We will kill you and we do not want to kill innocent people. This is up to you” (Santiago 2019). Jalisco New Generation Cartel (CJNG), a criminal organisation from the north of the country, signed this message. What these two phenomena seem to suggest is that a shift in the organised crime groups in the region is taking place after the quakes, whereby groups from the north of the country are interested in participating in wind energy investments. That is to say, organised crime activities in the region go beyond money laundering and extend into territorial control and collaboration with wind energy companies in order to disband any activity that does not fit with their interests (Middeldorp, Morales, and van der Haar 2016; Ballvé 2019).

The shift in organised crime groups in the region is ultimately affecting the politics of benefit distribution in the Isthmus of Tehuantepec and most specifically, in La Venta. The death threats directed to the union leader meant that some opposition voices started to gain force and sought to promote a revision of the existing contracts between wind companies and *ejidatarios*. By looking to exert their influence in the *Ejidal* Assembly elections, opposition members were trying not only to incorporate into the project those landholders whose land was not considered in the initial contracts, but also to obtain a better payment for the concept of the right of wind. By the time I left the field, this position within the town was gaining momentum because of two reasons. On the one hand, the constant threats against the union leader continued. After the narcomanta in January, the union leader barely survived an armed assault in March 2019, in which other six people lost their lives (Redacción La Jornada 2019). A few days after this event, another set of narcomantas and messages were left for him and his associates (Ilescas 2019; Martínez Platas 2019). These constant threats and menaces reflect that the leader’s position within the town is not consolidated anymore and spaces are opening to obtain a better deal from the enterprise. On the other hand, in the first days of 2019 a politician, who is closely associated to the Mexican President, visited the town and spoke to landowners about the main issues resulting from wind energy expansion in the region. He promised he would take the contracts to the President so he could have a read and become aware of the problematic context behind this industry in the region. He argued that he would seek to convince the President that the contracts need to be renegotiated so that a better outcome is gained by local people (IstmoPress 2019). The promises made by the government official galvanised expectations around wind power in the town and have brought an

¹⁹² A narcomanta is a message left by a drug cartel on a cloth banner (Corcoran 2017).

opportunity to obtain a better situation in terms of benefit distribution from the enterprises. In this sense, the shift in organised crime groups in the region, along with the attention from the government, act as an opportunity for landowners to obtain a better rent and possibly renegotiate a better contract according to international standards¹⁹³. This would not only mean that uneven outcomes from wind expansion in the town would be modified, but also that patterns of social differentiation might change over time if new landowners are considered for the project.

It is important to mention, however, that the shift in criminal groups in the region might also affect the politics of benefit distribution by controlling the dissenting voices to wind energy development. This is because the new organised crime groups are not limited to collaborating with wind energy companies but also have branched out into activities like kidnapping, migrant transportation to the US border or fuel trafficking. Recently, for instance, it has been reported how migrant kidnapping has rocketed in the region. It is not only documented that these gangs kidnap migrants and then ask for ransom from their families in Central America (Martínez 2019), but also that organised crime cells participate in human trafficking (CNDH 2018). An informant recounted that wind farms are lawless spaces where organised crime acts freely. Not only do they manage to avoid police patrols on the main roads by taking shortcuts through the wind farm roads, but they also participate in human trafficking. He told me that migrant caravans make their way through the wind farms without being detected by the police because of the remoteness and the noise level produced by the windmills, especially at night. This reflects how territorial control over the wind farms allows organised crime groups to carry out a diverse set of activities that extend beyond drug trafficking. Most importantly, however, is that the violent methods and the branching out in terms of activities mean that the possibility of certain groups expressing their concerns about wind energy expansion will be limited and, in consequence, the extent to which they engage in negotiations with enterprises depends on external factors.

Although further research is needed, as with the three themes presented here, the shift in organised crime groups in the region may alter the politics of distribution. The extent to which these new actors will be an opportunity for opposition members or will prevent them from engaging in further negotiations depends on several factors. As a consequence, it is important to track these phenomena in relation to the reconstruction process and the migratory fluxes, the new government's role in the region and the political dynamics in La Venta.

Final Remarks

This chapter has argued that three analytical lenses – landownership, indigeneity and ideas of distribution – explain how, why and by whom wind energy is contested across the two wind farms

¹⁹³ Informant 36, 2019.

in the Isthmus of Tehuantepec. Based on my fieldwork, these three lenses emerged from stakeholders' accounts, standpoints and demands.

Concerning land ownership, the two land tenure systems present in Eólica del Sur and Eurús wind farms have created various standpoints vis-à-vis wind energy. While in the case of Eurús, well-defined rights fostered an opposition centred on obtaining a better contract, in Eólica del Sur, a set of contradictory presidential decrees has fostered a complex land tenure system where competing claims around wind energy co-exist. In this sense, the more contested a land tenure system is, the more opposition emerges around the wind energy project. The second dimension, indigeneity, shows us that one of the reasons that motivates reactions for or against wind energy is whether individuals consider themselves indigenous. For those who do identify as indigenous, wind energy investments undermine their collective practices because they disband the collective governance of land. In this sense, it seems that the more indigenous population an area has, the more opposition a wind project will face. Finally, the dimension of the politics of benefit distribution refers to the winners and losers of wind energy expansion according to local based histories of extractivism, exclusion and dispossession. While for those in support of wind energy, this industry represents an opportunity to enhance productivity and modernity in the region, despite the increasing patterns of social differentiation, for those in opposition wind energy repeats the extractive patterns of other industries in the region.

The earthquakes that shook the region in September 2017 can be understood as a moment of rupture that affected the politics of wind energy by reconfiguring land ownership, constructions of indigeneity and the politics of benefit distribution. This chapter has shown how different elements of post-relief efforts are modifying each one of these themes. Concerning landownership, the constitution of collective agrarian authorities in the town signalled by wind energy expansion may affect the way in which wind investments operate in the region. This is because, if recognised, the agrarian authority would be able to make decisions about land matters taking place in the town. In relation to indigeneity, the relief efforts and the influx of actors coming to the region show that indigenous forms of organisation have been overlooked in favour of a vision of modernity and development. The extent to which opposition networks can foster collective forms of construction according to traditional materials will depend on their ability to consolidate small groups of women in each of the regions. Finally, this chapter explored the process whereby a shift in organised crime groups in the region is modifying the politics of benefit distribution, especially in La Venta. Again, the way in which this theme will evolve depends on the new government in Mexico, migratory fluxes and political dimensions in La Venta. It is important, as a consequence, to track how these themes play out in the long-term, while bearing in mind that the reconstruction process will take at least a decade in the Isthmus of Tehuantepec.

9. Conclusion

This dissertation has sought to answer the following overarching research question: **how, why and by whom is wind energy contested in the Isthmus of Tehuantepec?** It has argued that three themes, varying across the two case studies, influence support for and opposition to wind energy in the region: land ownership patterns, indigeneity and the politics of benefit distribution. Each theme provides a chance to understand the political and social dynamics of opposition to and support for wind power in Mexico and also reflects dynamics on the overlap between agrarian change and renewable energy expansion.

Concerning the first dimension, two contrasting land tenure systems have fuelled various standpoints vis-à-vis wind energy. While in the Eurús wind farm, the well-defined property rights have enhanced opposition around the negotiation of a better contract, in Eólica del Sur the contradictory claims over land have fuelled opposition strategies focused on collective land and indigenous ways of governance. Land tenure, in this regard, influences the way in which opposition strategies are articulated in the Isthmus of Tehuantepec. With regards to the second dimension, indigeneity, opposition and support strategies depend on the extent to which community members associate themselves with indigenous forms of governance. In Eurús wind farm, as chapter eight establishes, the formation of the *ejido* led to the consolidation of members connected to the state in detriment of indigenous forms of tenure. In Eólica del Sur, on the other hand, while those who support wind expansion tend to associate indigenous practices with an obsolete mentality that hinders the progress brought about by wind power, those in opposition promote indigenous forms of organisation and of land governance. In this vein, indigeneity plays a key role by modifying the extent to which opposition strategies will be articulated around land tenure itself. The third element, the politics of benefit distribution, sheds light on the winners and losers of wind expansion at the local level according to already existent patterns of social differentiation and accumulation. This theme reflects how wind energy for some is the reproduction of extractivist projects that have expanded in the region since the beginning of the twentieth century, while for others it represents an opportunity to overcome the challenges resulting from climatological conditions.

Each of the chapters engages with different analytical moments of the question according to the framework introduced in chapter three, exploring how wind is constructed as a resource to be harvested in the Isthmus of Tehuantepec. Chapter four analysed how contrasting land tenure systems have led to different wind farm implementation pathways. This chapter, therefore, underscores how landownership is important to our understanding of the diverse opposition strategies and how they have been disbanded (or not) in the long-term. Chapter five elaborates on the increasing differences resulting from wind energy expansion in the long-term in the case of

La Venta. By showing how patterns of social differentiation have been exacerbated among landowners and between landowners and landless people, this chapter engages with the politics of benefit distribution and how the winners and losers are articulated in the long-term, taking into account the agrarian question of labour. Chapter six, along a similar line, identified the different reactions on the ground resulting from wind energy by interrogating how and why wind energy is contested in the Isthmus. By arguing that support and opposition to Eólica del Sur wind farm are to be found in contrasting interpretations of who owns the land in the region, this chapter contributes to the three analytical themes that help us to answer to the research question. It shows that not only are landownership and indigeneity connected, but also that the politics of benefit distribution play an important role in the contestation of the wind farm. This is because the opportunities, challenges and, ultimately, standpoints vis-à-vis wind energy also depend on the extent to which stakeholders benefit from this industry (or not), as well as on existing patterns of accumulation and dispossession. Finally, chapter seven engages with how two earthquakes affected the patterns of opposition to and support for wind energy in the Isthmus by interrogating the politics of post-relief efforts. This chapter shows how the politics of contestation are altered as a result of the influx of stakeholders, investments and reconstruction efforts to the region.

Caveats

This dissertation and its findings provide an answer to the overarching research question and suggest that three elements explain opposition to renewable energy expansion from a political ecology and critical agrarian perspective. This research and its implications have to consider, nevertheless, two broader caveats that modified the data collection process and the analysis upon which this dissertation draws.

Firstly, the research process was affected by the strongest earthquake in the last 100 years to hit the south of Mexico, as chapter seven and eight describe. Although I had already undertaken research before the seismic events and I was familiar with the problems and local stakeholders, the data collection process for this dissertation was modified by the earthquake, its needs and the subsequent post relief efforts. While these events allowed me to observe a variety of actors converging around relief efforts in the Isthmus, they also interrupted long-term trends resulting from the politics of wind energy to an unknown extent. This is why it might be the case that the context and politics I depicted in this dissertation are contingent on the disaster and that the dynamics prior to the events were radically different. The tremors, therefore, became the lens that articulated the social and political dynamics that I observed and participated in and my analysis is heavily dependent on this. However, the earthquakes were also an opportunity to get closer to actors and stakeholders that otherwise would have been hard to reach. Because opposition groups needed labour to undertake reconstruction activities, I was able to collaborate with them and to build trusting relationships and even friendships. I was often told that doctoral researchers had

come and gone in the region throughout the years, but I was very lucky because I was able to go really deep into the region and its politics. Bearing this in mind, had the disaster not happened, this dissertation would have been completely different and would have appraised a different moment in wind energy development in the region.

On the other hand, since this dissertation seeks to explain contestation to wind energy in the Isthmus of Tehuantepec, it has analytically divided the groups affected by wind energy expansion into three: opposers, supporters and those who present a neutral stance. This division, nonetheless, was undertaken merely for analytical purposes and, on the ground, positions and stakeholders are closer than they appear to be. That is to say, among supporters' standpoints it is possible to find dissatisfactions and unconformities with wind companies and wind investments. Likewise, among opposition members' standpoints it is also possible to tease out a certain willingness to approve wind energy investments if their rationales were to be different. The tensions and contradictions found within each standpoint are symptomatic of the injustices and inequalities resulting from wind energy expansion and the local-based history of the Isthmus of Tehuantepec. As chapter four shows, this region is key in the development imaginaries of the country. In consequence, a set of investments have arrived in the region since the beginning of the twentieth centuries. The constant projects and investments have generated a sense of marginalisation and dispossession that is present as a feeling of disempowerment across the two groups under consideration. Landowners constantly recounted the need for strict regulations for companies in order to hamper further abuses. A landowner representative said, for instance, that a Regulatory Committee on land deals in the region is a priority if wind energy is to be expanded in the region¹⁹⁴. This is because each enterprise has a different system for leasing land and, in consequence, in the absence of a local authority, injustices occur. Along the same lines, opposition members seem to be willing to change their standpoint vis-à-vis wind energy if a different rationale behind these investments is undertaken. If small scale and community owned initiatives were proposed for the towns and communities of the region, opposition members, or at least some of them, would be willing to sit on the table with wind enterprises and government officials. In this sense, what these accounts show is that behind the monolithic appearance, both groups present a diversity of viewpoints that might bring them closer. This also shows, in line with Gaventa's (2019) insights into the Appalachian Valley, that these accounts can only be explored in relation to the local-based history of the Isthmus of Tehuantepec.

These two caveats, therefore, allows us to situate this research within the contingencies and dynamics provoked by the earthquake, but also enable us to shed light on the diversity present within each of the social groups under consideration.

¹⁹⁴ Informant 12, 2017.

Contributions

The contributions of this research are located in relation to the expansion of renewable energy in rural areas, especially but not exclusively in the Global South. To this end, it has engaged with three broader debates: a framework to analyse wind energy expansion focusing on the wind-land-energy relationship, the linkages between agrarian change and renewable energies and indigenous peoples' reactions to wind energy.

The first contribution, the wind-land-energy relationship, shows that to facilitate the analysis of the process whereby wind energy is constructed as a resource to be harvested, it is important to understand the relationship between wind and land. Because wind harvesting inherently requires infrastructure on tracts of land, the generation of electricity from wind resource implies mechanisms that have to do with access to and exclusion to land. These mechanisms, as shown in this dissertation, can be either contested or supported, depending on patterns of landownership, indigeneity and the local-based politics of benefit distribution. This framework not only allows us to trace wind as it becomes a commodity, but also gives us the chance to appraise the nuances with which this process takes place in local spaces. Since wind energy expansion only requires 5 to 7 percent of the total area under lease agreement, productive activities continue, and the dispossessions brought by wind power tend to be articulated in a specific way. Rather than entailing displacement, the socio-material arrangements brought about by wind investments provoke social dynamics that differentiate the local populations according to their engagement with wind as a resource to be commodified. The focus on wind, land and livelihoods bring about an angle that has been understudied so far and that only a handful of papers have explored (Stock and Birkenholtz 2019; Huber and McCarthy 2017; Naumann and Rudolph 2020; O'Sullivan, Golubchikov, and Mehmood 2020). The wind-land-energy nexus, in line with Franquesa's (2018) and Howe's (2019) contributions, shows that wind power has to be analysed in relation to the local-based histories of the Isthmus of Tehuantepec. Far from representing a benign opportunity to promote social and economic development, wind power has to be scrutinised in relation to the land ownership scheme of the Isthmus of Tehuantepec and the set of contradictory decrees that have generated a context in which various claims over land co-exist. Along the same lines, this dissertation shows that wind power is related to the local-based history of extractivism in the Isthmus of Tehuantepec. While for supporters, wind energy represents an opportunity to escape the extractivist logics of other industries like the Benito Juárez dam or the oil refinery in the south of the region, for opposers, wind power reproduces the patterns of dispossession and accumulation from those industries with an elusive promise of social and economic development. In consequence, the wind-land-energy relationship allows us to understand energy transitions in relation to the local-based history and politics of the place. This phenomenon connects us to the second contribution of this dissertation.

This dissertation has also illuminated the relationship between wind energy investments and agrarian change. By emphasising the relationship between wind and land, chapter five, for instance, has stressed the process whereby wind investments have exacerbated patterns of social differentiation among those who own land and between landowners and landless people. It has shown how what people can do with energy rents depends enormously on previous allocations of land that took place when the *ejido* was founded in 1951. This is relevant, as it seems that wind energy expansion, because of its materiality, entails the modification of previous trends of accumulation and differentiation, rather than the creation of new ones. This is because displacement and exclusion from land, again, depend on the particular socio-material arrangements brought by wind energy investments. To illustrate, we can go back to chapter five and analyse how for those who own less than 20 hectares of land, wind energy rents have acted as an insurance that has prevented them from selling their land when droughts or economic crisis affect the region. Rather than selling their land in order to obtain finance, they have relied on wind rents to endure the hardship. Unlike other renewable energy projects where dispossession and displacement are clear-cut (Stock and Birkenholtz 2019; Rignall 2015), wind energy entails much more nuanced dynamics in this case. At the same time, this dissertation has also emphasised the importance of engaging with the question of labour and renewable energy expansion. To this end, the dissertation has shed light on the experiences of landless people in La Venta and how they are integrated into wage labour depending on their engagement with the urban economy resulting from wind investments. This is a fertile ground where only a handful of papers have contributed to the debate (Dunlap 2017b; Stock and Birkenholtz 2019). The process, therefore, whereby wind energy brings about agrarian change allows us to move forward to the third contribution of this doctoral research: the relationship between green energies and indigenous populations.

This dissertation has engaged with the process whereby wind energy investments interact with indigenous forms of land tenure and modify social and political dynamics of opposition and support. Not only has this dissertation provided us with insights on how to deconstruct romantic imaginaries portraying indigenous people as romantic and outdated agents against wind investments (Ramos 1994), it has also enabled us to see how the politics of wind articulate within and across indigenous communities. To put it another way, the dissertation shows the need to go beyond indigenous homogenising accounts in order to consider the diversity and complexity of standpoints vis-à-vis wind energy that might be present on the ground. It has done so by bringing into consideration a so-far unexplored subgroup in the scholarship: landowners across different landownership schemes in the Isthmus of Tehuantepec. By analysing their motivations and expectations vis-à-vis wind energy, this dissertation tries to show not only the uneven outcomes from this industry, but also the patterns of social differentiation among this group. So far, only a

few papers engage with this topic and none of them does so in the Isthmus of Tehuantepec (Jacquet, 2012; also see Levien, 2012b).

A lesser contribution and one that needs to be traced over the next decade has to do with the politics of relief efforts and their relation to wind energy investments in the Isthmus. This dissertation has filled a gap in showing how different groups reacted after the disaster in order to promote their standpoint vis-à-vis wind energy. These insights can bring two broader contributions to the debate. On the one hand, they illustrate the need to move beyond accounts that portray disasters as spaces where either disaster capitalism or disaster collectivism occur in order to engage with the messiness resulting from the politics of relief efforts (Cretney 2017; Solnit 2009; Klein 2007, 2018). In effect, chapter seven shows the process whereby post-disaster efforts transitioned from a moment of convergence into a new configuration of social and political dimensions of support and opposition to the wind energy industry. To put it another way, the rupture after the disasters brings new actors into play, such as organised crime or collective agrarian authorities, which affects the dimensions of support for and opposition to wind power. It is important, in this sense, to consider post-disaster contexts as political spaces where different interests are at play. With this in mind, the findings in chapter seven also engage with the construction of imaginaries after disasters and provide insights on how social movements may undo capitalist relations and, potentially, economic growth itself (Gerber 2020). The importance of articulating reconstruction around vernacular architecture and traditional materials not only seeks to construct small opposition cells in towns affected by wind energy expansion, but it also generates an alternative imaginary based on a localised idea of solidarity economy. That is to say, post relief efforts hold the potential, albeit with some challenges, for progressive values that imply a shift away from capitalist and extractivist norms and practices (Hesketh 2016).

Limitations and Further Lines of Research

There are, however, four analytical limitations that also indicate potential avenues for future research: gender dimensions, long-term analysis of agrarian change and renewable energies, different resource materialities and the expansion of the Oaxaca model to other geographies.

The agrarian regulations in Mexico have, until recently, excluded women from ownership claims. As chapter two and chapter five explain, even if female ownership was regulated since the '70s there were several elements that prevented women from owning land and participating in land deals. For instance, it was commonly assumed that if land was inherited by a woman, a man from another community would marry her and, therefore, would own the land. Along the same lines, even if land was inherited by *ejidatarios*' wives, they would usually be elderly women who were unable to work the land. In this context, land use and access would generally be granted to the male descendants. This phenomenon is widespread in La Venta. Although a few young female community members have undertaken the necessary steps to become *ejidatarias*, the process has

not come without tensions and contradictions. Migdalia's example, as chapter five shows, is insightful in this regard because her ownership claim has been limited by her household activities and by a divorce case that has been stuck in the courts for a long time. This is a fertile ground for academic research since questions around labour and its interplay with gender dimensions are relevant worth tracking as wind energy continues to expand in the region (Akram-Lodhi and Kay 2010).

The second limitation, the long-term effects of renewable energies on agrarian change, presents great potential to assess the way in which patterns of social differentiation are modified as a result of these investments. This research was limited because it only explored the patterns of social differentiation emerging in the town that materialised over a span of three years. This could be complemented with the utilisation of other methodological tools and with further collaboration with local authorities and institutions. By conducting a survey, for instance, one could see the different assets, capital and investments each household has according to landownership extension and how these have been modified in the long-term as result of wind power. This line of research could prove to be useful as wind farms consolidate in other landownership schemes in the Isthmus of Tehuantepec. For instance, a longitudinal exploration of those landowners leasing land in Eólica del Sur project since the beginning of the operational phase and every amount of time can give us the chance to follow closely the patterns of accumulation and social differentiation taking place in the region.

In relation to the third limitation, it is important to track the social and political dynamics brought about by different renewable energies in their relationship to land. As Baka underscored, the diverse material properties of a resource bring particular socio-material arrangements (Baka, 2016). While with wind energy between 5 to 7 percent of the leased area is occupied by infrastructure, the process might be different with solar energy. The process, in consequence, whereby sunlight is transformed into a resource to be captured will entail specific mechanisms that have to do with access to and exclusion from land. Rignall (2015), Stock and Birkenholtz (2019) have recently provided insights on this phenomenon and the importance of linking the agrarian question of labour to solar energy. In this sense, following a similar model to the one presented in chapter three, questions around the sun-land-energy nexus would be insightful for this line of research. This question becomes more and more pertinent as renewable energy expansion will either compete with or displace previous land uses in rural areas signalled for low carbon transitions.

Fourth, this research and its findings are contingent on the expansion of renewable energies in the Isthmus of Tehuantepec, Oaxaca. As new areas in the country are signalled fit for low carbon development, it is important to track the social and political dynamics of opposition and support emerging from these new frontiers. While in the field, I was told that opposition groups have been

attending meetings in the state of Yucatan to facilitate learning processes with local opposition groups. One of the points of tension in these meetings has been the extent to which opposition groups should be willing to negotiate with wind enterprises. While groups from the Isthmus of Tehuantepec said that a willingness to negotiate would bring negative consequences to the region, opposition members in Yucatan considered that they could obtain a good deal from enterprises. Similarly, I was told that government officials who had participated in the consultation process in Juchitán and El Espinal had visited the town in Yucatan in order to coordinate the first steps of the FPIC procedure. While in Juchitán the consultation lasted eight months owing to the high level of contestation, as chapter six explains, in the town of Valladolid the consultation process for a solar farm obtained consent from the local community in only two weeks. In this sense, it is worth tracking the link between low carbon investments and local-based social and political dynamics to identify commonalities and differences as green investments continue to expand in rural Mexico under a new government.

Finally, and on a smaller note, it is worth tracking the possible implications of the new Lopez Obrador administration in the Isthmus of Tehuantepec and most, importantly, the declaration of the Megaproject of the Isthmus of Tehuantepec. This project, similar to others that have come to the region, is promising social and economic development. However, opposition groups have alerted the fact that consultation processes have been rigged and that this project seems to reproduce inequalities brought by other development projects in the region. The interplay between this megaproject, wind energy and opposition dynamics will be combined with the next wave of wind energy investments coming to the region before the end of 2021.

As renewable energy expands across the Global South in response to the climate crisis, understanding the process whereby such investments are made in particular places is essential. In contrast to other forms of energy, wind power has certain socio-material features that have an important influence on the nexus between land and energy. As wind energy investments expand, the implications for landownership claims, as this dissertation shows, are crucial. In this context, the way in which the politics of wind plays out in any place will be intimately wrapped up in how land is controlled and by whom. The contrasts between privately and communally held land in this case results in disparate outcomes, the deployment of variegated discourses around investments and in turn different patterns of mobilisation and resistance. The framework for understanding wind power expansion offered in this dissertation, across five analytical moments and in relation to three themes, may assist others exploring the implications and consequences of wind energy expansion across the world.

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Appendices

Table of Interviews

Interview Date	Description	Town	Theme	Informant Number
13 October 2017	Organisation " <i>Defensores del Mar</i> "	Oaxaca City	General	43
15 October 2017	Organisation "OIDHO"	Oaxaca City	General	1
20 October 2017	San Dionisio Assembly	San Dionisio del Mar	Eólica del Sur	3
20 October 2017	San Dionisio Assembly	San Dionisio del Mar	Eólica del Sur	6
20 October 2017	San Dionisio Assembly	San Dionisio del Mar	Eólica del Sur	11
20 October 2017	San Dionisio Assembly	San Dionisio del Mar	Eólica del Sur	14
26 October 2017	Radio Totopo	Juchitán	General	8
31 October 2017	Human Rights Tepeyac Centre	Tehuantepec	Eólica del Sur	2
3 November 2017	Popular Assembly of the People of Juchitán	Juchitán	Eólica del Sur	5
4 November 2017	Solidarity Group La Venta	La Venta	Eurus	17
06 November 2017	Municipal Government Officer	Juchitán	Eólica del Sur	16
09 November 2017	Landowner	Juchitán	Eólica del Sur	49
10 November 2017	Indigenous Assembly of the Isthmus of Tehuantepec in Defence of Land and Territory	Juchitán	Eólica del Sur	19
13 November 2017	Municipal Government Officer	La Venta	Eurus	24

14 November 2017	Indigenous Assembly of the Isthmus of Tehuantepec in Defence of Land and Territory	San Francisco del Mar	Eólica del Sur	27
16 November 2017	Landowner	Juchitán	Eólica del Sur	12
17 November 2017	Landowner	Juchitán	Eólica del Sur	21
21 November 2017	Solidarity Group La Venta	La Venta	Eurus	26
21 November 2017	Solidarity Group La Venta	La Venta	Eurus	44
24 November 2017	<i>Ejidatario</i>	La Venta	Eurus	32
25 November 2017	Landowner	Juchitán	Eólica del Sur	37
28 November 2017	<i>Comité Melendre</i>	Juchitán	Eólica del Sur	51
29 November 2017	<i>Ejidatario</i>	La Venta	Eurus	35
30 November 2017	<i>Ejidatario</i>	La Venta	Eurus	30
01 December 2017	<i>Landowner</i>	El Espinal	Eólica del Sur	25
02 December 2017	Indigenous Assembly of the Isthmus of Tehuantepec in Defence of Land and Territory	Juchitán	Eólica del Sur	38
04 December 2017	<i>Ejidatario</i>	La Venta	Eurus	15
06 December 2017	<i>Ejidatario</i>	La Venta	Eurus	31
07 December 2017	Indigenous Assembly of San Mateo del Mar	San Mateo del Mar	Eólica del Sur	70

07 December 2017	Indigenous Assembly of San Mateo del Mar	San Mateo del Mar	Eólica del Sur	74
08 December 2017	<i>Ejidatario</i>	La Venta	Eurus	22
12 December 2017	Indigenous Assembly of San Mateo del Mar	San Mateo del Mar	Eólica del Sur	39
13 December 2017	<i>Ejidatario</i>	La Venta	Eurus	13
14 December 2017	Landowner	El Espinal	Eólica del Sur	40
18 December 2017	<i>Organisation "Educa Oaxaca"</i>	Oaxaca City	General	41
05 January 2018	Mexican Association for Wind Energy	Phone call	General	45
18 January 2018	Landowner	El Espinal	Eólica del Sur	47
22 January 2018	Landowner	El Espinal	Eólica del Sur	42
22 January 2018	Landowner	El Espinal	Eólica del Sur	48
24 January 2018	Landowner	El Espinal	Eólica del Sur	50
02 February 2018	Indigenous Assembly of the Isthmus of Tehuantepec in Defence of Land and Territory	Ixtepec	Eólica del Sur	53
03 February 2018	<i>Ejidatario</i>	La Venta	Eurus	54
12 February 2018	Landless community member	La Venta	Eurus	9
13 February 2018	Landless community member	La Venta	Eurus	55
14 February 2018	Acciona Energy	La Venta	Eurus	28
19 February 2018	Landless community member	La Venta	Eurus	7

20 February 2018	Landless community member	La Venta	Eurus	10
26 February 2018	Indigenous Assembly of the Isthmus of Tehuantepec in Defence of Land and Territory	Juchitán	Eólica del Sur	4
28 February 2018	Union of Indigenous Communities of the Northern Region of the Isthmus	Ixtepec	Eurus	20
04 March 2018	Indigenous Assembly of the Isthmus of Tehuantepec in Defence of Land and Territory	Juchitán	Eólica del Sur	23
21 January 2019	<i>Ejidatario</i>	La Venta	Eurus	56
21 January 2019	Acciona Energy	La Venta	Eurus	57
25 January 2019	<i>Ejidatario</i>	La Venta	Eurus	58
28 January 2019	<i>Ejidatario</i>	La Venta	Eurus	33
28 January 2019	<i>Ejidatario</i>	La Venta	Eurus	69
28 January 2019	<i>Ejidatario</i>	La Venta	Eurus	59
30 January 2019	<i>Ejidatario</i>	La Venta	Eurus	36
30 January 2019	<i>Ejidatario</i>	La Venta	Eurus	61
30 January 2019	<i>Ejidatario</i>	La Venta	Eurus	62
01 February 2019	<i>Ejidatario</i>	La Venta	Eurus	52
07 February 2019	<i>Ejidatario</i>	La Venta	Eurus	63
22 February 2019	Indigenous Assembly of the Isthmus of Tehuantepec in Defence of Land and Territory	Juchitán	Eólica del Sur	64
22 February 2019	Indigenous Assembly of the Isthmus of Tehuantepec in Defence of Land and Territory	Juchitán	Eólica del Sur	66
25 February 2019	Commoner Unión Hidalgo	Unión Hidalgo	Earthquake	34

03 February 2018	<i>Ejidatario</i>	La Venta	Eurus	46
04 February 2019	<i>Ejidatario</i>	Juchitán	Eólica del Sur	67
05 February 2019	<i>Ejidatario</i>	La Venta	Eurus	29
05 February 2019	<i>Ejidatario</i>	La Venta	Eurus	60
06 February 2019	<i>Ejidatario</i>	La Venta	Eurus	65
06 February 2019	<i>Ejidatario</i>	La Venta	Eurus	79
06 February 2019	<i>Ejidatario</i>	La Venta	Eurus	68
07 February 2019	<i>Ejidatario</i>	La Venta	Eurus	18
07 February 2019	Landless community member	La Venta	Eurus	71
11 February 2019	Landowner	El Espinal	Eólica del Sur	72
12 February 2019	Popular Assembly of the People of Juchitán	Juchitán	Eólica del Sur	73
15 February 2019	Landowner	Juchitán	Eólica del Sur	75
19 February 2019	Opposition member	Asuncion Ixtaltepec	Eólica del Sur	76
19 February 2019	Opposition member	Asuncion Ixtaltepec	Eólica del Sur	77
22 February 2019	Landless community member	Juchitán	Eurus	78

25 February 2019	Commoner Unión Hidalgo	Unión Hidalgo	Earthqu ake	80
27 February 2019	Commoner Unión Hidalgo	Unión Hidalgo	Earthqu ake	81
27 February 2019	Commoner Unión Hidalgo	Unión Hidalgo	Earthqu ake	82
28 February 2019	Commoner Unión Hidalgo	Unión Hidalgo	Earthqu ake	83

Isthmus of Tehuantepec Map

Source: Geocomunes

