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## **Two Decades Under Windmills in La Venta, Mexico**

*From an Annoyance to a Blessing – for Some*

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## Abstract

Scholarship touching on wind energy development in the Mexican case, especially in the Isthmus of Tehuantepec, overlooks the long-term uneven social effects resulting from this industry at the local level. This paper seeks to analyse the process through which wind energy has exacerbated patterns of rural social differentiation in La Venta – the town where the first wind energy project in Latin America was established in 1994. This differentiation has happened between landowners, and between landowners and landless people. Concerning the former, wind energy rents have increased patterns of social differentiation because they rely on land inequalities. In relation to the latter, landless people have been affected by the growth of the urban economy and by new kinds of exploitations resulting from non-agricultural labour. By analysing data on de-regularised landownership in the ejido – land that was collectively redistributed after the Mexican Revolution - and by drawing on fieldwork interviews, I will show that land has been concentrated in a few hands and that there has been a gradual productive shift from agriculture to cattle grazing activities. Asymmetric wind energy rents not only reinforce this trend but also result in different material and social relationships with wind energy and actors benefiting from it in various ways – or not.

## Keywords

Wind Energy, Social Differentiation, Isthmus of Tehuantepec, Mexico

## Bio

Gerardo A. Torres Contreras is a third-year doctoral researcher at the Institute of Development Studies. He is working on the social impacts of wind farms in the Global South. In his work, he explores land struggles, resistance and processes of social differentiation resulting from renewable energy projects in Mexico. He previously obtained degrees in Political Science at UNAM, Mexico and an MPhil in Development Studies at Oxford. More recently, he has also worked with Oxfam on issues of inequality and wellbeing in Mexico.

## Introduction

Although a set of papers have analysed the relationship between extractive industries and the long-term changes in poverty and livelihood strategies trends,<sup>1</sup> scholarship touching on the process of social differentiation resulting from the installation of wind energy in the Mexican context is scarce. Only a couple of works have elaborated on the social consequences related to this renewable energy. Huesca-Pérez, Sheinbaun-Pardo and Köppel's work (2016) 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 2016). Similarly, Hernández-Juárez and León's research (2014) on the different stakeholders playing a role in wind energy evolution in the Isthmus of Tehuantepec highlights a set of social impacts in local communities: from asymmetric information processes to a low number of jobs once the construction phase of a wind farm is over (Juárez-Hernández & León, 2014:156). Although these papers offer insights on social impacts, they overlook the processes of social differentiation resulting from these projects. Extractive activities, in this context, result in two types of social impacts: primary impacts, which occur on or immediately adjacent to a project site, and secondary impacts, which occur in the long run because of infrastructure development such as road building or the installation of transmission lines, population movement and, most importantly, changes in local economies (Narciso 2016). These latter effects can range from the diversification of rural labour where peasant farmers have been forced to increasingly find off-farm incomes by incorporating themselves into wage labour (Bernstein 2007, Kay 2015) to modification of agricultural practices due to externalities resulting from wind energy projects.

The case of La Venta is insightful in this regard since the first windmill was installed over 20 years ago. Nowadays, the town is surrounded by three wind energy projects amounting to 339 windmills (Andrade Saynez, Toledo Matus, & Bello Cabrera 2012, World Bank 2006). This paper will argue that wind energy investments have exacerbated two patterns of differentiation in the town. On the one hand, because of patterns of land ownership, now differentiated over time since the original allocations, landowners benefit from wind rents in uneven ways. Whereas some of them are able to combine windmills with agriculture or cattle raising, others just manage to survive. On the other hand, this contrasts with landless people's experiences who also benefit from wind energy in uneven ways. Patterns of differentiation in this group have to do with the growth of the urban economy, effects on local livelihood strategies and the rural diversification of labour. Company's Corporate Social Responsibility (CSR) has tried to address these patterns of differentiation through the creation of a community centre and the investment in diverse infrastructure such as roads, sports centres and scholarships for youngsters. However, it seems that social responsibility is geared towards a community that is highly differentiated and becoming more so as the intensity of wind energy investment expands. This means that for some wind has become a boom, while it fails to benefit others. Wind energy, in this sense, plays out in class dynamics and conflicting interests amongst the local populations. This is done not only by re-articulating accumulation processes but also by shaping production relations in La Venta.

By drawing on qualitative data obtained from fieldwork between October 2017 and March 2018,<sup>2</sup> this paper will start by depicting the case of La Venta and the process through which

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<sup>1</sup> Bury, 2004, 2005; Bury 2002; Gamu, 2015

<sup>2</sup> Names have been changed in order to protect my informants.

windmills have encroached on the town since 1994. Afterwards, it will depict the patterns of differentiation arising between landowners due to wind energy expansion for over 20 years. Thirdly, it will analyse and depict patterns of differentiation affecting landless people in the community. Finally, this chapter will investigate how the wind energy company, Acciona Energy, has tried to address inequalities affecting both groups through the creation of social responsibility programmes.

## The Case of La Venta – A Town Encroached by Windmills

Although windmill construction did not start until 1994, wind energy potential was identified in La Venta long before this date. It is documented how people started to come regularly to town since the 1970s to reserve land for future wind farms in exchange for 50 or 100 pesos per hectare allowing landowners to continue with their activities (Beas Torres & Girón 2010). The first formal tests, however, did not start until 1986 when experts from the Mexican Energy Commission (CFE), U.S. Agency for International Development (USAID) and the National Renewable Energy Laboratory (NREL) started gathering data to measure wind speed and power density in the region (Wilson Center 2016:15). Following these tests, the Mexican government, through the CFE decided to negotiate and to rent land in the north of the town in 1993 in order to install seven Vestas windmills<sup>3</sup> in 1994. Because wind energy infrastructure would occupy only between 5 and 7 percent of the land, CFE was not interested in expropriating the terrains. Rather, CFE was interested in renting the land for a period of 30 years with possibility of renewal with two objectives in mind. On the one hand, this would allow landowners to continue with their agricultural activities. On the other hand, this practice was followed in countries with wind energy development (Jiménez Maya, 2005:76). Results obtained by the wind farm were so positive that, out of 1600 windmills in the world with similar features, only those installed in New Zealand were close to the generation values obtained by the seven windmills in La Venta (Borja Díaz, Saramillo Salgado, & Mimiaga Sosa 2005, Hiriart Le Bert 1996).

Graph 1: Location of La Venta



Source: (Beas & Girón, 2010)

<sup>3</sup> By Vestas windmills I refer to Danish manufactured wind turbines.

The installation of the first wind farm, the modification of the Law of the Public Service for Electric Energy – which allowed private actors to participate in power generation in specific contexts – and the positive capacity factor results in the region, attracted investors’ attention right away (Borja Díaz et al. 2005:44). A great number of investors from the US, Germany, Denmark, Belgium and Japan visited the Isthmus to embark on new business ventures and to negotiate with landowners, a process that started in 1996. It is interesting to point out that the rumour that a few companies had already reserved all of the available land in the region promoted the idea that La Venta had one of the best wind resources worldwide. In this context, both the federal government and the government of Oaxaca started organising conferences and seminars on the wind energy potential of the region. Also, they announced that collaboration with USAID was agreed to elaborate a wind energy resource Atlas of Oaxaca and to assess whether a 100 MW wind farm could be built in the region (Borja Díaz et al. 2005:72). In August 2004, CFE announced the construction of the wind farm La Venta II with a generation capacity of 101.4 MW and approached landowners with the intention of renting 2,088 hectares of land for 30 years with the possibility of renewal for another 30. Three different annual payments were offered by the enterprise: 1,000 pesos of right of wind per hectare, 13,100 pesos for infrastructure building per hectare and payment for windmill according to generation capacity between 8,000 and 18,800 pesos (Avilés Hernández, 2008:54). The *ejidal* assembly<sup>4</sup> approved the project and the construction of the wind farm finished in 2006. The government willingness to facilitate wind energy investments along with the publication of the Wind Energy Resource Atlas of Oaxaca changed wind energy development in the Isthmus. This document produced by USAID and the National Laboratory of Renewable Energy states: “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 coast” (Elliott et al. 2003:vi).

The confirmation that Oaxaca had one of the best wind energy resources lured the wind industry right away. While in other parts of the region such as Juchitán, Unión Hidalgo and La Ventosa contracts were signed between landowners and wind companies, in La Venta a Spanish conglomerate, under the name of *Maderas y Granos de la Laguna* (Woods and Grains of the Lagoon), started negotiations with landowners. According to my informants, the goal of this enterprise was to promote the industrialisation of cattle raising in town by introducing electronic milking systems and cattle sheds (Interview 50 2018). However, in 2008, the enterprise changed its name to Eurus and its objective went from industrialising and modernising cattle raising to the construction of a wind park in collaboration with Mexican Cements (CEMEX) and Acciona Energy in 2008 (Acciona Energy 2018). Similarly, in 2009 La Venta III, the third wind farm in the north east of town and in the land of *Santo Domingo de Ingenio*, with a generation capacity of 101.4 MW, started its operational phase with support from the World Bank and IBERDROLA (Iberdrola 2012). Wind energy has spread so fast that today the town is surrounded by three wind farms with only some space left available in the north part of town. It is expected that with the new wave of wind energy farms coming to the region in 2022 –date when the transmission lines for new wind farms will be finished -, the available land in the town will be targeted by new wind energy projects.

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<sup>4</sup> Ejidal land is collective land that was redistributed after the Mexican Revolution of 1910.

## Patterns of Differentiation Between Landowners

To understand how wind energy has exacerbated patterns of rural differentiation, it is important to analyse how land was allocated between *ejidatarios* when La Venta was founded in 1951 with a total extension of 5,815 hectares of land (Nahmad Sitton, n.d.:47; World Bank 2006). In 1998, *ejidatarios* –members of the ejido – decided to regularise the land and 4,707 hectares were divided between 326 members and 1,387 hectares were left for common use (Registro Nacional Agrario, 2018). Ejidatarios acquired property rights over the land and are now able to obtain and to cede the right of usufruct when complying with certain conditions. This is because, politically, the ejido follows the Law for the Agrarian Reform. The ruling body is the ejidal assembly – integrated by all of the landowners in La Venta – whose duty is to control and lead any arrangements having to do with land (Diario Oficial de la Federación, 2018). Every three years, the 326 landowners elect their authorities, 12 persons divided into two committees: the ejidal commissariat – in charge of representing and enforcing agreements taken by the assembly – and the surveillance council – in charge of accountability (Diario Oficial de la Federación, 2018). The commissariat and the landowners in the individual level can provide a third entity with the usufruct of land for a maximum of 30 years, with the possibility of renewal for another 30 years (Diario Oficial de la Federación 2018).

Although the initial allocation of land sought to provide each landowner with the same extension of land, the distribution was skewed because of two elements. First, as Aurélia Michel (2009) documents, the lack of clear procedures concerning the ejidal political system allowed the same people to stay in power for periods longer than 10 years. This local elite not only controlled the transactions of land by expropriating or buying from small-scale cultivators but also fostered a process of land speculation, which priced poor landowners out of the market (Michel 2009:476). On the other hand, because of the harsh climatic conditions of the region, land was used following the cycles of production and declining fertility. Most small-scale agriculturalists simply cleared, fenced, cultivated and abandoned land as necessary, leaving it unplowed until another ejidatario planted it once again. As Binford states: “claims to land were transient, meaningful as long as the land was actually under cultivation” (Binford 1993:88). These two elements have fostered, since the second half of the last century, unequal patterns in land ownership in the town. According to data by the INEGI – National Institute of Geography and Statistics – the ejido of La Venta is integrated by 300 plots of land (Registro Agrario Nacional 2018). Out of this number, groups manage seven parcels; individuals own 285 and the rest do not have any available information on the system. The average plot of land owned by individuals amounts to 5.139 hectares (Registro Agrario Nacional 2018). This contrasts, nevertheless, with the fact that only 36 individuals own more than 10 hectares of land. In this small sub-group owning more than 10 hectares, land disparity is high. Whereas only four individuals own more than 20 hectares, the other 32 individuals own an average of 13.18 hectares (Registro Agrario Nacional 2018). That is to say, of the land with available information, 36 individuals own 36.81 percent of land in the ejido and 249 individuals and seven groups of ejidatarios have property rights over the rest of the land (Registro Agrario Nacional 2018).

Wind energy rents take place in this context of land disparity under four categories: the right of wind, payment for infrastructure, payment for windmills and payment for externalities caused by wind energy (Avilés Hernández 2008, Nahman, Nahón, & Langlé 2014:142). The first one refers to the only payment landowners will receive for sure. It is a fixed quantity stipulated on

the contract, ranging from 6,000 to 8,000 pesos, to be paid on a yearly basis around the month of March. The second payment, related to infrastructure, has to do with the exact place in the terrain where companies decide to build infrastructure and roads. This payment is based on the square meters of land the project is utilising and amounts up to 15,000 pesos per square hectare. However, considering that a wind farm occupies only from 5 to 7 percent of the available land, the payment is not really significant for landholders. The payment for windmills depends on the exact place where the wind energy company places the turbines and on the wind turbine capacity. This payment can amount up to 15,000 pesos per year. Finally, payment for externalities refers to compensations landowners can receive because of problems caused by wind infrastructure such as oil spills, floods or unevenness in the terrains. The difference in the quantities landowners receive vary according to infrastructure and land and, consequently, what they can do with these resources differs.

The effect of wind energy rents on patterns of social differentiation in the ejido is observed in relation to the productive activities taking place in the municipality. Because of the proximity of the town to the irrigation channel, the main activity of the ejido was agriculture, including the cultivation of crops such as sugarcane, maize, beans, squash, watermelon, sorghum and sesame. However, due to the decrease in sugarcane prices, the permanent closure of the sugarmill in the neighbouring town, the constant plagues affecting maize and sorghum, the harsh climatological conditions, and wind energy rents, cattle grazing and related activities have replaced agriculture in La Venta (World Bank 2006:3). When analysing data from the INEGI at the municipal level, it is possible to observe a transition from crops related to human consumption like maize to those related for cattle grazing like grass and sorghum from 1991 to 2007 (see table 1) (INEGI 1998, 2018). Data on the ejido corroborates this transition at the local level. While maize is cultivated only on 183 hectares, cattle grazing activities use 2,347 hectares. On the other hand, 1,754 hectares do not present any productive activity (INEGI 2016). What this data suggests is that there was a transition from agricultural activities to cattle raising to the extent that nowadays 81 percent of the productive activities in the region have to do with cattle grazing or related activities.

Table 1: Agricultural use in Juchitán 1991-2007

	Crops	Land Extension (hectares)
<b>1991</b>	Maize	10,835
	Sugarcane	2,168
	Sesame	304
	Beans	257
<b>2007</b>	Grass	3,000
	White Maize	2,093
	Sorghum	971
	Yellow Maize	757

Source: (INEGI 1998 2018)

In addition, there is a tendency to abandon agriculture at the local level. When analysing data from INEGI it is possible to observe that in more than 20 years, the number of productive units<sup>5</sup> in Juchitán has decreased by more than half. Whereas in 1991 there were 3,428 productive units, in 2007 there were only 1,990 units. As for the extension of cultivated land, whereas in the 1990s approximately 19,000 hectares presented agricultural activity, in 2007 only 9,018

<sup>5</sup> Defined as the economic unit integrated by one or more terrains in the same municipality with agricultural or forestry activities under the same administration (INEGI 2018).



hectares were planted (INEGI 1998, 2018). If one disaggregates data by season, it is possible to observe a similar pattern: there is a higher per cent of unproductive land in the region nowadays (see table 2). While in 1991 perennial crops represented 21.2 percent of the cultivated area, in 2007 they covered 35.4 percent of the planted area. This illustrates the aforementioned productive conversion in La Venta.

Table 2. Agricultural Production by Season in Juchitán

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

Source: (INEGI 1998, 2018)

For some of the landowners I interviewed, wind energy has played a salient role in these phenomena. As one of my informants put it, rents allowed them to escape from the harsh climate conditions in the region and the low prices of agriculture by allowing them to invest in high-quality cattle, feedstock, and cattle sheds, among other things. Miguel's experience is insightful in this regard. He told me how engaging in agricultural activities was not really worth the effort anymore. Whereas with agriculture he can only aspire to make 4,000 or 5,000 pesos provided there are no plagues, with cattle grazing one can make as much as 30 times more, around 150,000 pesos per year just by feeding, fattening and selling a small number of calves. In his opinion, this is why people are not interested in agriculture anymore<sup>6</sup>. Cattle grazing, on the other hand, requires less labour and allows landholders to invest their resources in education and training for their families, as highlighted by Bury (2004) in the case of Perú. This has brought a new wave of professionals to the town that do not insert themselves as farmers into the local economy. Rather, they work as solicitors, veterinarians or bureaucrats. Inés' case illustrates this trend. With the revenue her father obtained from renting the land, he decided to invest in his children's education. Inés went to Juchitán to earn a degree in business administration. When she came back to La Venta, Acciona Energy hired her as the person in charge of linking the community with the social responsibility department of the company. Although she is doing the paperwork to receive the rights over the piece of land that she inherited from her father, she is not interested in agriculture. Rather, she lets grass grow every year and then rents the land for cattle grazing<sup>7</sup>. Finally, one of my informants told me that 20 years after the elders decided to sign the contracts with the wind energy enterprises, the new generation has grown up seeing wind energy rents as something granted for the next 20 to 50 years. In consequence, they see no need to spend time and effort in an activity such as agriculture<sup>8</sup>.

It is important to mention, however, that not all of the ejidatarios benefit from wind energy rents in the same way. What people can do is different if they own 20 hectares of land with three or four windmills than if they only have one or two hectares within the wind polygon. My informants tended to agree that the extension of land where wind energy rents start to make a

<sup>6</sup> Informant 15, 2017.

<sup>7</sup> Informant 7, 2018.

<sup>8</sup> Informant 16, 2018.

difference in terms of both living standards and agriculture is around 20 hectares<sup>9</sup>. José's case illustrates this viewpoint. He decided to rent four hectares of land to Eurus wind farm. Although at the beginning of the project he used to work the land with the help of his father, when he died, José had no means to continue with this productive activity. He told me that the 20,000 pesos he receives on a yearly basis from the wind energy company are seldom enough to fulfil his basic needs. In consequence, he has not been able to invest in agriculture and his land is unproductive now.<sup>10</sup>

Along the same lines, Victor García's case is insightful. For him, those who own less land are unable to invest in their terrains to boost productivity and they may be obliged to sell their land in case of contingency. Victor also notes that people with less land are more vulnerable to suffer environmental externalities resulting from windmills. He explained 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 as a result of them becoming trapped in the windmills (Rapp, Aiello, & Ledec, 2011, p. 199). Long before windmills, bats would feed on the aphid plague that affects sorghum cultivation. Nowadays, in a context where bats are scarce in La Venta, this plague runs freely. The problem, as Victor puts it, is that this plague affects landholders in differentiated ways. Whereas those with vast extensions of land can use some of the money from wind energy to eradicate this plague from their land, those with small extensions of land can barely do anything to cope with this shock. Victor emphasised that the 20,000 pesos he receives per year are not enough to invest in a high-quality sorghum.

Those with small extensions of land, in this sense, are subject to losing most of their harvest and they may not have the means to re-invest in productive activities in the future. They may even be obliged to sell their land in the case of contingency.<sup>11</sup> Both José and Victor's narrative and experiences show the process through which wind can generate uneven outcomes at the local level by exacerbating processes of social differentiation between those who own large extensions of land and those who own less than 20 hectares. Whereas the former can invest their profits in high quality crops, feedstock and even infrastructure, for the latter wind energy rents do not make a difference.

## Living Without Land: Social Differentiation in Town

According to data from INEGI, approximately 2100 people live in La Venta (INEGI 2016). From this number, the vast majority are either landowners or immediate family of this population. Because of the nature of the ejido, only the minority of the population do not have rights over land. When I asked landowners about landless people, they would tell me there were approximately 90 to 100 individuals in town without land falling under two broad categories. On the one hand, it is possible to find migrants who came to La Venta from the neighbouring states of Chiapas and Veracruz for work. This is the case of Concepción. She was born in the neighbouring state of Chiapas. Before moving to La Venta, she lived in Mexico City where she met her husband. Through a relative, her husband was invited to work in town on the land of an ejidatario. In spite of living for over 30 years in town they were never able to become

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<sup>9</sup> Informant 30, 2017.

<sup>10</sup> Informant 30, 2017.

<sup>11</sup> Informant 22, 2017.

ejidatarios. Nowadays, Concepción sells poultry and prepares food for other members of the community. On the other hand, it is also possible to find landowners' female descendants who were not able to inherit land because of regulations in the Mexican Agrarian Law. Before the de-regularisation of the ejido, women were not able to inherit land. Property rights were passed to the first-born male in the family. After the agrarian reform in 1992, women were allowed to inherit land inside the ejidal system. However, the fear that women would marry someone alien to the community and grant rights over land to him has impeded this process to a certain extent (Cotula 2007:32). Carolina's example illustrates this process. 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 when she met her husband. Although her father was a landowner, she did not inherit any land because her brother, the first and only male son, was granted property rights when her father died. When Acciona Energy started to negotiate with landowners, her brother decided to participate in the project, and Carolina remained landless<sup>12</sup>. These two groups have experiences wind energy expansion in a singular way and their viewpoint can be insightful in order to understand processes of rural social differentiation in town.

Landowners told me on various occasions how wind energy rents benefitted the community in general. According to Pablo, for instance, after the installation of windmills in town, the minimum salary increased by almost 100 percent. Whereas before wind energy expansion, a landowner like him would pay around 80 pesos per day to someone working on the land, now he has to pay around 150 pesos for the same labour. He attributes this change to the fact that when wind energy companies came to town, they started paying a better salary to local people. Therefore, he is obliged to do the same if he hopes to find someone willing to work for him. In this way, he feels he is not only helping his relatives but also the community in general by sharing some of the profits<sup>13</sup>. Along the same lines, Victor García recalls the time in the early 2000s when the ejidal commissariat decided to build over four kilometres of pavement or the time when, in collaboration with the wind energy company, they offered 10 scholarships for local youth to study in Juchitán. In addition, he emphasised how in collaboration with the wind energy company, the ejido has been able to build a community centre as well as sports facilities.<sup>14</sup> Landless peoples' narratives, however, contrast with landowners' viewpoints and challenge the idea that wind energy has brought benefits for the community in general.

Landless people have been affected by the growth of the urban economy resulting from wind energy expansion. While those working in services were happy when the construction phase started because of the high number of people coming to town, this situation rapidly changed once the operation phase started. The idea that landowners from La Venta are well off started spreading out in the region and a high number of people started to sell their products. 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. Valeria, for instance, opened up a small canteen where she would cook meals for five engineers when the construction phase started. This situation lasted for one year. When the operation phase started, most of the workers left the town and she found herself struggling to keep the canteen working because of competition with businesses in the ejido. Nowadays, she sells empanadas every fortnight to members of the community.<sup>15</sup> Carolina's narrative is also insightful in this regard. Before the windmills, she had two ovens in

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<sup>12</sup> Informant 11, 2018.

<sup>13</sup> Informant 21, 2017.

<sup>14</sup> Informant 22, 2017.

<sup>15</sup> Informant 46, 2018.

her dwelling here she would prepare tortillas and other foods. In her experience, before people started making money from windmills they would spend their time cooking, washing clothes or doing household activities. However, since they started receiving money from windmills they forgot about eating tortilla in her own words. Now, landowners prefer to go to Juchitán or to other towns to buy tortilla or have them delivered directly to their houses. Carolina, as a result, stopped preparing tortillas and nowadays has a small stationary shop in front of a high school where she sells soda and candies to the students.<sup>16</sup>

Another aspect where landless people's narrative contrasts with landowners account has to do with the general benefits brought to the community by wind energy expansion, notably the creation of jobs. When wind energy came to town, landless families had positive expectations because they thought they would be hired at some point or another. Although some individuals were hired, once the operation phase started, the number of jobs was drastically reduced and they had to look for a job elsewhere. Octavia's children illustrate this process. They started working for Acciona Energy when the wind farm construction started. However, they soon had to look for a job because the company only kept two local people working on the wind farm. Because they could not find anything in La Venta, they decided to try their luck in Mexico City and the United States. Octavia insists that this migration is one of the biggest issues resulting from wind energy expansion. In addition, wind energy brought new kinds of exploitations related to non-agricultural labour. Octavia's children, during the very limited time they worked for the wind energy company were obliged to sign a contract every two or three months. By establishing a zero-hour contract, the company avoided paying into their pension and contributing towards their social benefits.<sup>17</sup> Even if some individuals managed to get a job, the pattern was still the same. Olivia's husband, after working more than 20 years for the wind companies, never received social security. When he suffered a diabetic coma, he was refused treatment by the hospital. Now, Olivia is widowed and does not have the right to an allowance because her husband was never registered for social security by the wind enterprise.<sup>18</sup> It seems, in this sense, that once wind energy construction phase is over, displaced labour cannot be re-absorbed into other productive sectors, changing employment levels and income distribution (Gamu et al. 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 the most striking examples comes again from Olivia. She argues that although La Venta produces electric energy, her electricity bill often amounts to 4,000 pesos – almost £160. For a widow who manages to survive on selling poultry and prepared food, the amount is unmanageable.<sup>19</sup> What she finds contradictory, however, is that according to a documentary she watched, Acciona Energy obtained a profit of 460 million euros from the wind farm.<sup>20</sup> She does not understand, in this sense, why she has to pay 4,000 pesos when the company is obtaining millions from the ejido.<sup>21</sup> Carolina's experience with the sports centre built in front of her house follows the same pattern. When she the first looked at the blueprint, she thought it was a good idea because they were planning to build a common room, parking

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<sup>16</sup> Informant 11, 2018.

<sup>17</sup> Informant 9, 2018.

<sup>18</sup> Informant 9, 2018.

<sup>19</sup> Informant 9, 2018.

<sup>20</sup> Informant 9, 2018.

<sup>21</sup> Informant 9, 2018.

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 field.<sup>22</sup>

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 ventures with uneven outcomes. Some of my interviewees, like Olivia, have managed to keep their businesses running, but others like Carolina were forced to branch out. Along the same lines, the narrative portraying wind energy as an industry that has brought benefits to the general community does not hold true for them. Not only have they experienced a rise in their electricity bills, they have also been forced to seek labour in non-agricultural sectors, as was the case of Olivia's children and husband who worked for the wind industry without social security.

## CSR Geared Towards a Differentiated Community

Acciona Energy has played an important role in social responsibility programmes in the region. Before the energy reform in 2013, responsibility towards the communities was not mandated in the regulatory framework behind the installation of a wind energy farm. Rather, it depended on whether the enterprise in charge had a strong area focused on social responsibility. This was the case with Eurus wind farm. As one Acciona Energy employee puts it, the enterprise decided to invest in social responsibility projects as part of an agreement signed with Mexican Cements (CEMEX).<sup>23</sup> CSR became a main objective in La Venta through two main axes. First, the creation of two permanent posts in town responsible for facilitating communication between landowners and the wind enterprise. Secondly, the creation of a community centre—the only one in the Isthmus – to foster the participation of 600 people in 25 courses ranging from environmental education to community infrastructure (Andrade Saynez et al. 2012:44). These axes aim not only to help landowners but also the community of La Venta in general.

In relation to landowners, the main course has to do with dairy and agriculture technification. This programme, established in collaboration with the Technological Institute of Mexico and the Secretariat of Economy, seeks to promote an entrepreneurial attitude amongst landowners and to teach them how to take advantage of their production unit. Acciona Energy advises landowners in terms of vaccination, genetics, and hygiene. When the programme started, approximately 50 landowners attended the course. However, by the end of the year only 24 were attending on a regular basis. By the time I conducted the interview, only 12 ejidatarios were regulars in the course and only 7 received benefits such as a cattle shed or a project for pork or poultry grazing.<sup>24</sup> For my interviewee, what this programme has achieved is that it has taught the 12 landowners to modernise their terrains.<sup>25</sup> However, the small number of people attending this course points to the fact that agricultural productivity is decreasing in the community. This is because landowners and their families now think that they do not need to

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<sup>22</sup> Informant 11, 2018.

<sup>23</sup> Informant 16, 2018.

<sup>24</sup> Informant 16, 2018

<sup>25</sup> Informant 18, 2018.

cultivate anymore to receive a financial resource.<sup>26</sup> The limited efficiency of this programme reflects deeper phenomena taking place in town that have not been addressed by the enterprise such as the productive shift from agriculture to cattle grazing activities and the abandonment of agriculture.

On the other hand, the community centre promotes courses for people of La Venta. The goal is to foster the local economy by creating various entrepreneurs within the town. *Acciona's* employee told me how these programmes have really been successful because women in the community do not depend economically anymore on their husbands or on their children<sup>27</sup>. Rather, they are able to activate the local economy by selling products such as cakes or textiles to other members of the community. To put it in the enterprise's terms, these programmes aim to build inclusive businesses in La Venta (Andrade Saynez et al. 2012). However, my interviewee told me that the courses take a long time to gather the minimum number of people. When interviewing members of the community about their thoughts on the community centre, they constantly told me how they did not think attending these courses was actually worth it. They do not see themselves taking advantage of this space or they do not have the time because of their daily work preparing food or selling products to the community. Octavia, for instance, expressed that the issue for her is that she does not understand why they bring people from outside the community to teach them how to prepare food or to make rafts when someone local could it. It would seem, in this sense, that CSR programmes for the community in general are geared towards a community that does not really benefit because these programmes are insufficient compensatory mechanisms to offset the social differentiation created by wind energy investments (Hinojosa 2013:430).

## Wind in La Venta: From and Annoyance to a Blessing – for Some

Twenty years after the first windmill came to La Venta, it is possible to observe how wind energy has generated uneven outcomes at the local level. This is because it has re-articulated accumulation processes and ejidatarios' role in shaping production relation in town. Concerning landowners, wind investments have play out into a broader process of productive transformation and abandonment of agriculture affecting the region. While some of the landowners, especially those with more than 20 hectares of land, have been able to combine cattle grazing with wind rents, those with less land have struggled to continue with their activities because of externalities resulting from wind energy. As it was well stated by one of my informants, those with only one or two hectares may be forced to sell their land in case of contingency. On the other hand, those without land have been affected by the growth of the urban economy in the town. Their narrative contrasts with landowners' accounts portraying wind energy as an industry that has brought benefits for the community in general. Not only has this population experienced different kinds of exploitation associated with non-agricultural labour but they have also been obliged to diversify their income. CSR programmes created by the wind energy company for both ejidatarios and landless people have tried to address some of these asymmetries amongst other things like the enhancement of the local economy or the recovery of traditional crafts. However, they have proved to be unsuccessful because they are geared towards a community that is increasingly differentiated because of wind energy investments.

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<sup>26</sup> Informant 16, 2018.

<sup>27</sup> Informant 18, 2018.

Social differentiation, in this sense, results in different sub-groups having different reactions to wind energy in the town. This is why, when I asked landowners what the wind was, they agreed on the idea that it has shifted from being an annoyance into a blessing because of the rents they receive from it. They emphasise how wind energy has allowed them to escape the harsh climatological conditions of the town and to receive a rent. In contrast, for landless people wind is still primarily an annoyance with which they struggle on a daily basis while not being able to reap direct or indirect benefits associated with the industry.

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