Chapter 4

From an Ejido to an Extraction Site

Materialities of Oil in Emiliano Zapata

> If you want to build a well, you can't because pipelines pass underground. Or you want to pave your yard, and you can't because of the pipelines. And you start thinking: Well, oh my God, there are so many pipelines, if one of them bursts, we won't even have time to run away anymore.
>
> —Doña Anita

The material modifications and moldings of the community and the landscape induced by the oil industry have inevitably become the foundation for everyday life and consequently inscribed onto the lives of the people over time. Right at the beginning of my first stay in Emiliano Zapata, I was confronted with the dominant narrative of the constant fear of accidents in relation to industrial installations on one hand, and the unknown, possibly toxic implications of the extraction activities on the other. The perception that the territory of Emiliano Zapata was being undermined by pipelines was very strong, since those installations represent something hidden and invisible, which is unpredictable and therefore, potentially dangerous. The negative experiences with such facilities in the past contribute to ongoing uncertainty, as is evident from the initial statement of Doña Anita, a middle-aged wife, who owns a shop in Emiliano Zapata together with her husband. They attempted to expand their shop, however, this was made impossible by the large number of pipelines under their parcel, preventing any attempt to dig for construction purposes. During this process, she became increasingly aware of the material risks that the industry posed and was worried about potential accidents that might occur at any time. The residents of Emiliano Zapata today perceive their community and its surroundings as a dangerous place, where the material forms of oil extraction represent a constant hazard. The infrastructural installations, processing plants, wellheads, and several other inscriptions of the oil industry in Emiliano Zapata thus became the material manifestation of the time bomb.

The materialities of oil are also deeply intertwined with its temporal dimension and therefore, the two aspects of the resource are often difficult to disentangle (Richardson and Weszkalnys 2014: 6). This chapter will focus on unraveling the material dimensions of oil extraction in Emiliano Zapata and their implications for community life, without disregarding temporal matters. To do so, the oil materialities will be introduced in the sense of their physical representation, experienced through the human senses. Anthropologists have engaged with the senses in a particular manner since the 1990s, when the ethnographies of the senses recognized the importance of the acts of seeing, listening, and feeling for the perception and embodiment of the world and particular culturally shaped contexts (e.g., Geurts 2002; Press and Minta 2000; Stoller 1989). The central argument of the anthropology of the senses articulated by Rubert Cox in his overview on anthropology of the senses is therefore "that our senses are specific to their historical conditions and subject to change" (2018: 1), which shows the historical and cultural dimensions of sensory experience. Furthermore, sensorial experiences also vary for individual actors in different situations, as well as across sociocultural contexts, while constantly being transformed (Beer 2014: 153; Howes 2005: 11).

Entering the ejido of Emiliano Zapata, the materialities of the oil industry can be immediately experienced at various sensory levels. The environment around the community is pervaded by infrastructure facilities of the extractions such as roads for transport and pipelines, which are visible everywhere even though only a small fraction of the pipes are installed above ground. Within the community and its surroundings, processing plants exude sharp exhalations, colorful warning signs call for caution with regard to the pipelines lying close to homesteads and fields, and gas flares produce a disturbing noise at all times through the week. The broad road that leads directly through the community is frequented by trucks transporting material and staff, in addition to the agricultural products of the local fields and several public buildings. The ones that are sponsored by oil firms are marked with the respective company logo. Thus, for the inhabitants of Emiliano Zapata, the presence of the oil industry has had a significant impact on their immediate living environment. This inscription of oil infrastructure and facilities implies a constant disturbance of the senses and a latent perception of the extraction activities prevailing around them. To cope with these disturbing stimuli at the same time, a certain level of "anaesthetics"—a term that Susan Buck-Morss (1992) describes as a selective numbing of the senses in order to deal with the invasive stimulations of the modern environment—takes place, which helps the residents to deal with the strong excitations of their environment (see Cox 2018: 1). At the same time, the facilitation of infrastructure has also been perceived as beneficial for community members. The material

manifestation of oil and its extraction is an important component of the sociocultural transformations that have taken place over time in Emiliano Zapata, and therefore an integral component of the oilscape. Furthermore, it represents a decisive element for the comprehension of the "time bomb" in the local context.

Sensing the Oilscape: Material Inscriptions of Oil

"It looks like there have been people here again," Don Gonzalo says. Don Germán nods. We are standing at the shore of the small river called Los Tejones that represents one of the main sources of water for the community members of Emiliano Zapata. The turbid water was blocked with several hoses at a point where it looked particularly dark. Somebody has dug up some pipelines that now lie around in parts. Also left is a seemingly homeless red fire extinguisher next to the now blocked stream. Is the fire extinguisher meant to put out the river? Unfortunately, it is not as paradoxical as it seems. Several pipelines of different girths are protruding from the little hill slope beside the river and spots of potentially inflammable crude oil are visible at several heights on the shore, completing the picture. I approach them curiously. This is the first time I can see the crude oil with my own eyes—the substance that determines everything! It is thick and black and looks a little bit like fresh tar that I have seen coming out of machines, meant for road building. Is that really crude oil? I guess it is, but I am not an expert and here in Emiliano Zapata, I have come across all different kinds of substances related to the oil industry. Nevertheless, I have not had the chance to look at the oil itself so far. Gas and most fluids used for processing are usually transparent or are transported underground by pipelines that make them invisible in an everyday setting, but they have distinct, sometimes sharp smells that one can perceive. Close to the processing plants that are distributed among several places on the ejido and close to human settlements, the air is filled with industrial odors and whirring and pumping sounds that resound day and night. Extraction penetrated the senses everywhere in Emiliano Zapata one way or another.

I step back and join Don Germán and Don Gonzalo, who allowed me to accompany them when they go to inspect the seepage. They are standing a few steps upstream and from this vantage point, I see what Don Gonzalo meant: I also spot some tools lying around, a bucket, and some unidentified cans. Did somebody try to fix the seepage? The arrangement does not look too professional though and I doubt its success. "We have to call the *ingeniero* again." Don Germán says. "They have to do something soon or people will get anxious because of the water shortage." The seepage has been there for quite some time now. I was first alerted when community

members saw several dead fish further down the stream, and some said that they had smelled gas. This time the water committee and the farmers reacted quickly and did not use the water of the stream for watering their fields or animals, and more importantly, they also prevented the pumping of the water into the pipes meant for human use. The company had promised to fix the leak as soon as they were informed, but until now, it looks like only provisional measures had been put into place. Pollution via leaks and seepage is a very common problem in Emiliano Zapata, almost so much that many residents deal with it rather grudgingly.

"Have any fields been contaminated so far?" I ask my companions, who did me the favor of letting me tag along with them when they decided to inspect the leak again before the upcoming ejido assembly.

"No, not yet. Several people complained though because the plants won't grow as fast as usual, and they suspect the seepage has something to do with it." Don Gonzalo answers.

"And do you think they're right?" I want to know.

"No, because they haven't used the water from the river. They want compensations, but the company won't give any to them. The soil hasn't been fertile here for some time already."

"And why do you think is that?"

"Many reasons, I think. The heat in the summer has gotten very strong in the last few years. Many people have gotten sick from the contamination. In addition, they keep draining the petroleum from the earth for so long now. No wonder the fields aren't fertile anymore."

I am not sure what to make of his answer. "But what do you think the extraction has to do with the decreasing fertility?"

"Well, I think the oil is like blood extracted from the earth. If they continue to exsanguinate the earth, then it's only logical that it can't grow new crops." Don Gonzalo turns around and follows Don Germán who is already walking toward our pickup truck. I do likewise and while we drive off passing row after row of orange trees besides the road, I keep thinking about this perspective on what oil could mean. In the distance, the roaming flame of the gas flare, visible from almost every spot within the community, accompanies us, almost as if standing sentinel over Emiliano Zapata.

"Conspicuous at First Sight": Visible and Tactile Materialities

In Emiliano Zapata, the material traces of hydrocarbon extraction are immediately perceptible to the senses, with the most striking probably being the visible ones. The first thing that attracts attention when entering

Figure 4.1. A month-old seepage within the river, which awaits repairs, Papantla, Mexico, 2017 © Svenja Schöneich.

the community is undoubtedly the insistent presence of gas flares, which cannot be overlooked. In particular, the one closest to the settlement area, overseeing the main road and the community center with an illuminant flame, has been the topic of public and internal discussions and the cause for sleepless nights.

There are three gas flares around Emiliano Zapata, which are so close by that they are visible from the community. One of them is in immediate proximity to the settlement and commonly referred to as the *quemador* when it features in conversation. It has been the cause of distress for the community members since its inception in 1979–80. Even though many community members have become accustomed to its presence to a certain degree, most residents still perceive it as a constant disturbance, particularly due to its fluctuating intensity. Sometimes, the flame burns brighter than on other days and even at night, a flare several meters high lights up large parts of the community. Hence, it can be comprehended that outsiders, who are not used to its impressive appearance, are often bewildered when they first encounter a gas flare so close to the settlement. The community members who had moved to Emiliano Zapata after the installation of the gas flare, described their concerns especially with reference to the beginning when they were unfamiliar with its function and possible effects.

Figure 4.2. Burning flame of one of three gas flares located in immediate proximity to human settlement, illuminating the main road during the daytime in Emiliano Zapata, Papantla, Mexico 2018 © Svenja Schöneich.

One of them is Doña Luisa, a woman of about thirty. She came to the community eighteen years ago to marry and is now living on a small hill with a view of the gas flare with her two children, while her husband works in Monterrey. Sitting in front of her home in the shade of a banana tree, she recalled her impressions of the first few weeks in the new home after she married an Emiliano Zapata resident: "Well, when I got here, I was still surprised by the effects of the gas flare. It was so bright, and it lit up almost the whole community even in the middle of the night. But my biggest concern always was the smell of gas in the air. Sometimes the smell would get more intense than on other days and I was very afraid of an explosion."

Besides worrying about the contamination of the air, the pollution of the water and soil are constanty discussed topics. There are pipelines protruding at various spots, some of them very close to the creek. The first signs of a leak are often dead fish floating on the surface of the water, because the seepage is not always due to crude oil, but could be transparent chemicals. Then the community stays without water, sometimes for weeks. Since Doña Luisa's arrival, the river has been polluted multiple times and the community members do not drink the water anymore but buy water for human consumption from retailers. Fortunately, people are rarely harmed in contrast to animals and fields, as Doña Luisa vividly

Figure 4.3. Decaying industrial installations—a pipeline and an unreadable sign—amid corn crops and orange trees, Papantla, Mexico, 2016 © Svenja Schöneich.

described: "The plants simply dry out; they rot from all the pollution." She explained about the contaminated fields. "Also, the creeks get contaminated. There are no shrimp anymore. There were plenty of shrimp here before; you could see them in the clear water. But now all the shrimp and fish died."

The presence of the potential source of contamination is often directly visible and palpable. Wellheads or deposits of fluids and pipelines are usually located within areas used for crop cultivation and somehow, they have even become part of the visual identity of the fields. Sometimes, the respective installation is separated from the farming spots by a fence and has signs with technical explanations. Those installations may not be touched directly. The gas flare, which is enclosed, is only to be approached by company staff. However, the installations mostly fit seamlessly into their surroundings. The few description signs are often in bad shape, as are the installations themselves at times. In this way, the pipelines aboveground, the wellheads, the valve plugs, and the description signs and all other types of installations become part of the environment, blending with their surroundings to form a visible and touchable embodiment of extraction. They thereby set the boundaries for the oilscape in this case, which is formed as a multilayered space on the ejido territory intermingled with the extraction site.

The knowledge about potential risk without exact information about operating modes is imminent within many contaminated communities (Auyero and Swistun 2008: 374; Edelstein [1988] 2018: 9). Most of the installations in Emiliano Zapata emanate a certain discomfort about possible damages due to their alienated appearance and unknown functioning, the gas flare in particular. Its sensory disturbance is so obvious that many community members have expressed their concern to the staff working at the processing plants. Among them is Alejandro, a PEMEX worker I had the chance to talk to during his shift. He lives in Poza Rica like most of his colleagues and has a house and family there. He only comes to Emiliano Zapata when his shift at the processing plants starts and otherwise has little contact with the community members. However, he talks to them now and then, for example, on his way back home, when he grabs a few tacos at one of the stands. A certain frustration is palpable when he talks about the gas flare. He has tried to calm the residents when they agitatedly asked him about the flame. "Well, the flame is normal." He explained. "When we reach a certain pressure, we have to burn that extra gas. We wouldn't want to realease the gas into the air just like that, right?" However, the suspicion remained, despite his attempts at providing infromation: "But the people, they just see the flame and they think that the village will catch fire, because they don't know any better." The local complaints, caused by what he interprets as a lack of information, bothers him. He pointed out the fact that the oil company also brings benefits to the community. And in fact, the infrastructure development that PEMEX fosters is also visible in many parts of Emiliano Zapata. The presence of PEMEX is evident, for example, in roads built by the oil firm and in buildings like schools or workshops, constructed with company money. They bear witness to the social involvement of the company. Alejandro listed all the support elements that the community has already recieved: "PEMEX says to them: "You know what? I'm not going to give you the money directly, but I'll help you to, let's say, to build a school." And the company has given them many many things over the years." Therefore, he is convinced that the people of Emiliano Zapata have also benefited more from the oil industry than they would have suffered negative consequences.

In fact, today almost every public building in Emiliano Zapata sports the company brand, and this makes the presence of the oil companies even more visible. The communal kitchen was established as part of a program that benefits the communities affected by the extraction, initiated by PEMEX in 2013. In recent years, schools have been built or expanded on the same site. Even the community ambulance sports the company brand, since it was financially supported by the company. Moreover, sub-

contracting companies as Oleorey have contributed to these facilities too. In this way, the oil industry has visibly inscribed itself into the appearance of the community and its surroundings at different levels and in diverse ways. In this way, the oil industry contributes both actively and passively to the architectural appearance of the buildings and therefore, also to the materially manifested visibility of oil extraction.

"What Keeps Us Awake at Night": Audible and Olfactory Materialities

In Emiliano Zapata, both hearing and smell play an important role for the sensual perception of the oil industry. The aforementioned gas flare, for example, is not only visible, but also audible, since its wavering light produces a whirring noise day and night. The people in the community talk regularly about the permanent disturbance of the noise from the gas flare. Many of them still perceive it as a constraint in their everyday lives, even though they have reached a certain degree of habituation. The disturbance of the gas flare is augmented through the fact that the intensity of its flame is somewhat unpredictable. The extraction process produces a certain amount of gas that must be burned to prevent its unfiltered release as harmful emissions. Intensified oil extraction also means an increase in disposal of gas, which is reflected in the height of the flames and increased sound. This unpredictability increases the feeling of exposure and concern, believes Doña Maria, who is living in a house at a small crossway. "The worst thing is that they don't warn us. They just suddenly open the gas valve to burn the gas so that the pipelines would not explode, and the noise gets really loud and scary. It hurts the ears." She emphasized on the intensity fluctuations of the gas flare and the irregular periods of its functioning as factors that increase anxiety: "You can't sleep in peace at night because you always expect them to turn it on any minute. Also, during the day, it could happen any time really."

But it is not only the gas flare that generates disturbing sounds in different intensities. Within the community, there are more noise releasing installations, for example, the processing plants that are connected to the gas flares and are called *turbinas* by the residents. During processing, the turbines also generate dull humming sounds that are distressing to the community members, especially to those who own homes close to the installation. One of them is Doña Amalia, who lives down the road. She was born and raised in Emiliano Zapata and is married to an *ejidatario*, who also grew up in the community. Throughout her life, she has

become accustomed to the audible effects of the oil industry around her and therefore, she takes it as something normal—as a part of her daily life. But as someone who has witnessed many accidents, she also knows about the unpredictable hazards induced by the extraction. Hence, she is aware of the harmful potential of the sounds generated by the installations, while being familiar with their functioning—at least from a non-oil expert's perspective. Therefore, she expressed a different view on the risk of noise disturbance. She has become so accustomed to the sounds of the processing plant close to her house, that a disruption of the activity frightens her even more than its permanent continuation. "Other people say, we have gotten used to the noise and we actually really have, I think. We notice it more when it changes," she told me. The community members have adapted a certain level of "anaesthetics" (Buck-Morss 1992 in Cox 2018: 1), which means that they have managed to suppress certain strong stimuli to shield themselves from constant exposure to heavy excitations of their environment. Yet, the stimuli now function the other way round, and the community members become alarmed the moment the stimuli are interrupted, because this could have a possibly dangerous cause. "There are times when you have gotten so used to the sound that you don't even notice it until it suddenly it becomes silent. Then you become worried and ask yourself: 'What happened, why did it stop?'" affirmed Doña Amalia. "You start to worry that now it is going to explode or something. The same, when the volume turns up. Then you also start to worry."

The extraction of hydrocarbons not only produces noise but can also be perceived by a distinct smell. The installations release various types of industrial odors, for example, from injection wells, leaking pipelines, and again gas flares. For the community members, these odors are not only a nuisance in varying degrees, but also present constant exposure to potentially toxic fumes. The industrial malodors are often the subject of conversations and have been mentioned to me in many interviews. Moreover, due to past experiences with gas explosions that have caused deaths and injuries, the community members are sensitized to the smell of gas that could possibly stem from leaks. They know the various smells well enough to distinguish harmless ones from potentially dangerous ones. However, due to a lack of thorough knowledge about the chemical releases, a strange industrial smell always causes uncertainty. Many people therefore are constantly worried about possible gas explosions, especially if they have witnessed the accidents that have occurred in the community's past. One of them is Doña Elena, a widow in her sixties who has lived in Emiliano Zapata all her life. In our interview, she tells me about her anxieties with regard to the odors emanating from the pipelines close to

her house. The leaking pipelines should have already been fixed probably, but Doña Elena is still worried because she notices some smell coming out. She lived in Emiliano Zapata when the major deadly accident known as *quemazón* occurred in the 1960s and is still distressed by the memories of youth when she and her family had to leave the house in a hurry several times when somebody smelled gas and warned the neighbors. She still cannot give up on the idea of a leak that could cause an explosion right under her feet, especially when she smells industrial fumes close to her house. "Everywhere I step is a gas pipeline. Right now, the ground we sit on is pervaded by pipelines." She told me while we are sitting in front of her house. She pointed to the spot right next to us: "There is one over here just a few meters away, which had a leak once. The smell was horrible. We had to call the *ingenieros,* and they had to come and fix it and they did. Now it doesn't smell but I'm afraid it could start again." Having seen the accidents that can occur when a pipeline explodes, Doña Elena gets restless when she smells gas. The fear of explosions has become a constant concern for her: "If one of the many that pervade my yard explodes . . . there will not even be ashes left of us."

Even though many residents of Emiliano Zapata feel disturbed by the noises and smells of the industry, which affect their daily lives and cause fears of accidents, they have also become accustomed to them to some extent. Most community members know the different sounds and smells, which could come from a leak and can thus predict an accident. The experience of the people in Emiliano Zapata, however, shows that the residents do not completely ignore the negative stimuli around them, but select the noteworthy, potentially harmful ones, which differ from the ones they experience every day. Doña Juanita, an elderly resident living in the community since she was born, told me about the industrial smell in the community and how she has adjusted to its existence. Nevertheless, she also mentioned a certain odor that she detected one morning that differed from the ones she was used to: "Suddenly I noticed this different smell and went out to see where it was coming from. I notice when something is different, and it concerns me." The recognition of industrial materialities is much more pronounced, given the increased risk perception. The residents such as Doña Juanita have learned to distinguish between the different kinds of stimuli, thus ignoring the ones that signal normalcy, while paying attention to those that point to potential risk. I myself cannot remember noticing a special smell on the morning that Doña Juanita mentioned. To an outsider, the industrial smells are all more or less alike and equally perturbing, but Doña Juanita, as many others of the Emiliano Zapata residents, is able to distinguish between them.

"Hidden in the Subterranean": The Presence of Concealed Materialities

The material presence of the oil industry in the community can be seen at various levels. Some of them are directly perceptible to the human senses, others only indirectly through their presence. This applies first of all to the equipment that goes underground and with which the hydrocarbons are extracted, such as the drilling material, and for the substances that are extracted or used for the extraction process. These kinds of installations are never visible to the residents of Emiliano Zapata except in cases of seepages or leaks, when they might pollute the rivers or the soil. Since crude oil and natural gas are the target resources, these substances are the most important assets in the industry. At the same time, however, the substances remain hidden because they are transported in probably the most common materiality—a dense network of underground pipelines. Due to its proximity to the many extraction wells and processing plants, the entire community of Emiliano Zapata is pervaded with pipelines. Some of them protrude in parts of the community and are therefore visible, but most of them run underground and can only be adumbrated.

Even though the pipelines are not always visible and cannot be touched, the people of Emiliano Zapata are quite aware of their existence.

Figure 4.4. Pipelines protruding in a field in Emiliano Zapata, Papantla, Mexico, 2017 © Svenja Schöneich.

This manifests for example, in the restriction on building wells, as Doña Anita complained in her statement at the beginning of this chapter. The course of the underground pipelines also translates into a limitation for sewage system installation and the construction of roads. Furthermore, the installation and maintenance of the pipelines require the opening of the earth's surface, which confines agricultural activities and can cause inconvenience for the residents, when taking place on housing parcels.

Don Francisco is one of the younger residents of Emiliano Zapata, who is a permanent member of the community. He has several jobs for which he regularly commutes from his home via the main road to Poza Rica. His house is situated next to an extraction system in which the flows of liquids that come from several pipelines are regulated. His father inherited this house and when he moved there about a decade ago, the plant was already built, but was not yet operational, probably due to the decline in industry activities at the time. Four years ago, the plant resumed operations, thanks to a new company. Don Francisco knows about the pipelines that run directly under his house and lead to the processing plant. For him, they represent more of a problem than the plant itself. Their installation and maintenance require access to his parcel, where plants and trees get damaged. He also worries about the health of his family, as toxins flow through the ground beneath their feet. "Everything here in Zapata is pervaded by pipelines! Everywhere people are affected by it . . . you can ask almost everyone here. Everyone is affected by the pipelines from PEMEX!" he exclaimed. The pipelines and their transmitted substances are perceived as part of the sensory experience of the materialities of oil in Emiliano Zapata. Since the conscious perception of the material presence of the oil industry and its effects is primarily related to its risks, the correlation of pipelines as a material part of the oil industry, is most likely to be seen as a risk factor. Despite their presence during interviews and talks, for most community members, the exact course of the pipelines and their content remains unknown. This way, the pipelines become the material representation of an obscure hazard lurking underground, even more vividly resembling the the image of a time bomb.

Material Effects on Environment and Agriculture

The truck that drives down the highway behind me seems to be too fast for the questionable road conditions. As he comes closer, I take an extra step aside to let him pass. The sound of the engine is deafening, and the road seems to shake as the truck rushes by. It releases an exhaust cloud around me, which increases the heat for a few seconds—if that is even

possible. As the truck roars off, some oranges tumble down and roll to the side of the road. I pick them up and check them for edibility. Two out of the three pass the visual test and are stored in my small backpack as provisions for the day. Like most trucks driving on the main road at this time of the year, this one was loaded with oranges that were not secured on the loading area. The loss of a few fruits makes no difference for the driver, as their price is low, and the delivery is not calculated per piece but per tonnage. Lately, oranges began to dominate the landscape of the ejido in an almost aggressive way.

The orchards on both sides of the road stand as green espaliers, baked as always in the heat of the afternoon sun. These days, however, it has become busy because the harvest season has reached its peak. Throughout the day massive trucks dominate the roads with their loading areas full of fruits. I am on my way back from the house of Don Enrique, who is one of the oldest members of the community, after conducting an interview with him. He told me about the times when the ejido was founded and people relied mainly on subsistence *milpa* agriculture. I can imagine that the landscape is very different from what I witness today. Emiliano Zapata was relatively remote at that time and the area was characterized by dense vegetation in which vanilla plants grew slightly as tendrils on the tree trunks. Corn and beans were cultivated by slash-and-burn agriculture on the slopes of the hills that run through the ejido. On this hot day, about six decades later, the picture looks very different. The main road I am walking down crosses precise rows of orange trees on both sides, all about the same size with spaces to walk in between and almost no weeds on the ground that could disturb the orderly impression. "When PEMEX came and built this road, we finally got to the markets," Don Enrique told me. "Then everybody started to plant oranges because they fetched much better prices than normal corn." His words echo in my head when another truck passes by. The heat has become very intense during the last hour and caused the harvest activities to halt for today.

At the old gas station to my left, about fifteen young men have gathered and stand in the small shade of its roof. The station itself has not been in use for several years, but during harvest season it turns into one of many collecting points for workers and products. The men are chatting and drinking beer, while waiting for the trucks to pick them up with their day's work. I do not recognize any of them, since they are not regular residents of Emiliano Zapata—they are only here to work and populate the otherwise deserted orchards for a few weeks in the spring and now again in the fall. They are farm hands, *jornaleros*, who are scouring the orchards for mature fruits, which they put in large baskets on their backs. They carry them with the strength of their necks as the baskets are fixed

around their foreheads. During harvest season, anyone who owns an orchard needs help and young men from the area, who have no farmland, take the opportunity to earn some money in other people's orchards. The golden fruits are then transported to collecting points and loaded onto the large trucks. Thousands and thousands of fruits are loaded up each day building orange mountains, which travel by truck many kilometers down the roads. The price for oranges is calculated in tons—and tons of them are leaving Emiliano Zapata each day, going to the cities of Poza Rica and Martínez de la Torre where they are processed. The work is hard and the pay is often low, as are the opportunities to find work in the rural areas of northern Veracruz.

Curious glances follow me as I point my steps to the left at the small intersection that leads to the community center. The asphalt of the road stops abruptly, where I turn left and I leave the route that was once built by and for the oil industry and that now also forms the basis for the agricultural economy of Emiliano Zapata.

From *Milpa* to Monoculture: From Monoculture to Oilscape

In many parts of the Totonacapan coastal areas, oil sources were discovered and were already being commercially exploited in the first half of the twentieth century. During the advancing industrialization related to the oil industry in the coastal areas of Totonacapan, the commercialization of agriculture started its triumphant advance relying largely on the infrastructure facilitated by PEMEX as an indirect effect of the proceeding oil industry (see Gonzáles Jácome 2007: 69; Popke and Torres 2013: 216). As one of the communities where the industrial exploitation of oil sources did not commence before the 1950s, the more recent history of Emiliano Zapata is strongly linked to the *milpa* system as the main economic basis with its specific social and cultural implications. When asked about the living conditions in the community before the entrance of PEMEX, the older residents of Emiliano Zapata almost always mentioned the variety of foods they cultivated through the milpa agriculture, which is perceived as the most incisive differences in today's agriculture. One of them is Don Adolfo, a man in his seventies who grew up in Emiliano Zapata. Today, all his children have migrated to the more industrialized cities of northern Mexico such as Monterrey and Reynosa, while in contrast, he spent his youth in the community living off his *milpa*. He enjoys recalling the old days when he was a young man. Even though the work was hard, he remembered the times as pleasant, since there was always enough and even

more varied food: "The *milpa* was beautiful; I had corn, beans, squash . . . everything. If we wanted something, we just went there and got it. It was a time of abundance back then."

Although the cultivation patterns have changed since the times described by Don Adolfo, many community members rely on agriculture in one way or another and the soil still has an important function for the provision of food. The campesino identity remains strong in Emiliano Zapata, although nowadays the conditions have changed and the main products are usually citrus fruits. When asked if the orchards of oranges that dominate the picture today existed at that time, his answer was clear: "No, because there was no road. You could not get to the city so easily." When PEMEX built the paved road that enabled transportation and safer traveling, people and goods could now travel to the cities of Papantla or Poza Rica with more ease. Suddenly, the community members found themselves in a situation wherein they could transport their agricultural products not only safely, but also efficiently to the urban marketplaces and subsequently sell them. The main road connecting the San Andrés oilfield and subsequently Emiliano Zapata to the cities of Papantla and Poza Rica, became the manifestation of the increased connectedness of the formerly remote community with the urban centers of the global market economy and has thus changed the local economic strategies (see Dalakoglou and Harvey 2012: 459; Harvey and Knox 2012: 523). Faced with these new possibilities, many farmers took the opportunity to change their production to citrus fruits. While vanilla was still a sought-after product, new crops like Serrano chilis, bananas, or papaya entered the market. Moreover, coffee, tobacco, and sugarcane soon became important economic factors for the area. After the prices for bananas and vanilla dropped by the end of the 1960s and 1970s, large-scale citrus orchards became increasingly dominant in the area and continue to be so until today (Popke and Torres 2013: 215–16).

The shift to monoculture not only implied promising revenues, but also transformed the organization of labor and even the environmental conditions. Besides improving transport modalities, the road also facilitated the influx of labor and migrants. The citrus fruits that most residents started to cultivate, are always harvested around the same time and require support from day laborers, who need to be mobilized. Its organization shifted to a higher professionality of labor division and the emergence of a large group of day laborers (see Benquet 2003: 131; Popke and Torres 2013: 216). Before, the fieldwork was mainly done by the families themselves, relying on a system of reciprocity that banked upon the efforts of neighbors, relatives, and compadres. Thus, the shift from *milpa* to commercial agriculture and wage labor, initiated changes in the social fabric too. Don

Antonio, the store owner who remembers the times before PEMEX, began to modify the territory and compared the commonly used *milpa* system to the new farming patterns. He recalled the times before the cultivation of oranges started, when the area was widely covered by native forests referred to as *monte*. Within this area, the farmers used to set up their *milpas* with slash-and-burn agriculture and gathered wild fruits and sometimes hunted animals. The industrialization of the Gulf coast was accompanied by increased deforestation and the opportunities for hunting and gathering wild crops were diminished in the whole area of Totonacapan. The changes in the land use implied a dominant orientation toward cash commercialized agriculture (e.g., Chenaut 2010: 57; Velázquez Hernández 1995: 175). In Emiliano Zapata, cattle also play a role, albeit a minor one, within ejidos such as Emiliano Zapata. Today the cultivation of crops such as oranges predominates pasture, as it is space consuming and thus mostly practiced by large landowners.

The decline of the *monte* and the areas dedicated to *milpa* changed the appearance of the landscape around Emiliano Zapata significantly in the course of only about thirty-five years. When the farmers started to increasingly cultivate cash crops, the landscape tilted toward monoculture and new materials such as fertilizers and pesticides entered the agricultural cycle. Don Emilio has been a farmer since his early youth, as his father before him. Now he is in his seventies and still recalls the years when farming patterns changed in Emiliano Zapata. During the 1950s and 1960s, he, like the other community members, used to the *milpa* products and wild fruits to supplement the daily bumper food supply. In the 1970s, he started to cultivate oranges for the first time. Compared to the present day, products appear more labor-intensive to him and require several additional products, such as fertilizers and pesticides that need to be purchased: "This type of orange that we have now, you have to pamper a lot. You have to fertilize it and spray pesticides and whatnot," he complained to me. The expenses for fertilizers and pesticides used to improve the yield or the decrease in prices for agricultural products on a national level, deminished the gain from citrus fruit cultivation over time. Moreover, the sheer quantity of citrus fruit production in the area nowadays fosters fierce competition between individual producers, but the alternatives to a more profitable form of land use have become scarce. Many community members, therefore, additionally engaged in part-time wage labor activities and thus developed "semiprolitarian" working patterns—a concept relating part-time rural laborers to urban capitalist development (see Cancian 1994: 77). Financial income enabled the acquisition of new materials for housing and thus changed the physical appearance of the community from dispersed huts made from natural materials to houses built

with more enduring materials such as concrete and corrugated metal. The changing architecture, therefore, also forms part of the material formation of the oilscape, as does the frequent pollution and contamination induced by the extraction activities.

Doña Anita was born in the nearby city of Tecolutla and came to Emiliano Zapata in her twenties when she married her husband. In general, she considers life in a rural environment healthier compared to the cities, as she claims. But her experiences in Emiliano Zapata were not as expected. Confronted with several cases of diseases in the community, she began to worry about the industry's negative impact on people's health: "Apart from the smell, sometimes I think that here in Zapata there are many diabetics. I think that the smell might be affecting us. Young people in their twenties with diabetes. I wonder because usually you would assume the food in the countryside to be healthy." Doña Anita's thoughts reflect a common concern for health issues in the community. The effects described by her may be due to the agricultural patterns as well as the extraction activities. Since most community members lack information about the substances that are there or could be exposed to, many feel insecure and fear intoxications or accidents. The types of diseases for which the oil industry is blamed, varies from diabetes to heart and lung diseases, and to a type of rash, which is very common in Emiliano Zapata during the most intense summer heat. However, the exact cause for the increased intensity of the perceived disease in the community is often not very clear. Most people associate them with the contamination of the living environment, and therefore, the air they breathe as well as the food and water they consume. Doña Anita gives an explanation for the cases of disease that she mentioned, and I heard from most community members, who have listed diseases as effects of the oil industry: "The soil is contaminated, the oranges are contaminated, the air we breathe is contaminated. Sometimes at night I look out the window and see the gas flare, and I wonder: Why are we even here?"

Most of the campesinos in the community have experienced several instances of damage to their cultivations over the years, either through the use of territory for the construction of installations and pipelines, or through seepages affecting their fields. Such accidents are quite common—in my one-year field research alone, there were three instances of seepages in the river—and in the questionnaire, 82 percent of the respondents affirmed that they themselves, an acquaintance, or a relative from the community had suffered damages caused by the oil industry.[1] Through several leaks, chemicals and sometimes crude oil seeped into the ground and caused the crops to wither. The damages are paid by the company, but the farmers claim that the pollution has a lasting effect that

is not compensated for since it did not occur directly due to the industrial activities in that particular moment, rather representing a long-term effect.

The decreasing fertility of the soil, climate change and the emergence of certain diseases are also associated with the oil industry at a secondary and an indirect level. As a secondary effect, the frequent contamination of the soil through the oil industry causes diseases and decreases the yields of agriculture. Deforestation causing the perceived temperatures to increase and the biodiversity to diminish further, is a consequence of the expansion of the extraction infrastructure. Indirectly, the effects of monoculture, the increased usage of agricultural chemicals and the ongoing deforestation for the expansion of commercial husbandry are also associated with the oil industry, since the cultivation of cash crops had started with the development of the industrial infrastructure. Thus, the cause and effect of diseases and the quality of the soil are difficult to distinguish for the community members, but equally interpreted as effects of the oil industry that contributed to the establishment of the manifestation of the oilscape. Doña Juanita put across this doubt that many community members harbor, in the following words: "Everything here became lost when PEMEX came, but sometimes one can't explain exactly why. Whether it's pollution or deforestation, or if we're causing it ourselves? We do not know; however, we see that there is something wrong."

Material Modifications of the Oilscape during Crisis

Ultimately, the industrial activities in Emiliano Zapata have declined with the fading oil boom, a fact that had severe consequences for the materialities of oil for the community too. The activities at the extraction wells and the processing plants have decreased during the last decade, less staff is transported to the site and the opportunities for day laboring in the oil industry have also decreased. However, with the fading boom and less extraction activity, the material construction of infrastructure and their inscription in the territory of Emiliano Zapata led to a changing set of circumstances for the community members, which call for new strategies of adaptation and dealing. Many residents and campesinos, who were concerned about the frequency of accidents and the high level of pollution, might hope for a betterment of this situation, but then, the processual withdrawal of the companies also implied further consequences that manifested in the physical appearance of the now decaying materialities and introduced novel hazards.

The issue of safety in terms of possible accidents is a recurring topic for most of the community members who became accustomed to frequent

incidents and accidental pollution over the years. In the first years of the presence of PEMEX in Emiliano Zapata, safety measurements were a minor issue, but the provisions changed in the wake of the first major accidents. When the industry began to develop during the first few years, the oil workers had to adhere to very few regulations and handled their tasks in a rather unconfined manner. Don Emilio recalled the times when the people of the community went to the extraction sites to sell food and alcoholic drinks to the oil workers there, without having to pass any examination with regard to industrial safety: "My business was great back then! Everybody made a lot of money who went and sold drinks or food to the petroleum workers. We sold beer, some even sold ice—I have no idea where they got the ice from, but somehow they did, and they took it all up to the platforms and sold it to the workers who drank a lot." But soon the situation changed after a few incidents had occurred and more stringent safety measures were introduced: "But when the first accidents happened, they start to forbid that. We weren't allowed to sell alcohol anymore it was forbidden to drink." Hence, these regulations increased the safety in the industry, but at the same time, it became harder for the inhabitants to sell their products, since they were not allowed to enter the extraction sites and installations any longer. During the boom times, many community members still profited from the opportunity to sell food or supplies to the oil workers through the opening of stores and restaurants, or they were sometimes even hired on a part-time basis at the company canteens. But over time, the provision of the company staff became even more professionalized, and the local residents had fewer opportunities to do business with them. During the times of the fading boom, from the second half of the 1980s, fewer workers came to the sites and business opportunities were consequently curtailed.

At the same time, the increased safety measures and the diminishing of extraction activities in general, led to a decrease in incidents and the number and frequency of accidents and damages was reduced. This was perceived as at least partly a relief for some of the community members. When new companies were subcontracted by PEMEX in the last ten years, they brought their own staff and were also stricter in terms of safety. Don Ernesto is in his sixties and is a store owner in Emiliano Zapata. He was born and raised in the community. He remembers several accidents in his lifetime, and he also had experience as a laborer for the oil company at times. He told me about the time of the boom, when he was working as a short-term contractor for PEMEX, placing pipelines and repairing leaks: "When I was working with the company, I had to repair several oil leaks. Any time day or night. When there was a leak, we would rush there and repair it, at any time." At the time, he and his colleagues were very busy,

Figure 4.5. Abandoned processing plant at the cuartel in Emiliano Zapata where various decaying industrial installations and provision facilities for company staff are located, Papantla, Mexico, 2016 © Svenja Schöneich.

and frequently had to even work night shifts: "Sometimes they would call you at four or five in the morning: 'We've got another one over here' and you had to hurry to get there as fast as you could."

During that time, he witnessed several incidents, but his last memory of a lethal accident dates back many years, and he claims that fewer accidents occur today due to higher safety measures and less activity. When asked how he would assess the situation, his opinion was twofold: "It changed for the better—for the better because there have been no more deaths. And for bad. Because there are no jobs." The diminished activity also means fewer accidents and less contamination at first sight, but even though no deadly incidents have occurred in the last decade, pollution and contamination remain an issue. The old pipelines continue to leak, and Emiliano has witnessed several cases of seepages. In particular, the pollution of the river that serves as the water supply has upset the community members.

With the withdrawal of PEMEX, the infrastructure, especially the net of pipelines pervading the whole community, now started to lack maintenance. During the peak of activity, the company staff was always around and took care of the installations and pipelines. Community members who were hired like Don Ernesto, were basically living on-site to repair damages as soon as they occurred. Now money and staff are short, and with

time, the old industrial infrastructure has started to deteriorate. PEMEX abandoned several of their installations when the oil boom faded out, which are now left to decay. Among them is a whole area called the *cuartel* where various processing plants, accommodation, and provision facilities for company staff is located. Moreover, many of the pipelines that still transport industrial fluids are now disregarded in terms of maintenance.

Don Aurelio, the husband of my host family and a man in his early forties, was born in Emiliano Zapata and grew up during the boom time. Since his father had many sons and only one ejidatario title to hand down, Aurelio started to work as a day laborer in construction and maintenance for the oil industry. During the fading boom, there were no job opportunities anymore, and he and several of his brothers and acquaintances from the area started looking for work in the industry elsewhere. He now works in the cities of northern Mexico and ultimately has started to work for transnational firms that even sent him and some colleagues to neighboring Latin American countries for several weeks. The contract terms in construction usually last only a few months. Then the assignment is accomplished, and the workers have to start looking for work elsewhere again. His family in Emiliano Zapata depends on the remittances he sends and awaits him when he gets home after a contract ends. I interviewed him when he was at home for a visit, when the contract he had been working on ended, and he had to look for the next opportunity. Since he is familiar with the technical implications of industrial installations, he is well acquainted with the tasks in construction and maintenance. When asked why he does not look for work in Emiliano Zapata or at least the area, rather than in other states, he replied: "At the moment there are not many opportunities. The drilling is done, and the re-dilling as well. There won't be much more." But the infrastructure must also be maintained and PEMEX has reduced their efforts due to a lack of personnel and monetary capacities.

Don Aurelio is concerned about the consequences that the lack of maintenance has triggered and might continue to have in the near future: "Well, the pipleines have to be maintained. There are a lot of pipelines here which are thirty to forty years old that are not working anymore, and lately they were a lot of leaks. Last year there were a lot more leaks here than usual." In order to retard the decay, PEMEX started to contract new companies for the task as soon as foreign companies were allowed lawfully to take over PEMEX installations. The new companies were supposed to conduct the necessary renewal on several kilometers of pipelines, but due to discordances concerning the payment, the maintenance task was delayed and unfinished.

Don Aurelio heard about this contention via acquaintances he knows from his activities as a construction worker and is concerned about the de-

velopment since they mean a potential risk for the people exposed to the pipelines: "They now hired a Venezuelan company that won a thirty-year contract to provide maintenance to PEMEX installations. But PEMEX hasn't paid them yet," his former co-workers told him. And he continued sharing more insightful knowledge: "There is a one-year contract to renew thirteen to fourteen kilometers of pipelines. But in fact, they just renewed like maybe seven, six kilometers in total and then left work unfinished. That is dangerous because when they reactivate the lines again, they're probably going to crack."

Although the inscriptions of the materialities such as the dense net of pipelines have caused quite some damages and preoccupied the community members, they have now become a material part of the living environment, which must be properly maintained in order to prevent further hazards. A simple withdrawal of the oil industry from the community is therefore not a satisfying option for the residents of Emiliano Zapata, even though it has caused nuisances and anxiety with regard to its negative consequences for life and the environment of the community.

The diminished extraction activities often leave the people in the community bereft of the income sources and the—even though sometimes deficient—safety provisions that they are used to. The abandonment of the installations and the toning down of the maintenance now presents them with further challenges. Many of the residents therefore hope for a revival of the industry, which would also allow for securing the infrastructure, in addition to an improvement of the economic situation. Don Adolfo is, as many others, convinced that PEMEX has to return to Emiliano Zapata to prevent further damages to their infrastructure. When asked what he thinks about a possible return of the company, he even claimed that there is no other option for Emiliano Zapata than to come back and continue their work on the industrial infrastructure: "They have to come back. For one simple reason: There are pipelines here that are more than fifty years old that are about to burst." And he leaves no doubt about the consequences of a lack of mantainance on the community. According to his assessment: "Ten more years, and there would be many, many people dying. Ten more years, and that's it. Because there is a pipeline there where we took a water sample that already burst once and contaminated the river. PEMEX took care of it but that was just this one time. Ten more years, and goodbye."

The material installations of the industry have started to deteriorate as a consequence of the oil crisis, and the oilscape enters into new processes of restructuring. Even though many residents would prefer a life without the oil industry in their community, my interviewees could not think of alternate options for different lifestyles that would not include the oil industry in one way or another. The people have gotten used to the inscrip-

tion of the materiality of oil and to a certain degree, become accustomed to disturbance and contaminations as inevitable consequences. When Doña Juanita thinks of possibilities for the future in Emiliano Zapata, she, as many others, envisions a comparable model to the life during the oil boom, but with improved conditions: "For me, it would be better if more companies came here, but they offer jobs. To improve the community. But they shouldn't continue to pollute, which is difficult to do. Maybe that would be too much to ask," she said. For her, the negative consequences of oil extraction have already integrated irreversibly into life in Emiliano Zapata. As a child, she has witnessed the lives of her family being based on small-scale agriculture and the *milpa*, but she perceives the modifications that the environment underwent since then as unalterable, which prevents a return to that lifestyle: "Well, the whole area would have to be cleaned up, so that there would be no pollution no contamination anymore. But that's the question, how to clean it up? I guess that would be impossible," she said with a certain resignation.

Transforming Materialities: Dealing with Physical Manifestations of Oil Extraction

"Do you want milk in your coffee?" Doña Chavelita appears behind the curtain separating her kitchen from the living room. She holds two coffee mugs in one hand and milk in the other. The rain patters heavily against the windows. It had started to rain last night and continues until this afternoon, but the temperature only fell about three degrees, which now creates tropical conditions with a humidity that condenses on the inside of the windows and makes them blurry.

"Yes, please," I answer. I take a piece of the sweet white bread with sugar on top and dip it into my sweetened coffee. When it rains outside, everyone in the community has coffee and sweet bread in the afternoon, and I have also become accustomed to it. Coffee in the mornings, on the contrary, is rather uncommon.

Doña Chavelita takes a seat on the other side of the table. "Look at your shoes!" she exclaims, and I look at my wet feet covered in mud. "Why did you come down here? This weather is terrible." When it rains, the streets, except the paved main road, become rivers of mud and most people avoid going outside. Work in the fields is impossible in this weather anyway and the community members usually stay at home. "I wanted to talk to you today. I assumed you would be home," I say.

Doña Chavelita strokes her hair back and pulls it into a ponytail with deft hands. She had come to the community with her husband about

thirty years ago. Her father was originally from Honduras, and he and his wife settled in the area after he came to Mexico to look for work. He and Doña Chavelita's husband worked as day laborers in construction for the industry, but when the boom faded, her husband went on to look for opportunities elsewhere and left her with their two children. She kept the house by the main road and installed a little vending spot outside her house under the roof of the small porch where she sells sweets and snacks to passersby. Her father and mother passed away years ago. "Well, what do you want to talk about?" She asks. "You want to know about PEMEX right?"

"Yes, exactly." I answer. "I want to know about your experiences with the oil industry and the extraction here in Zapata."

She sighs. "Look Güera, the times when there were opportunities here have passed. Now, only contamination is left." She takes a sip of her coffee. "PEMEX had left the community dry. There is not much left for us now."

"I saw that they recently started to renovate the school." I counter. "Aren't those people from PEMEX?"

"Sure, that's right." She nods. "But that is very little in comparison to what they earn with all the oil they have extracted here. Yes, they have done a few things, they have given us the *comedor*, the roof over the central meeting place, and they have renovated the school buildings. But we need more teachers, for instance. And the *comedor* already has cracks."

Indeed, I have seen the cracks in the building. A week previously, two PEMEX workers had come here to inspect them, but they said that this was normal and was no reason to worry. "And the sewing workshop, right? People here have earned money working for them."

"Yes, they have, but that was a while back. Even this house"—she points to the roof and the floor—"is built with what my husband earned and my father before him. But it is small, and it is old; it needs fixing in several places. But I don't have the money. I have to struggle a lot and there are very few people passing by lately, so business is not good. Most of the people who stop are truck drivers during the harvest season and sometimes the *jornaleros*." She takes another sip of her coffee. "And the sewing workshop," she adds, "did you notice that nobody is using it?"

"Yes, I have" I reply. "But why is that? Aren't people interested in sewing? Maybe they could sell some clothes or mend something here for the community members."

"In theory, yes," She says. "But that would require us to invest additional time, time we would need for doing chores. Moreover, the workshop was given to the *ejidatarios*, since they are the ones who suffered most damages given that it is their territory. And you know what happened

next? They handed over a certain amount of material for sewing, but that material disappeared rapidly. Maybe some have sewed something with it. Maybe some have taken some drapery for themselves. And now? With what should we sew?"

"The people would have to invest first," I admit. She is right.

"Exactly. And where should we get the money from? Maybe the *ejidatarios* will take some money out of the supply and buy new material, but then it's only for them."

"So, you think the programs that PEMEX introduced have not benefited you much?"

"Not much. Yes, they have done some works. That's true, but my point of view is that they could do more. Now their own installations are rotting and they don't do much there either."

I stare out the window while my now lukewarm coffee gets colder. Many of the houses here have been built with material bought with money that was earned one way or the other via the industry. However, many people struggle to get by, especially since the opportunities for work have diminished.

"Aren't you hungry? I'm hungry!" Doña Chavelita suddenly exclaims. "Come eat with me, I'll make us some *huevos a la Mexicana*!"

"I won't say no to that," I smile.

She gets up and goes over to the stove. "It has gotten so dark already," she said and turns on the lights on her way. Looking at the naked light bulb on the ceiling, I can see that it is made of corrugated sheet iron as in most houses around. I can also see that it is attached to old pipelines as shoring, as is quite common with the houses in Emiliano Zapata.

Failing Materialities: Damages and Compensations

Not all infrastructural facilities the community is provisioned with today were constructed by PEMEX but the presence of the company indeed had a big influence on infrastructure development, especially in the 1950s and 1960s when the area was of a rural character and many local communities were quite remote (see Chenaut 2010: 57; Popke and Torres 2013: 215). While the road and the bridge are perceived as beneficial to the community, that was not their original goal. In actuality, they were built to facilitate extraction logistics. In contrast, the oil company also participated in other installments designed to fulfill the purpose of benefiting the community as part of a set of sustainable development goals or corporate social responsibility (CSR) matters, and they paid compensation to the affected community members in lieu of the damages caused to the environ-

ment. These measurements were designed to compensate disadvantages and damages caused by the industry to the population.

During the first decades of PEMEX's operation in the San Andrés oilfield, benefits for local communities affected by extraction activities, like Emiliano Zapata, have been a very minor issue for the company (García-Chiang 2018: 2). When the oil company arrived in Emiliano Zapata, arrangements with the residents were mostly conducted in an unofficial and not so transparent manner. At the outset, the company often claimed plots and marked them within the territory without the authorization of the farmers. Don Umberto, one of the oldest community members and part of the ejido council, remembered how during the first years, the practice of compensations depended on the individual decisions of the leading foremen if damaged crops and terrain was compensated for: "One day one of the petroleum workers told me: 'You have to claim the damage now that the foreman comes.' I didn't even know that was possible and I was surprised. 'And then I get paid for it?' I asked. 'Yes,' he said." Nowadays, Don Umberto, like his fellow farmers, know that damage must be compensated by the company, but during the first few years, the farmers did not know their rights and even less about how to go about claiming them. Therefore, many of them were never compensated for the loss of territory of crops during the first few years.

PEMEX did not make their practices transparent to the residents in the first years and during the 1960s and 1970s, this practice changed only a little. Nevertheless, the community members engaged in negotiations with the staff and achieved several informal agreements regarding compensations for their losses over time. As the industrial activities increased in the area, PEMEX also contributed to the progress of buildings and facilitated access to the water supply they installed in the community. Unfortunately, this supply crashed after a severe flood in 1999 and was not reestablished afterward. Furthermore, the company offered several benefits for the community, and continued it in the 1980s and 1990s, when they contributed to the construction of buildings for official use like the schools and the agencia municipal. Furthermore, the official policy of the company toward the establishment of stricter safety regulations and the furthering of development contributions for affected communities had undergone changes. The payment for damages was also regulated and today follows a catalog of fixed prices depending on the damaged good. In 1996, PEMEX implemented security and environmental protection practices into their company guidelines and thus created the Corporate Industrial Safety and Environmental Protection Division. The division aimed to carry out safer and more environmentally friendly operations (García-Chiang 2018: 2). Many community members perceive the increased safety mechanisms

and in particular, the services, to be a valuable contribution to the development of Emiliano Zapata and associate these benefits directly to the establishment of the company. Don Esteban, like many others, is convinced that the material development in Emiliano Zapata would look very different without the contributions the company facilitated. Asked about how he would imagine the community today if PEMEX would not have come to Emiliano Zapata, he emphasized the importance of the road built by the company for the present state of the community: "The company built the highway and that was very important. We didn't even have a road, nor the secondary school and not even the primary school. Maybe we could have built them without the company's money but only with great sacrifices." While the creating of benefits and compensations for affected communities has only been a very marginal issue for PEMEX for many years, ultimately, the implementation of measurements of benefits for affected communities has increasingly become part of the company principles.

In 2006, PEMEX integrated a new model for sustainable development into their corporate strategy, which among other things, was supposed to further environmental protection and beneficial works and actions in affected communities (García-Chiang 2018: 2; García-Chiang and Rodríguez 2008: 26). The trend to further incorporate responsibility toward the public and with it, the population affected by its activities, has then spread internationally. A global CSR movement further institutionalized social responsibility mechanisms into the economy in the 2000s (Dolan and Rajak 2016: 1–2). As a national player of international economic importance, the company PEMEX has introduced CSR into their 2010–2025 Business Plan, as one of the four lines of action in 2010. Thereby, PEMEX seeks to implement CSR mechanisms to "improve the relationship with various stakeholders and incorporate sustainable development in business decisions"[2] but also implements sustainable development measures for affected communities and promotes social development via mutually beneficial works and donations among others. A program called Programa de Apoyo a la Comunidad y Medio Ambiente (PACMA) was launched in 2013 as a support program for communities and environments that are part of the PEMEX operating areas. It officially promotes social development through investment based on shared responsibility between the public and private sectors. The program is funded to around 2 percent through contracts signed between PEMEX and its suppliers or subsidiaries. In the past, there were some questions about the transparency of the PACMAs, but recently the Inter-American Development Bank has named the model for a best practice example in its Extractive Sector and Civil Society report 2018 (Milano and Irazábal Briceño 2018: 80–82; PEMEX 2018; Redacción Proceso 2017). Emiliano Zapata has profited from this program so far through the

Figure 4.6. Signboard by PEMEX at the fence of Emiliano Zapata's *telebachillerato*, which is renovated with money from the PACMA program, stating the exact sum spent and the number of beneficiaries, Papantla, Mexico, 2018 © Svenja Schöneich.

construction of a sewing workshop and the community kitchen, in addition to the renovation of schools.

Hence, the benefits for the community are mainly of a material nature and are manifested in the form of buildings or roads that require mainly a onetime investment rather than long-term projects. Before a new project is implemented, the company usually contacts the local authorities who then discuss the matter with the inhabitants and report back their priorities to the company. This enables the community to take part in the decision-making process in the context of new installments. Nonetheless, their actual options for participating in determining the support programs are limited to a minimal level. During my interviews, the programs and accomplished works of the oil companies were frequently mentioned, but most people saw them as low threshold and perceived the community as being entitled to more benefits due to the severe effects that the oil industry had wreaked on their territory and lives.

Most community members today, therefore, appear rather unsatisfied with what they have received from the oil company. Don Alberto is a sixty-year-old ejidatario. He has witnessed the beginnings and the boom of the company and lived through the decline of the industry. When asked about the benefits that he thinks Emiliano Zapata enjoys because of the oil industry, he admitted that there are certain positive effects, but he is also convinced that the benefits do not outweigh the negative effects: "If

we talk about benefits—yes, there are some. The highway for example, so we can transport our products, but in fact our community suffered a lot of accidents and damages. More than other communities. It was more damages than benefits. Let alone the pollution." Benefits facilitated by the oil company thus form part of the "resource effect," where the benefits of the oil industry are rather short-term measurements that do not offer real alternatives or lasting changes for the betterment of the community members (Weszkalnys 2016: 132–33). But even though the material compensations from the company have often caused discontent to the residents regarding their deficiency, they have contributed to the provision of a variety of facilities in Emiliano Zapata. They, therefore, present a way in which physical manifestations of compensations within the community become an extension of the materialities of oil, inscribed into the ejido and communal territory of Emiliano Zapata.

From Peril to Virtue: Repurposing Oil Materialities

During their long history with the oil industry in their territory, the community members of Emiliano Zapata have become beneficiaries of a material endowment with infrastructure and the provision of buildings. Nonetheless, those measurements were taken mainly as an initiative by the company as part of their CSR or sustainable development agenda and the community members themselves had little room for participation in the decisions. In the meantime, the residents of Emiliano Zapata have developed further strategies for dealing with the material implications of oil on their own agenda, which allow for a higher degree of self-determination. Thereby, the material elements of the oil industry are taken out of their initial context and new meanings and purposes are assigned to them. The frequent usage of roads and bridges built by PEMEX for the transportation of agricultural products may already count as an example of such a reinterpretation of industrial infrastructure. However, even if they were not built with that original purpose, their utility did not exclude use by community members. In other cases, the residents of Emiliano Zapata also use infrastructure that was determined for a completely different purpose and reinterpreted it. This is, for example, the case for decommissioned[3] pipelines as described in the vignette at the beginning. Many people have built their homes with money that they have earned from the industry.

Elderly community members told me about the composition of wooden posts or bamboo with roofs of palm branches, now most residents own homes made from concrete. With the boom of the oil industry, several work opportunities and options for participating in the local economy exceeding

the limits of the community, found their way into Emiliano Zapata. With their rejuvenated income situation, the lifestyle also changed, including housing patterns. Material for house building is costly and particularly after the boom had faded and the economic upswing turned down for the community members too, several people resorted to improving their houses by borrowing material from their surroundings. The most obvious and practical option for the purpose is pipelines since they are durable but relatively lightweight, available in all sizes and spread all over the community. Pipelines, therefore, became a common material used in home improvement, as buttresses or the support framework for roofs.

Decommissioned pipelines can also serve as fences or can be bundled together to function as little bridges over streams of water. Sometimes, they even become improvised playgrounds or benches. In this way, old pipelines have become part of the physical experience of the living environment in Emiliano Zapata. Here, they not only fulfill their purpose as transport infrastructure for industrial fluids, but also serve as a contributor to the material composition of private spaces such as houses and backyards or public spaces such as bridges and recreational areas.

However, it is not only pipelines that are repurposed by the community members. Abandoned installations are partly used for novel purposes

Figure 4.7. Decommissioned pipelines used as ceiling joists of a house in Emiliano Zapata, Papantla, Mexico, 2018 © Svenja Schöneich.

Figure 4.8. A large, decommissioned pipeline used as a bench on a playground in the colony of San Andrés in Emiliano Zapata, Papantla, Mexico, 2018 © Svenja Schöneich.

that differ from their original intent. During my research, I participated in meetings that took me to the old sentry, abandoned by PEMEX. Now that PEMEX has left the space, the ejido council repeatedly tried to reclaim the area, but the term of contract prevents the usage of farmland for other activities. Usually, the community members avoid this area, since its secluded location and the critical safety situation in the region causes them to be apprehensive of interrupting illegal activities. In special cases and with the approval of the company, those spaces become partly re-inhabited for short periods of time. In this case, an association of an anti-drugs movement had rented out the facilities, led by Don Raymundo, a local member who lives in San Andrés. The sentry was then used for a two-day venue, where people of different ages with problems related to drugs and alcohol, came together to receive assistance and strengthen togetherness. Most participants came from the local area, but some even arrived from faraway places like Mexico City, since the organization is part of a nationwide network. Don Raymundo, a man in his forties who was once an alcoholic, organizes local meetings on a regular basis and facilitated the contacts that allow for such camps to be conducted in this particular space. Since it is difficult to find proper locations for carrying out such undertakings, the idle installations represent a useful opportunity.

As many of the spots within the ejido territory cannot be used by the community members anymore since they are still officially occupied by PEMEX, even though they are not in operation, several farmers have started to illegitimately use the areas anyway, mostly for crop cultivation, but sometimes even for housing. In the ejido council, the risk regarding constructions and cultivations in a certain proximity to PEMEX installations are frequently discussed. On the one hand, the risk of loss is higher within the range of the installations, even if they are not functional. On the other hand, farmland has become scarce and the extension of the utilized territory might imply higher yields and additional income. Therefore, people frequently pass the minimum distance to the installations to expand their farmland, risking their crops and even their health or lives. Sometimes, these kinds of risks are calculated and can be comprehended as part of a strategy for reinterpreting material risks factors for personal benefit.

Doña Regina is in her late thirties and lived all her life in Emiliano Zapata. While she has separated from her husband after the couple had some troubles, both her sisters are married and live in the community, one to an ejidatario. Doña Regina is very active in the community, participating in several of the community committees, and therefore, is quite familiar with many people and the community. She is always well informed about what is going on in Emiliano Zapata, more so because of her customers, who often stay and chat when visiting the sewing workshop where she offers services to community members. She participates in all community assemblies and has a critical stance on questions regarding benefits from the oil industry, which is why she engaged in activities to make claims from the company in cases of damages in public spaces and supporting other community members to present their case to PEMEX staff when they have been affected by damages or disturbances. Therefore, she is often frustrated when other community members do not participate in the same way. When I asked her why she thinks that in Emiliano Zapata, very few people engage in protests against the oil company even though they frequently suffer damages, she responded: "They don't want to, because of the money. Because they are waiting for PEMEX to come and find oil under their plot. They want the money, that's why they don't want to sell the land either." Being a small-scale farmer does not bring much income anymore and even the cash crop products often do not sell well and furthermore, underscore a fierce competition in the market. Agriculture mainly only pays off when a rather big area is available to be farmed. In some parts, where the soil does not serve well for cultivation, or many pipelines or installations complicate agricultural activities, the farmers continued to sow crops and hope for compensation money, in case damages arise. Doña

Regina explained: "I have a brother-in-law who has an orchard close to one of the installations, that he didn't want to sell because he's awaiting a leak or damage. The orchard is not even fertile anymore, but he would wait for something to happen so he would get compensation money."

However, not only does her brother-in-law passively await damage on his unused land to come through, but he actively engages in activities that would raise the value of the affected land and consequently, the respective compensations. "He planted some orange trees there because he says that the more damaged trees there are, the more money they will get." Said Doña Regina, and with a certain frustration she added: "That's how he thinks, and many others do too. It became a business for many farmers, and they don't care if their plants dry out or become polluted." Through this and other strategies, the community members have found a way of turning risk into virtue. While the material modifications of their territory by the industry have led to increased jeopardy for their surroundings, people adapted by developing mechanisms to deal with that risk, to work around it and seize the materialities of oil in their own way. They thereby even managed to partly transform perils from oil materialities into potential benefit. The oilscape in Emiliano Zapata, therefore, is not only imposed by the material terms of the oil industry, but actively negotiated and shaped by the community members and their practices of adaptation and repurposing oil extraction materials too.

The Materialities of Oil as Inscriptions of the (Time) Bomb

In Emiliano Zapata, the presence and the material implications of the oil industry have left visible, audible, and palpable traces everywhere in the community. They are detected by the community members, who partly negotiate their intensity through selective perception on the one hand, and on the other hand, have developed adaptation and coping strategies that allow them to act on and to interact with their living environment despite the challenges posed by the temporal process of oil. The effects of the extractive oil industry have inscribed themselves into the local environment to a degree, to which they have become integrated into the material appearance of the community Emiliano Zapata. This process of transforming Emiliano Zapata into an extraction site includes also the integration of risk as well as benefits of the oil industry into the living environment and have called for manifold short-term coping mechanisms as well as long-term adaptation of local sociocultural patterns on the part of the community members (see Oliver-Smith 2013: 277). Hence, they themselves are actively taking part in the constant reshaping of the oilscape.

While the infrastructure patterns of the area have been significantly determined by the oil industry, the landscape around the extraction sites progressively adapted to the constructions and newly created routes of transportation. At the same time, the community support programs have benefited the residents as a consequence of industrial development. First, the modifications within the economic basis, namely subsistence agriculture, then led to a new set of changes including the connection to local markets and the subsequent adaptation of consumption patterns. The community members were exposed to new types of food, but at the same time, the variety of agricultural products for autoconsumption declined. The incoming flow of money, job opportunities and goods altered the housing patterns as well as the options for work outside of agriculture. Yet, the difference in this case compared to others is the establishment of the extraction site not only in the wider region, but directly on the community territory, which came with a set of particularities of the situation.

There are monetary benefits and the provision of buildings as part of the company CSR measurements, both of which are perceived by many as positive contributions to community life. Therefore, the material impact of the oil industry on the residents of Emiliano Zapata becomes a double-edged issue. While their lives are inevitably tied to its implicit benefits, they also live with the constant fear of installation failures that would mean toxic or explosive accidents for humans and animals or at least serious damage to the fields and water sources. Nevertheless, the community members found ways to deal with the uncertainties via selective perception of warning signs, for example, the awareness of the distinct scent of particular toxic fumes or the recognition of certain noises that indicate failing facilities. Through processual habituation and overlooking some inevitable risks as a consequence of the lack of information, the community members managed to adapt to the uncertain situation despite being constantly exposed to health threats (see Auyero and Switsun 2008: 374; Salas Landa 2016: 730–31).

After the fading of the oil boom, the oil crisis has presented the community members with new challenges. While a number of accidents happened during the first decades of the San Andrés oilfield, the now abandoned facilities and decaying infrastructure present novel risks to their environment and increase the feelings of insecurity. The community members cope with the risky implications of polluting or failing installations by claiming compensation payments and benefits for damages. Nonetheless, most inhabitants of Emiliano Zapata today are unsatisfied with the benefits they receive from the oil company and consider them only short-term and insufficient in light of the negative outcomes. The benefits provided by the industry have thus caused a "resource affect"

(Weszkalnys 2016: 132–33), where short-term benefits do not offer a viable solution for the creation of livable futures in the long term and are therefore perceived to be deficient.

Apart from claiming certain benefits from the oil company, the community members of Emiliano Zapata also developed strategies for direct appropriation of the oil materialities. The process of appropriation and repurposing of oil installations manifests, for example, in the way in which the community members make use of oil pipelines and integrate them into their housing patterns and public places. Especially in times of crisis when material for house building is difficult to obtain and pipelines are poorly maintained by the oil companies, this practice has become a valuable coping strategy for crises and has also become a prudent way of dealing with decaying infrastructure. Another way of transforming the material implications of oil and assigning beneficial properties to them are, for example, the reinterpretation of risk and mitigation. Community members use the promising compensation payments for damaged crops, cultivating plants close to the extraction facilities, where there is an increased probability of them being affected by seepage, thus enhancing the probabilities of being granted compensations. The community members engage in these actions as strategies of dealing with the uncertainties surrounding them, utilizing the materiality of oil itself.

Notes

1. "Yo he sufrido daños o conozco personas de aquí que han sufrido daños por PEMEX/las empresas petroleras."
2. "PEMEX (homepage)." Retrieved 5 April 2022 from pemex.com.
3. The illegal excavation of pipelines is a recurrent issue in Emiliano Zapata and has been a pressing issue for the oil companies that are reliant on an intact net of pipelines and the unauthorized removal can provoke severe accidents and seepages of toxic fluids. During my research, I have encountered two cases of unauthorized removal via narrations that had taken place only shortly before, but I have not witnessed the actual act of extraction. As people know well about the illegal character of this endeavor, it is difficult to document it with conventional ethnographic methods and since the issue only plays a minor part in the overall analysis, I did not pursue the matter explicitly.