

**GLOBAL
INITIATIVE**
AGAINST TRANSNATIONAL
ORGANIZED CRIME

PEOPLE AND FORESTS AT RISK

Organized crime, trafficking in
persons and deforestation
in Chihuahua, Mexico



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deforestation in Chihuahua, Mexico*

April 2020

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Cover photograph: Between 2007 and 2012, an average of 8 434 forest fires occurred each year in Mexico, resulting in an average loss of 348 000 hectares annually. © *Andrea Pistoletti/Getty Images*.

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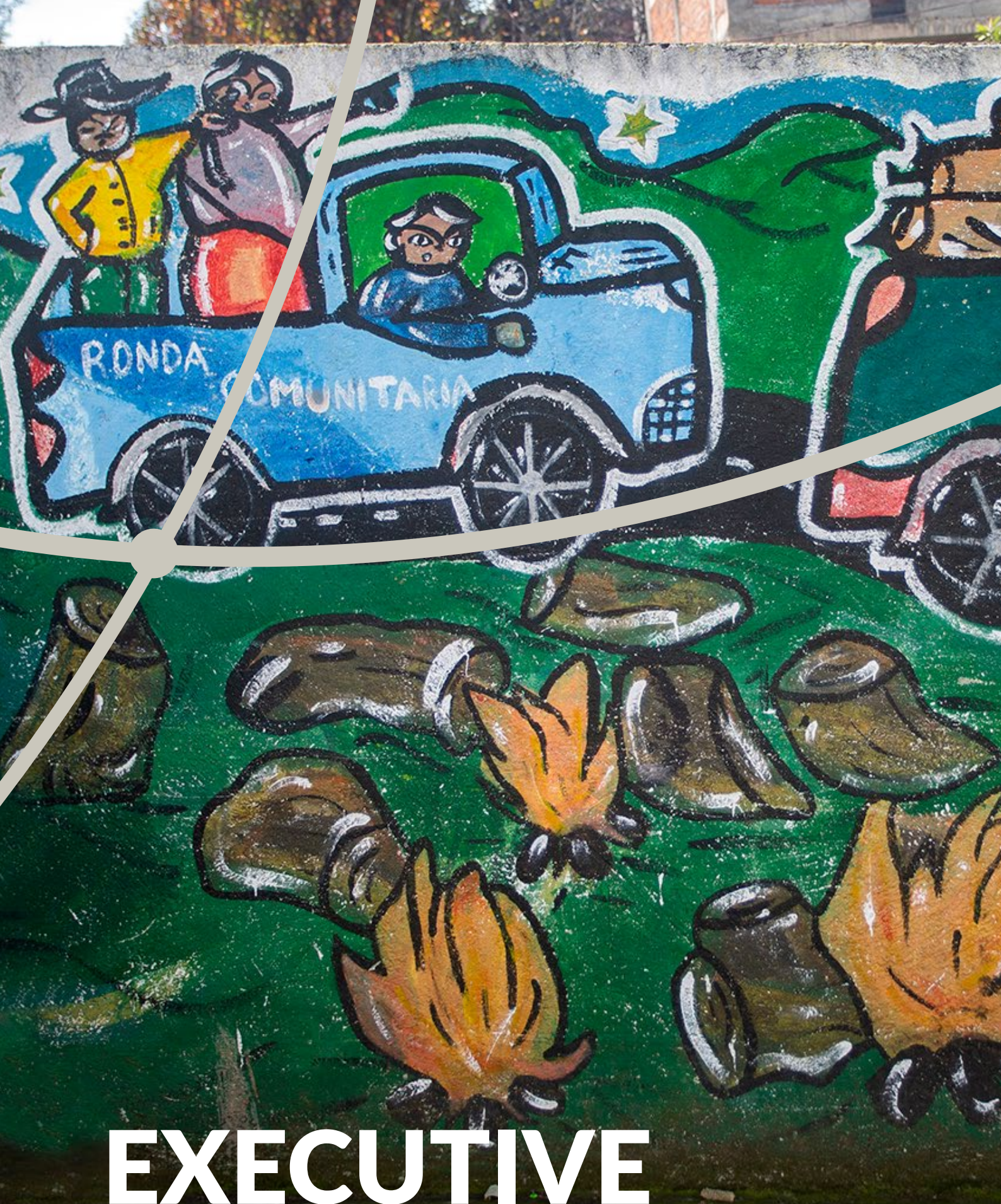
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ACRONYMS

CEAV	Executive Commission for the Attention of Victims	LAC	Latin America and the Caribbean
CFE	community forest enterprise	LFT	Federal Labour Law
CIEL	Center for International Environmental Law	LFPED	Federal Law to Prevent and Eliminate Discrimination
CJNG	Cartel Jalisco Nueva Generación	LPSTP	Law to Prevent and Sanction Human Trafficking
CNDH	National Commission on Human Rights	MXN	Mexican pesos
COEPI	State Commission of Indigenous People	NEPCON	Nature Economy and People Connected
CONAFOR	National Forestry Commission of Mexico	OECD	Organization for Economic Cooperation and Development
CONAPRED	National Discrimination Prevention Council	PFC	Commercial Forestry Plantations
CONEVAL	Mexico's National Council for the Evaluation of Social Development Policy	PPE	personal protective equipment
CSO	civil-society organization	PROJAM	Programme for Migrant Agricultural Labourers
DTO	drug-trafficking organization	PROFEPA	Federal Prosecutor of the Environment Protection Agency
EIA	Environmental Investigation Agency	PSTF	forestry technical services providers
ENADIS	National Survey on Discrimination	RACT	Regulation of Worker Placement Agencies
ENOE	National Occupation and Employment Survey	SEMARNAT	Mexico's Secretariat of Environment and Natural Resources
FAO	Food and Agriculture Organization of the United Nations	STPS	The Mexican Secretariat of Labour and Social Welfare
FSC	Forest Stewardship Council	SINANP	National System of Natural Protected Areas
GI-TOC	Global Initiative Against Transnational Organized Crime	UMAFOR	Forest Management Unit
HDI	Human Development Index	UNAM	National Autonomous University of Mexico
ILO	International Labour Organization	UNICEF	United Nations Children's Fund
IMEXFOR	National Association for Importers and Exporters of Forest Products	US	United States
IMSS	Mexican Institute of Social Security	USD	United States dollars
INEGI	National Institute of Statistics and Geography	WEF	World Economic Forum
IOM	International Organization for Migration		
J/TIP	United States Department of State's Office to Monitor and Combat Trafficking in Persons		

► **Coloradas de la Virgen, a remote village in the Sierra Tarahumara, Chihuahua. Indigenous populations are particularly vulnerable to marginalization, exploitation and violence linked to organized crime.** © Andrew Lichtenstein/Corbis via Getty Images





EXECUTIVE SUMMARY



The Global Initiative Against Transnational Organized Crime (GI-TOC), with generous funding from the United States (US) Department of State's Office to Monitor and Combat Trafficking in Persons (J/TIP), conducted research on the Mexican forestry sector in 2018 and 2019 to identify links between organized crime, trafficking in persons and deforestation.

The linkages between environmental degradation and human trafficking have previously been explored. However, there is a lack of previous detailed research that examines the nature and mechanisms connecting organized crime, environmental degradation and human trafficking for labour exploitation, or that identifies clear intervention points for specific sectors.

Labour issues in the logging industry have received little attention. In frontier logging zones, there are human-trafficking risk factors, such as displacement, corruption and organized criminal activity. There is also trafficking in illicit goods, such as illegally mined minerals and wildlife products. Workers in illicit industries, such as illegal logging, are inherently at greater risk of human trafficking for labour exploitation as they cannot turn to the authorities for help, and their employers operate out of sight of law enforcement.

To address this gap, the GI-TOC examined the links between organized crime, human trafficking and environmental degradation in the context of active deforestation.

This research found that in the state of Chihuahua, the growing involvement of organized crime in illegal logging and related activities had greatly increased levels of violence, displacement, vulnerability to being trafficked and deforestation. Illegally logged wood from Chihuahua is often laundered and used in the manufacture of consumer goods exported to the US. This means that without effective due diligence, companies and consumers who purchase wood-based products from Mexico may be financing organized crime, and contributing to trafficking in persons and deforestation.

- ◀ A mural depicting rangers and illegal loggers in Cheran in the state of Michoacán, Mexico. Communities here have adopted various strategies to resist the onslaught of organized crime. © Enrique Castro/AFP via Getty Images

Drug traffickers who are involved in illegal logging have also been associated with land grabs and deforestation.

The research process began with a literature review and remote expert consultations to gather information on the forestry sector, organized crime, labour issues and forestry-related environmental degradation; and to inform the selection of locales and the development of security protocols. The GI-TOC chose to carry out field research in Chihuahua. This included interviews with workers, community and *ejido* (communal land) members, the private sector and experts from the government, academic institutions, civil-society organizations (CSOs) and international organizations.

In Chihuahua, researchers found a clear link between the growing presence of organized crime and the forestry sector. The involvement of criminal groups, especially international drug-trafficking organizations (DTOs), was found to significantly increase the risk of trafficking in persons and deforestation.

The research indicates that organized criminal groups have become entrenched at various levels in the wood supply chain in Chihuahua. Local 'mafias' have been involved in illegal logging in Chihuahua for decades, but an influx of DTOs in recent years has greatly increased the level of violence, along with other social and environmental impacts. DTOs are directly involved in illegal logging and the control of sawmills, but also benefit tangentially by extorting actors along the supply chain and using the sector to transport drugs and launder drug money.

The research also found that the presence of organized criminal groups greatly increases the risk of trafficking in persons.

Some of the newer, more violent DTOs that have appeared in Chihuahua engage in the forced recruitment of teenagers, mainly from indigenous communities. In these instances, adolescents are coerced into illegal logging and other illicit activities, with DTOs using the threat of violence and induced drug addiction to retain their recruits.

The presence of organized crime also contributes to vulnerability to trafficking in various indirect ways. Community forest enterprises (CFEs), *ejido* members and sawmills are often forced to make regular *piso* (protection) payments (or else face threats and violence), which can lead to indebtedness and pressure to increase production. This, in turn, can lead employers to institute practices such as forced overtime – an indicator of forced labour. Additionally, the violence and fear associated with organized crime impede workers' freedom of movement. Given threats of violence, employees are far more hesitant to leave their job when their employers are believed to be affiliated with DTOs.

Drug traffickers who are involved in illegal logging have also been associated with land grabs and deforestation. These activities often result in the forced displacement and migration of vulnerable, mostly indigenous people, who are at a high risk of becoming victims of trafficking in the forestry and agricultural sectors.

Previously, DTOs engaged in displacement and deforestation to clear land for the cultivation of marijuana and poppies. However, they soon realized that they could make easy money through illegal logging. It has since become a major source of revenue that elicits much less oversight and carries far lighter penalties than other illicit activities.

The increased involvement of organized crime in illegal logging heightens the risk of deforestation, as DTOs show no respect for environmental legislation and frequently

engage in clear-cutting (a forestry or logging practice whereby most or all trees in an area are uniformly cut down). Deforestation takes away the livelihoods, firewood and clean drinking water of local populations and contributes to climate change on a local level. Together with violence, deforestation therefore causes displacement and vulnerability to trafficking in persons.

The problem of marginalization and discrimination against members of indigenous communities is significant across Mexico, and these groups are especially vulnerable to exploitation. When coupled with language barriers, limited access to education and scarce job opportunities, they often have no option but to migrate for work in other regions. Mexican authorities have failed to effectively address increasing forced displacement of indigenous communities, thus exposing them to a risk of trafficking in persons and labour exploitation related to violence, displacement and deforestation.

The GI-TOC found that illegally logged wood – which finances organized crime and conflict, and is linked to trafficking in persons and deforestation – is used in consumer goods sold both domestically and in the US.

Sawmills frequently 'launder' illegally logged wood by mixing it with legally logged wood, making it virtually impossible to trace the wood back to its source. Due to lax legislation on imports of illegally logged wood and weak enforcement of existing laws, Mexico is also a transit point and destination for large amounts of wood from countries such as Peru and Brazil – countries that have a high rate of illegal logging and deforestation, and a documented risk of trafficking in persons connected with the logging sector.

Unscrupulous intermediaries and manufacturers purchase wood from sawmills and importers, and use it to manufacture consumer goods such as furniture, broomsticks and lumber, as well as crates and pallets. Many of these products are shipped to the US or are used in the transport of goods such as produce and construction materials.

The researchers were able to trace the purchases of major US-based retailers and producers of consumer goods back to manufacturers in Monterrey, a city in Mexico's Nuevo León state, a major manufacturing hub for export goods. These manufacturers, in turn, purchase wood from sawmills in high-risk areas of Chihuahua with no due diligence conducted on the legality of the wood, or connections to organized crime, trafficking in persons and deforestation.

This report provides a series of recommendations for the Mexican government and countries that import wood-based products from Mexico. As the research carried out for this report was a rapid appraisal, it includes recommendations for more in-depth research on the forestry sector, organized crime, trafficking in persons, environmental degradation and interrelated topics. Finally, there are also recommendations for the private sector and government actors to reduce the risk of trafficking in persons and deforestation in Mexico's forestry sector.

Key recommendations for the government of Mexico:*

- Improve mechanisms to identify and refer victims, especially among vulnerable populations, such as migrant workers employed in illegal logging.
- Ensure that all suppliers of timber and wood-based products to the federal government conduct rigorous due diligence on trafficking in persons in their supply chains.

Deforestation takes away the livelihoods, firewood and clean drinking water of local populations and contributes to climate change on a local level.

- Strengthen the labour inspection system, particularly in the forestry and agricultural sectors, and enforce laws to hold fraudulent labour recruiters accountable.
- Develop resilience indicators to identify effective community initiatives to resist organized crime, as well as identify, raise awareness of, encourage and fund the replication of best practices.
- Promote multi-sectoral (environmental, law enforcement, labour and human-rights institutions) strategies and actions to eradicate illegal logging, with a special emphasis on rural areas and indigenous populations.
- Improve oversight, and establish protections and incentives for wood producers that operate in accordance with the law, in cooperation with IMEXFOR.
- Promote fair trade practices that benefit local certified timber producers, in cooperation with the Secretariat of Environment and Natural Resources (*Secretaría de Medio Ambiente y Recursos Naturales* – SEMARNAT).
- Provide enforcement bodies with the necessary resources, training and security to allow for the effective enforcement of regulations on illegal logging and environmental degradation.
- Integrate forced-labour indicators into Mexican timber certification schemes.
- Enact legislation that requires companies to disclose due-diligence efforts in ensuring that wood purchases do not fuel illegal logging, environmental degradation, organized crime and trafficking in persons.

* A full list of targeted recommendations (including recommendations for further research and for the private sector) begins on page 58.

Methodology

The methodology focused on three objectives:

1. To develop an analytical approach for examining and documenting the relationship between organized crime, labour trafficking and environmental degradation associated with deforestation.
2. To conduct qualitative, comparative research in deforestation hotspots, examining and documenting the relationship between environmental degradation and crime risks (including labour trafficking).
3. To create awareness of the connection between environmental degradation associated with deforestation and illicit activities in Mexico.

The methodology was specifically selected to help identify how organized crime elevates the risk of trafficking in persons and deforestation in the forestry sector. Qualitative data techniques included key informant interviews, focus group discussions and analysis of existing literature. Sampling techniques included purposive and snowball sampling.

The research was divided into three components, namely a desk review, rapid analysis and field research. The desk review gathered information on relevant legislation, and the ways in which forest exploitation (both legal and illegal) and organized crime increase vulnerability to trafficking in persons, and environmental degradation. The GI-TOC also conducted desk research on the security situation in Mexico and the



regions considered for field research as part of the selection process, and to ensure that appropriate security measures were put in place.

Desk research included a review of academic literature, government reports, civil-society reports, press articles, statistical analysis of previous studies and legal reviews. The desk review was complemented by telephonic interviews with international, country and local experts.

Based on the findings of the preliminary desk research, the GI-TOC selected Chihuahua for field research to examine how the involvement of organized crime in illegal logging and the extortion of forestry-sector actors increase trafficking-in-persons vulnerability. The GI-TOC also carried out a rapid assessment of forestry supply-chain dynamics in Monterrey.

The goal of the field-research phase was to document the context, causes and presence of trafficking-in-persons indicators related to forest-sector activities and environmental degradation by engaging, to the extent possible, with workers and communities. Researching sensitive topics required a careful approach and mitigation measures to protect the security of both the research team and research subjects.

Field research visits were conducted in Chihuahua in 2019. The research included telephonic and face-to-face interviews with key stakeholders and experts at a regional, national and local level, including government officials, civil-society representatives and grassroots/local informants. Interviews were conducted in Spanish by experienced GI-TOC researchers.

Deforestation in Mexico is usually related to illegal logging, forest fires, the conversion of forests for agricultural use and pastureland, and logging for firewood.

© Adid Jimenez/EyeEm



Focus group discussion with *ejido* representatives in *ejido* premises, April 2019

© Rosalba Landa

Once the field research was complete, another round of desk research was conducted to help answer outstanding research questions. There is very little publicly available information on working conditions in the forestry sector. Researchers therefore relied on interviews with local experts, members of *ejidos* and indigenous communities and workers (including in focus groups), to assess working conditions in Chihuahua's forestry sector.

Sampling

Researchers conducted interviews with experts from various institutions, including national, regional and local-level government offices; *ejidos* and indigenous communities; national, regional and local-level CSOs; and migrants in or near migrant shelters.

Testimonies from workers and community members were extremely important. There has been very little research on labour conditions in the forestry sector and others related to deforestation in Mexico, and workers and community members are thus the main experts on this topic. Where possible, researchers triangulated data and information against stakeholder interviews and existing reports.

In Chihuahua, researchers interviewed 55 workers and *ejido* members (individually and in focus groups), and a total of 15 experts. The GI-TOC developed and used semi-structured interview questionnaires.

Researchers generally focused on interviewing workers in their communities of origin and near their worksites, as opposed to within their places of work. The latter could create risks of reprisals, and workers would be less candid about sensitive issues such as forced labour. Some members of indigenous communities were interviewed outside of their communities to protect their safety.

TABLE 1 Overview of group discussions from field visits to Chihuahua

Occupation	Number	Municipality
Forestry engineers: external technical service providers to ejidos	6	San Juanito, Chihuahua
Ejido members and workers	10	San Juanito, Chihuahua
Ejido members and workers	16	San Juanito, Chihuahua
Ejido members and workers	23	San Juanito, Chihuahua
Total interviewed	55	

TABLE 2 Chihuahua expert interviews

Number of experts interviewed	Institution	Location
5	CSO	Chihuahua, Chihuahua
4	Government	Chihuahua, Chihuahua
2	CSO	Creel, Chihuahua
1	Ejido	Sisoguichi, Chihuahua
3	CSO	Ciudad Cuauhtémoc, Chihuahua
15 experts interviewed in total		

Analytical approach

The relationship between trafficking in persons, organized crime and deforestation is complex. Examining and documenting this relationship required the development of an analytical approach. Findings from the field research were triangulated with previously published research and analyzed using the International Labour Organization’s (ILO) forced labour indicator approach.

Trafficking in persons and forced labour: definition

The GI-TOC bases its definition of trafficking in persons on the 2000 United Nations Protocol to Prevent, Suppress and Punish Trafficking in Persons Especially Women and Children, also known as the Palermo Protocol. The protocol offers the following internationally recognized definition of trafficking in persons, which includes forced labour:

The recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labour or services, slavery or practices similar to slavery, servitude, or the removal of organs.¹

The existence of trafficking in persons can be determined by assessing the act, the means and the purpose.

The existence of trafficking in persons can be determined by assessing three elements: the act (*what* is done – e.g. recruitment, transportation, transfer, harbouring or receipt of persons); the means (*how* it is done – e.g. threat or use of force, coercion, abduction, fraud, deception, abuse of power or vulnerability); and the purpose (*why* it is done – e.g. for the purpose of exploitation).²

The Palermo Protocol holds that forced labour is one of the purposes of trafficking in persons. In the case of children, the element of ‘means’ (such as using force or threat), is not relevant and it is not necessary to prove that force or coercion was used to characterize the offence as forced labour. In instances involving children, the elements of ‘act’ and ‘purpose’ are sufficient.³

The GI-TOC based its analysis of forced labour on methodological guidance provided by the ILO.⁴ According to the ILO’s Forced Labour Convention 1930 (No. 29): ‘Forced or compulsory labour shall mean all work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily’.⁵

Indicators of forced labour

The ILO forced labour definition outlines two sets of forced labour indicators. The first set assesses the element of involuntariness, and the second set assesses the existence of a penalty or the menace of a penalty.⁶ The ILO framework of forced-labour indicators has been widely accepted internationally to assess the existence of forced labour and trafficking in persons for the purpose of labour exploitation.

To evaluate the risk of trafficking in persons for labour exploitation and the underlying practices that contribute to trafficking-in-persons risk, this research relied on the ILO’s forced-labour indicators. These are defined in ‘Hard to see, harder to count: Survey guidelines to estimate forced labour of adults and children and the more recent Guidelines concerning the measurement of forced labour’, published in 2018 by the ILO and the International Conference of Labour Statisticians (ICLS).^{7,8}

The ICLS guidelines, in conjunction with earlier guidance on indicators provided by the ILO, provide specific indicators that can contribute to conditions of involuntary work and threat or menace of penalty, the two primary components of forced labour.

There is a significant overlap between indicators of forced labour and those of trafficking in persons, and there has been growing acceptance of using the ILO indicators for research on trafficking in persons for labour exploitation.⁹ These indicators can also demonstrate the ‘means’ element under the Palermo Protocol, such as ‘threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person ...’

As mentioned above, the ILO framework for measuring forced labour include two types of indicators: those that reflect involuntariness, and those that indicate a penalty or threat of penalty. The indicators provided by the ICLS guidance are as follows:^{10, 11}

Indicators of involuntariness, which include:

- unfree recruitment at birth or through transaction such as slavery or bonded labour (coercive recruitment);
- situations in which the worker must perform a job of a different nature from that specified during recruitment without a person's consent (deceptive recruitment);
- abusive requirements for overtime or on-call work that were not previously agreed with the employer;
- work in hazardous conditions to which the worker has not consented, with or without compensation or protective equipment;
- work with very low or no wages;
- work in degrading living conditions imposed by the employer, recruiter, or other third-party;
- work for other employers than agreed;
- work for longer period of time than agreed; and
- work with no or limited freedom to terminate work contract.

Indicators of menace of penalty, which include:

- threats or violence against workers or workers' families and relatives, or close associates;
- restrictions on workers' movement;
- debt bondage or manipulation of debt;
- withholding of wages or other promised benefits;
- withholding of valuable documents (such as identity documents or residence permits); and
- abuse of workers' vulnerability through the denial of rights or privileges, threats of dismissal or deportation.

Children (persons under 18 years of age) are more vulnerable to exploitation than adults, given that it is harder for them to assess job offers, evaluate risks and seek help. The ILO has adjusted the indicators of forced labour for situations or cases involving children accordingly, and has established that children should be considered victims of forced labour if they are working alongside parents who are themselves engaged in forced labour.

Using the ILO framework, the research focused on identifying specific indicators of forced labour, how these indicators manifest in practice, and the factors that increase worker vulnerability. This methodology can help to identify ways that the public and private sectors, civil society, government and international stakeholders can most effectively detect, remediate and prevent trafficking in persons and forced labour in these sectors.

It is important to note that researchers carried out a rapid analysis of the existence of indicators of forced labour – rather than determining whether each individual was a victim of trafficking in persons. Thus, this research does not aim to determine the existence or scale of this problem, but rather to highlight risks of labour and human-rights violations (including trafficking in persons).

Children are more vulnerable to exploitation than adults, given that it is harder for them to evaluate risks and seek help.

Chihuahua has a high level of insecurity due to the presence of organized-crime groups and drug-trafficking organizations.

Limitations

This research was qualitative, and aimed to uncover information about trafficking-in-persons risks. Although the research found indicators of trafficking in persons, the sensitive nature of the activities researched and the small sample sizes represented limitations. The researchers interviewed a wide variety of workers, private sector and community representatives, CSOs and subject matter experts. However, the sample is not statistically significant, and the research should not be used to determine prevalence rates of trafficking in persons at a sectoral or regional level. A formal, more structured large-scale survey would be a natural extension of this research.

Security

Mexico is one of the most dangerous countries in the world. Rates of societal violence and homicide are at a historical high. This includes targeted acts of violence against environmental and human-rights defenders, as well as journalists. This risk is tied largely to the presence of organized-crime groups (mostly DTOs) in many parts of Mexico. These organizations are increasingly branching out to control other illicit activities, including trafficking in persons and illegal logging. High rates of corruption and alleged collusion with local-government officials further facilitate territorial control by organized-crime groups (see the 'Organized crime and violence' section of this report for more detail).

The presence of DTOs in the areas where the research was carried out necessitated careful analysis of the security situation, and appropriate protocols were implemented. The GI-TOC adapted its security protocols to the Mexican context, including how the security situation was evaluated at the national and local levels, the travel forms used and communications protocols. The GI-TOC also instituted organizational confidentiality and human-subjects protocols in Mexico. The research teams were trained on all of these protocols before they commenced with field research. However, during the field research phase, it was impossible to completely eliminate potential risks to both researchers and workers due to high levels of illegality in the timber sector, which impeded access to some logging areas.

The GI-TOC first carried out risk assessments of the security situation before selecting sites for field research. Based on this analysis (combined with the evaluation of the trafficking-in-persons risk, the level of environmental degradation and the relevance of forestry and related sectors to the international market), the GI-TOC settled on Chihuahua for field research.

Chihuahua has a high level of insecurity due to the presence of organized-crime groups and DTOs, many of which are involved in the forestry sector and illegal logging. This meant that safety considerations were of the utmost importance.

The GI-TOC conducted a more thorough security assessment in the three regions before initiating field research. This included desk research and telephonic interviews with local stakeholders who understand the security situation and political context.

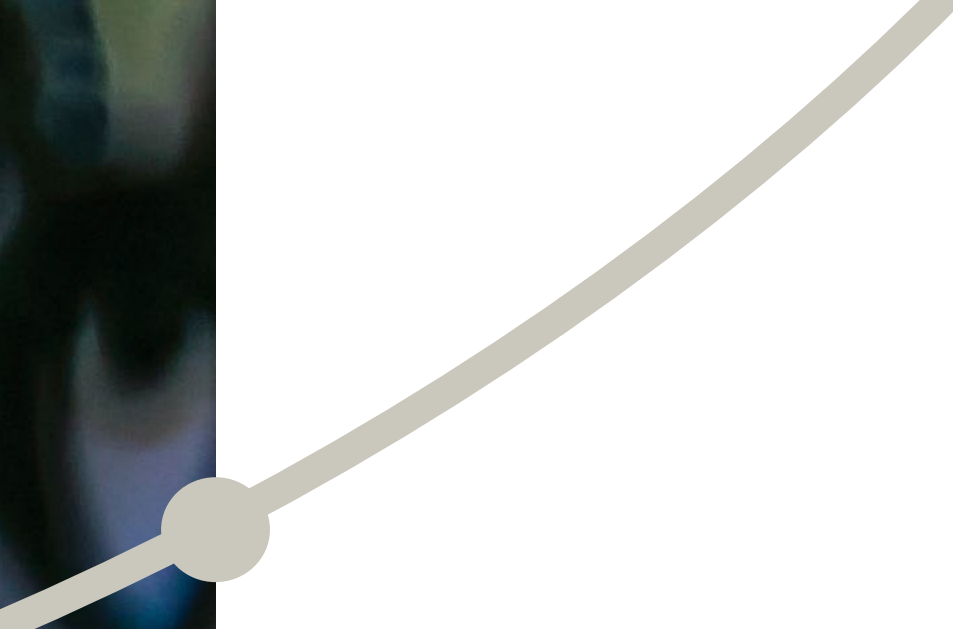
Not all cities or zones in Chihuahua have the same levels of insecurity, and the GI-TOC avoided research in the most dangerous areas of the state. Nevertheless, it was necessary to hire local guides when conducting focus group discussions with forestry workers.

The research team was careful to maintain confidentiality, and worked with trusted and respected local CSOs to gain the confidence of community members and workers, and to ensure the security of the researchers and respondents. In some cases, community leaders at the village and provincial levels were not consulted because of their potential role in illegal activities.

Researchers carefully explained the purpose of the research to avoid misperceptions surrounding the term 'trafficking in persons'. Questions about trafficking in persons were couched in questions about forestry management and timber production, general conditions of work, labour relations and related issues. Due to the high level of insecurity and the fear of possible reprisals, interviewees were somewhat reluctant to share information during focus group discussions. In contrast, during most of the one-on-one discussions, interviewees were willing and sometimes very eager to share information.



ORGANIZED CRIME AND VIOLENCE



In countries with high levels of crime and violence, workers are also at an increased risk of labour exploitation. In areas where organized crime flourishes, the rule of law is often weak and levels of corruption are high. Both of these factors contribute to labour risk. Workers may be fearful of leaving their jobs before paying off their debts or completing their contracts. They are also less likely to file complaints as authorities are often perceived to be working in collusion with organized-crime groups.

Mexico has a high rate of societal violence and criminal groups dominate certain regions. This has caused displacement, and criminal groups frequently extort employers, cutting into already-tight profit margins and decreasing the money available to cover labour costs. Finally, the mere presence of criminal groups can significantly limit workers' freedom of movement and prevent them from leaving jobs linked to criminal groups, for fear of violent reprisals.¹²

According to the Fund for Peace's 2019 Fragile States Index, Mexico scored 69.7 out of 120 (with 120 indicating the highest level of instability), placing the country in the 'warning' category.¹³ In 2018, the World Economic Forum (WEF) Global Competitiveness Report ranked Mexico at 130 out of 140 countries for homicide, and at 139 for organized crime.¹⁴

Mexico was the second most violent country (not officially at war) in the world in 2016, according to the International Institute of Strategic Studies, with 23 000 homicides during the year.¹⁵ Some 35 964 murders in 2018: the highest number in Mexico's history, representing a rate of 29 per 100 000 inhabitants. The 2018 figure marked a 13% increase from 2017,¹⁶ almost double the rate of 2015 (16.3 per 100 000 people), and six times the international average homicide rate of 5.3 per 100 000 people.¹⁷ Forced disappearances, homicides and shocking acts of violence are common throughout the country.¹⁸

- ◀ **An AK-47-shaped pendant is displayed at a market in Culiacán, Sinaloa. Mexico has a high rate of societal violence, fuelled by competition between drug-trafficking groups and criminal markets, such as illegal logging and trafficking in persons.**

© Rashide Frias/AFP via Getty Images



FIGURE 1 Dominant cartels in Mexico

SOURCE: BBC Mundo⁹

The main driver of Mexico's violence is competition between organized-crime groups for the control of drug-trafficking routes to the US, as well as other criminal markets such as illegal logging and trafficking in persons.²⁰ As mentioned above, 2018 marked a record high in annual homicides, yet the portion of drug-trafficking-related homicides is not officially known.²¹ Mexican DTOs killed at least 130 politicians and candidates for office in the lead-up to Mexico's 2018 presidential and congressional elections.²²

The terms 'drug cartels' and DTOs are misleading, as these criminal groups are increasingly diversifying

their portfolios to include various other illicit activities. These include extortion, kidnapping, human smuggling, trafficking in persons, and illegal mining and logging – activities that can be as or more profitable than drug trafficking, while attracting far less attention from Mexican and international law-enforcement agencies.

There is a great deal of infighting between criminal groups for the control of logging and other illicit sectors in Mexico. Organized criminal groups intimidate, attack and kill landowners, community members, businessmen and activists who oppose them. Sometimes these groups actively work to corrupt and co-opt local

political and business leaders, and take advantage of the lax logging permit system and enforcement of laws on illegal logging.²³

There have been reports that organized-crime groups are involved in trafficking in persons for labour and sexual exploitation in illicit sectors, including illegal logging. Reports of people being forced to engage in producing and trafficking drugs are relatively common. Organized-crime groups have been known to force vulnerable individuals to work for them, in many cases as lookouts or drug mules.²⁴

For example, when 50 migrant workers from Puebla were rescued in Sonora, it was discovered that they had been kidnapped by the Sinaloa Cartel to pack marijuana. Fifteen of these individuals were minors, and all of them showed signs of physical violence.²⁵ A 2018 article found that young men in Jalisco are being forced by DTOs to harvest, produce and transport drugs; undergo training to become gunmen; and to engage in the illegal mining of minerals that are exchanged on the black market for methamphetamine precursors.²⁶ This article documents multiple reports of teen-aged boys being forced to work in illegal logging by DTOs.

There have also been reports of DTOs facilitating and engaging in trafficking in persons in formal economic sectors, including agriculture. Mexican organized-crime groups that traffic guns, drugs or other illicit goods may also traffic human beings, facilitating the delivery of workers to rural employers.²⁷ There have been reports that internal and international migrant workers are kidnapped and forced to work for DTOs on farms for little food and no pay.²⁸

Mexican DTOs also indirectly contribute to trafficking vulnerability. The presence of organized-crime groups can significantly limit workers' freedom of movement, increasing their dependence on employers and limiting their ability to resist unethical or abusive employment arrangements.²⁹ Additionally, the high rate of societal violence and criminal groups' domination of certain regions has caused displacement, creating a population of desperate, internally displaced people who are vulnerable to exploitation.

There have been hundreds of cases of systematic land grabbing by DTOs, especially among indigenous people, and often related to the exploitation of natural resources – including illegal logging.³⁰ The Executive Commission for the Attention of Victims (CEAV) has also found that illegal logging results in the forced displacement of communities.³¹ In 2011, in Guerrero, over a hundred people were forced to leave their town in Coyuca de Catalán after illegal loggers executed one of the indigenous community leaders. The Attorney General of Chihuahua confirmed that forced displacement had occurred and asked the community members to stay away while the state sought to regain control of the territory. More recently, between 2018 and 2019, a number of indigenous and mestizo activists were killed following land-related claims in the Sierra region (Mexico's Sierra Madre mountain system consists of the Sierra Madre Occidental to the west; the Sierra Madre Oriental; and the Sierra Madre del Sur to the south).³²

The high rate of societal violence and criminal groups' domination of certain regions created a population of desperate, internally displaced people.

GI-TOC field research and interviews with workers, experts and community members confirmed that formal forestry companies and CFEs are negatively affected by organized criminal groups' involvement in illegal logging, extortion and associated threats and violence. Groups that engage in illegal logging fail to comply with laws on the environment, permits and labour conditions – including wages – which means their production costs are lower. Illegal logging therefore drives down prices for timber. Furthermore, organized-crime groups, which often control illegal logging, also engage in extortion and robberies of trucks transporting timber. This

further drives up production prices, hindering the ability of formal forestry companies and CFEs to turn a profit and – by extension – pay workers decent wages.

There have also been cases where companies had to close or entire communities had to flee their villages as a result of violent extortion. In other, documented cases, *ejidos* or communal land areas have been taken over and controlled by organized crime. Decreased profit margins, displacement and the control of *ejidos* by organized-crime groups all greatly increase vulnerability to trafficking in persons.

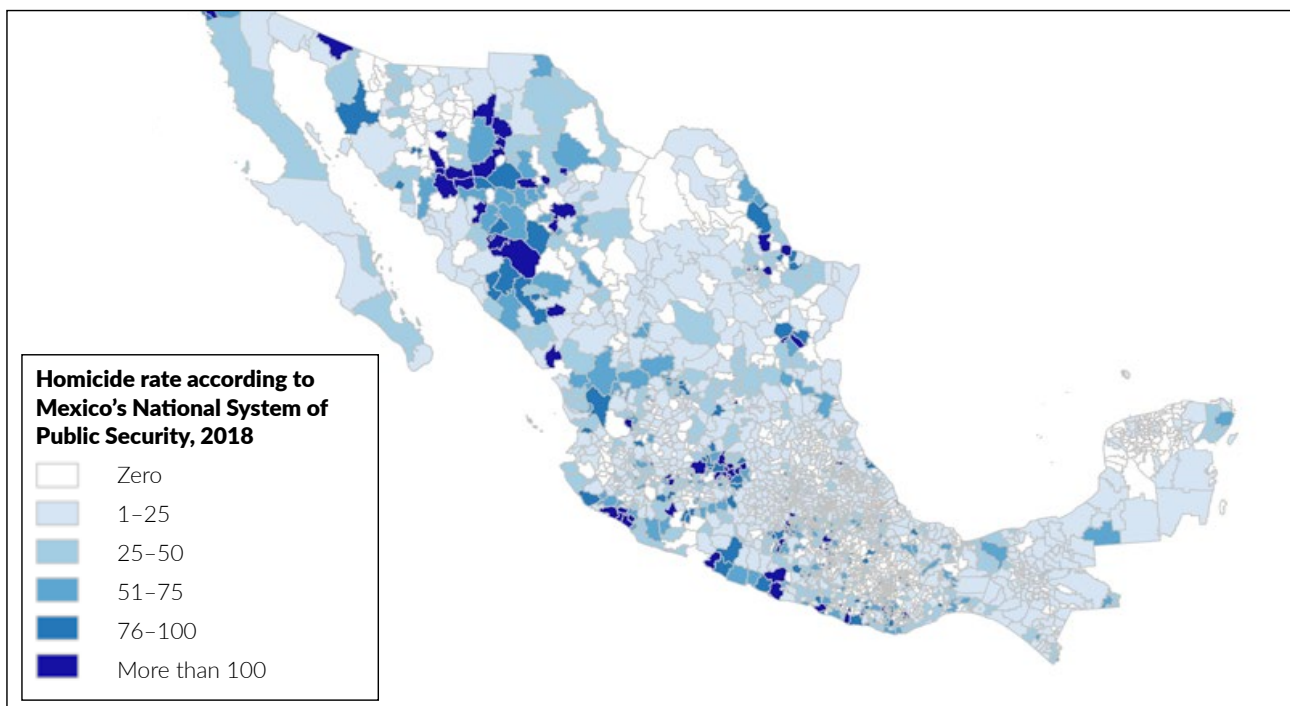


FIGURE 2 Homicide rate in Mexico, 2018

SOURCE: Justice in Mexico³³

Organized-crime dynamics related to deforestation and labour exploitation in Chihuahua

Local experts interviewed by GI-TOC reported a spike in the involvement of DTOs in Chihuahua's logging sector, beginning around 2014. Other reports indicate that the illegal logging boom began in Chihuahua in 2015, in the area around San Juanito.³⁴

Marijuana and poppy (used to produce opium gum) were the two main drugs cultivated in the Sierra Tarahumara for many years. However, recently – due to a decrease in demand for opium gum (in part due to the

influx of fentanyl) – DTOs have begun to seek control over other profitable sectors in the Sierra region, including illegal logging.

In addition to being involved in drug trafficking and illegal logging, DTOs in Chihuahua are also involved in trafficking in persons, illegal logging, extortion, threats and violence. The groups most affected by these threats include members of local communities (especially indigenous communities, which are most heavily

impacted), along with defenders of human rights, land rights and the environment.

According to local experts, there are key differences between international DTOs and the *mafias locales* (local mafias) that have been involved in illegal logging in Chihuahua for many years.

These 'local mafias' are a far cry from the international groups, as they are small, operate on a local scale, engage primarily in illegal logging and related activities, and rarely resort to violence. Many local mafias are familial clans that control logging operations, sawmills and the transportation of illegally logged wood. They are also involved in price-fixing and the buying and selling of illegally logged wood.

Both types of groups engage in labour exploitation, but in general, DTOs are far more violent. While there has been some conflict between rival mafias, they do not direct the same type of violence against citizens and authorities. DTOs, on the other hand, are powerful, international organizations known for massacres and beheadings. The implicit threat of violence linked to these groups can be very powerful in dissuading workers who want to leave their employ.

Some relationships exist between local mafias and DTOs. According to reports, DTOs use local mafias to conceal their drugs in wood shipments.³⁵ Local mafias also have to pay a piso (protection payment) to the DTO controlling the territory in which they operate. In exchange, they expect protection from rival DTOs and may request that the DTOs carry out acts of violence on their behalf.

Experts interviewed said there has been increased infighting among DTOs in recent years for control of the wood trade in Chihuahua's Sierra region.

Territorial disputes were initially between two cartels: the Sinaloa Cartel (del Pacífico) and the Juárez Cartel. Over the years, these cartels have lost some power and other groups have become involved, along with newer DTOs that have emerged from existing cartels. These include the La Línea Cartel, along with the Cartel Jalisco Nueva Generación (CJNG). The CJNG has become the most violent and biggest rival to the Sinaloa Cartel since the capture of its leader, Joaquín 'El Chapo' Guzmán – and subsequent infighting and splintering of the cartel.³⁶

These 'local mafias' are a far cry from the international groups, as they are small, operate on a local scale, engage primarily in illegal logging and rarely resort to violence.

Conflict over territorial control has included cities such as Ciudad Cuauhtémoc and the localities of San Juanito, Basaseachi and Bocoyna. Roads in these regions are constantly monitored by armed lookouts known as *halcones* (hawks), who are typically young men or teenagers hired by cartels.

Local experts and *ejido* members described significant differences in the ways that various organized-crime groups operated in the region.

The Sinaloa Cartel was known to accrue community support by paying relatively high wages to low-level cartel members, including *halcones* and individuals involved in logging and wood transportation. The cartel does not hesitate to direct extreme acts of violence at other rival groups, journalists or activists that directly threaten its interests, but it has generally sought to co-opt and gain the support of local communities – according to locals interviewed. While referring to the Sinaloa Cartel as an example of *eco-narcotraficantes* (eco-narco traffickers),³⁷ local experts interviewed referred to the CJNG as *eco-depredadores* (eco-predators). According to reports, the CNJG actively preys on local communities, engaging in land grabs and extortion by relying on threats and acts of extreme violence; and kidnapping teenagers to force them to work in illicit activities, including illegal logging.

Illegal logging, environmental crimes, threats and violence, land grabs and extortion are clearly linked to organized-crime groups in Chihuahua, according to local experts interviewed by GI-TOC. The presence of organized crime presents numerous challenges for local communities and *ejidos*.

Reports indicate that in one night, criminal groups can earn as much as 50 000–70 000 Mexican pesos (MXN), (USD2 640–3 695) through illegal logging, as teams of 10 workers with saws are able to cut down as many as 250 pine trees in a single night.³⁸

InSight Crime (a non-profit journalism and investigative organization that specializes in organized crime in Latin America) reported that in one indigenous community in Bahuinacachi, outside of San Juanito, about 40 young, armed men (all of whom were under 20 years of age) arrived in dozens of trucks and started cutting down pine trees just outside of the town. Without fearing any interruption by government officials, they were able to continue in this way for a month, removing about 40 truckloads of wood each day.³⁹

In the municipalities of Bocoyna, Guerrero, Uruachi, Cuauhtémoc and Ocampo, DTOs are forcing *ejidos* and sawmills to sell them legally logged wood at sub-market prices.⁴⁰ Criminal groups also engage in the theft of wood.

Violence

According to the experts interviewed in Chihuahua, it is very common for people who work for organized-crime groups – particularly if they belong to DTOs – to openly carry firearms as a measure of control, or to protect logging companies and their own criminal activities. Threats of physical violence, (called *tablazos* in the forestry sector), reprisals and kidnapping directed at community members or anyone refusing to cooperate are part of the DTOs' modus operandi. They use threats of violence as a way to control and profit from the illegal logging, processing, transport and trade of wood.

According to research conducted by InSight Crime, illegally logged wood is one of the fastest-growing criminal markets in Mexico, especially in Chihuahua – where rival DTOs are fighting to control the sector. The same groups that are involved in illegal logging are also reportedly involved in the trafficking of drugs and wildlife in Chihuahua.⁴¹

InSight Crime also reported that forested regions are especially vulnerable to the threat of organized crime and violence. These areas are typically isolated, which makes them conducive to the cultivation and transfer of narcotics, as well as other illicit activities – including illegal logging. Criminal groups employ a large number of armed recruits, which makes it easy for them to forcibly insert themselves in communities and engage in illicit activities. InSight Crime further found that organized criminal groups involved in drug trafficking

are increasingly dominating the trade in illegal logging, resulting in increased violence in Chihuahua.⁴²

Local experts and community members interviewed by the GI-TOC agreed that organized-crime groups involved in illegal logging and other illicit activities have increased the level of violence in rural areas of the state. In October 2018, six headless bodies were found at a gas station just outside of Creel. A message taped to one of the victims included a reference to illegal logging. Chihuahua's criminal investigation agency reported that infighting between the Juarez Cartel and the Sinaloa Cartel (of which the victims were members) over the illegal wood trade was the most likely motive behind the killings. This was not an isolated incident, as there has been ongoing violence related to illegal logging in the area around San Juanito and Creel.⁴³

Extortion

According to interviews with experts and community leaders, organized-crime groups often charge a *piso* (protection payment) to entities across the supply chain – including *ejidos*, landowners, CFEs, sawmills, transporters and intermediaries who trade wood. These *piso* payments are settled both in cash and wood. Sawmills and *ejidos*, in particular, are expected to provide criminal groups with a certain volume of wood each month.

Failure to make the *piso* payment on time can result in violent retaliation, including beatings, destruction of property, torture, kidnapping and murder. In several cases, sawmills and trucks have been burned and the owners or employees have been assaulted, tortured or killed. There have also been reports of threats against family members, and theft of timber cargo trucks by DTOs.⁴⁴

Small-business owners are also affected by extortion from local mafias and DTOs. Transport is the most expensive part of the logging supply chain process. In most cases, organized-crime groups do not own such companies but control and extort especially smaller transport companies.

Workers employed by a logging operation, sawmill or transport company controlled by a local mafia are generally aware that the mafia is connected to a DTO, which would not hesitate to employ acts of brutal violence. This can greatly affect whether workers would



Timber at a sawmill in Chihuahua, April 2019. © R Landa

risk protesting over working conditions, or leave their employment without permission.

The use of threats and violence to extort CFEs, *ejido* members and sawmills can leave these actors with great debt and pressure to increase production. This, in turn, can cause these employers to institute practices such as forced overtime; an indicator of forced labour. While workers do not have to pay extortion fees, employers may lower wages – or fail to pay them on time – so that they can make the *piso* payments, especially when cash flow is limited or profit margins are small.

Wood laundering

Criminal groups are also involved in money laundering, as well as the laundering of illegally logged wood. In some cases, *ejido* leaders are kidnapped or forced through threats and violence to turn over their logging permits, according to experts interviewed. There are also instances where criminal groups engage in illegal logging and sell the wood to sawmills.

Illegally logged wood is transported by truck to sawmills, where it is mixed in with legally logged wood that has the correct paperwork.⁴⁵ Sawmills may also purchase illegally logged wood along with wood from certified *ejidos*, and can claim that the illegally logged

wood came from the certified *ejidos*. The experts interviewed explained that once the wood is mixed, it is very difficult to determine its origin or to distinguish between legal and illegal timber.

There is very little government oversight of sawmills. These operations are required to have documents that show the source of their wood, and also need permits for *acopio* (aggregation or storage) and *procesamiento* (processing). However, it is easy to claim that illegally logged wood came from a supplier with a valid logging permit. Once the sawmill processes the wood into lumber, it is virtually impossible to determine whether it was logged legally or not. The processed timber is then sold to construction companies, or used to make furniture or paper. According to an InSight Crime investigation, these products are typically exported.⁴⁶

Local experts reported that sawmills that are not part of organized-crime groups may be forced to receive and process shipments of illegally logged wood. In some cases, the sawmills process the wood and return it to criminal groups as ‘clean’ lumber. In other instances, when the sawmills have their own transport connections or companies and contacts with intermediaries who sell the wood, they buy this wood from the cartels and sell it themselves.



Land degradation and deforestation have been linked to the cultivation of illicit crops, such as this opium plantation near Pueblo Viejo in the Sierra Madre del Sur. © Ashide Frias/AFP via Getty Images

According to Mexico's Secretariat of Environment and Natural Resources (SEMARNAT), Bocoyna has a total of 195 sawmills and registered wood storage centres, most of which are located in San Juanito.⁴⁷ These operations process much of the legally and illegally logged pine trees from surrounding areas, and provide employment to a large segment of the town's population. About half of these sawmills form part of the Juarez Cartel network (either 'belonging' to the cartel or cooperating with it), while the other half have to make extortion payments, according to experts interviewed by InSight

Crime.⁴⁸ Interviewees reported an even higher number of sawmills that collude with the Juarez Cartel. They emphasized that there are conflicts between various criminal groups and cartels throughout the Bocoyna region – including in San Juanito – for the control of the sawmills, as well as the harvest and trade of illegally logged wood.

Certified CFEs and ejidos can be trapped in the dynamics of wood laundering and do not receive the benefits of the forest certification offered by the

National Forestry Commission of Mexico (CONAFOR). (Certified CFEs and companies should, for instance, enjoy greater access to national and international markets, and can obtain incentives, such as access to financing or investments to improve their management and production processes, among others. Certified wood should also fetch a better purchase price.) When the market is flooded with illegally logged wood, it pushes down prices for legally logged and certified wood, as sawmills do not pay premiums for certified wood. Likewise, it could damage the reputation of the entire Chihuahua timber industry, further affecting local communities and ejidos attempting to survive through sustainable forestry. There have also been cases where organized-crime groups use threats to force certified producers to allow them to use their permits, authorizations or other official documentation to launder illegally logged wood.

Mexico has consistently been one of the most dangerous countries in the world for environmental defenders.

Persecution of environmental and human-rights defenders

Organized crime is also closely linked to violence against defenders of the environment and human rights, along with journalists.

Mexico is one of the few countries with a specific law to protect environmental defenders, yet it has consistently been one of the most dangerous countries in the world for environmental defenders.⁴⁹ According to Global Witness, these murder rates have been increasing in recent years. This trend has seen Mexico rise from being the fourteenth most dangerous place to be an environmental defender in 2016 to fourth in 2017 – with murders increasing more than fivefold in just one year.⁵⁰ This trend continued in 2018. The Mexican Centre for Environmental Law reported that there had been a far greater number of attacks than in 2017, including 21 murders of environmental activists.⁵¹ Another report indicates that in 2018, 164 environmental defenders were assassinated worldwide, and in the same year, the country was in fourth place and registered a total of 15 homicides of environmentalists in Mexico alone.^{52, 53}

Among those murdered in 2018 was Julián Carrillo, an environmental and human-rights defender and indigenous Rarámuri leader. State protection measures failed to keep Carrillo safe from gunmen who killed him in his community of Coloradas de la Virgen, Chihuahua.⁵⁴ Shortly before his murder, Carrillo had spoken out against growing violence in Coloradas. He attributed it to the presence of organized crime; conflict created by the granting of ejido land rights to persons not belonging to the community; and a mining concession granted on indigenous community territory. Carrillo reported that organized-crime groups were taking control of indigenous lands to sow illicit crops, including opium poppies and cannabis.⁵⁵

Carrillo's case is similar to that of Isidro Baldenegro López, who was killed in 2017. López was an outspoken critic of illegal logging, which was threatening the forests near his community. As is the case in an estimated 75% of attacks on environmental activists, he was indigenous.⁵⁶

Environmental defenders are not alone in being targeted: human-rights activists in Mexico have also subjected to harassment, threats, violent attacks and murder. Although the persecution of human-rights activists has decreased

The Mexican government has done little to protect environmental and human-rights defenders.

somewhat in recent years, harassment and killings continue. Between 2010 and 2017, the Office of the United Nations High Commissioner for Human Rights reported 43 assassinations of human-rights activists, while another report cited 153 cases from May 2012 to 2013 alone.^{57, 58} Frontline Defenders reported 321 murders of human-rights defenders globally in 2018, of whom 48 (15%) were killed in Mexico; an increase from 31 victims in 2017.⁵⁹ During the first three months of 2019 alone, 12 human-rights defenders and journalists were reported to have been killed in the country.⁶⁰

In Chihuahua, there have also been multiple cases of intimidation and assassinations against environmental, land, human-rights, and indigenous-rights activists who have challenged businesses and criminal groups engaged in logging.

For example, in November 2018, a member of the NGO Alianza Sierra Madre was murdered in the municipality of Guadalupe y Calvo, at the epicentre of Chihuahua's logging industry. He was reportedly killed by assassins hired to protect the interests of commercial wood companies and drug traffickers. This murder occurred while he was under state protection.⁶¹

According to a Global Witness report from 2017, organized-crime groups, in collusion with local authorities, are the greatest perpetrators of violence against environmental and human-rights activists – including those who speak out against deforestation and illegal logging.⁶² This is in part due to the rise in conflicts linked to organized crime in Mexico. Criminal groups train and arm local assassins, who may then resolve local disputes through violence.⁶³ The spread of organized crime and ongoing impunity among criminal actors are therefore key contributors in the upsurge of violence against environmental and human-rights defenders.⁶⁴

For journalists, Mexico is an extremely dangerous country. From 2000 to October 2017, 104 journalists were killed and 25 were disappeared in Mexico, according to Human Rights Watch.⁶⁵ According to the National Human Rights Commission, 90% of crimes against journalists, including 82% of killings and 100% of disappearances since 2000 have gone unpunished.⁶⁶

The Mexican government has done relatively little to protect environmental and human-rights defenders. To make things worse, it has reportedly taken steps to criminalize their activities. A recent report found at least 95 criminal cases had been launched against environmental defenders between 2013 and 2017.⁶⁷ Amnesty International reported that human-rights activists were prosecuted under false criminal charges as retaliation for their involvement in legal advocacy activities, such as protests. Activists were reportedly subjected to drawn-out legal proceedings in which they had to prove themselves innocent, given Mexico's inefficient judicial system.⁶⁸



Each year, thousands of indigenous workers migrate for poorly paid seasonal work in the agriculture sector, including in Chihuahua's vast apple orchards. © Alejandro Cegarra/Bloomberg via Getty Images

The exploitation of displaced Tarahumara in Chihuahua

In 2018, the respected newspaper *El País* published a series of investigative reports on labour exploitation in Mexico's agricultural sector. One of the reports focused on displaced Tarahumara people in Chihuahua's apple sector.⁶⁹ In Chihuahua, 90% of the Tarahumara indigenous people (who refer to themselves as Rarámuri) live in the 23 municipalities that comprise Chihuahua's Sierra Tarahumara region, an expansive mountain range that is part of the Sierra Madre.⁷⁰

The report documents the displacement of members of indigenous communities due to violence, deforestation, crop diseases, massive infrastructure projects, tourism and a lack of employment opportunities. Each year, hundreds of Tarahumara from a town in Bocoyna, Chihuahua migrate to work in a massive apple orchard in Chihuahua. One of the women explains: 'There are almost no trees or corn anymore, let alone amaranth. It almost doesn't rain

anymore, and things have got bad [due to the violence].' She claims that people are killed every day in her community, which she refrained from naming due to fear of reprisals against family members who still live there.⁷¹

These rural, primarily indigenous migrants have few employment prospects and often only find poorly paid work in the agricultural sector. During the off season, many are forced to move to cities, where they are faced with a very different culture and environment. Women often work in cleaning and men in construction. In some cases, men and women, along with children, have to resort to begging on street corners.⁷²

The experts and community members interviewed by GI-TOC reported that organized criminal groups take advantage of desperate, vulnerable and displaced people, including the

Tarahumara workers make up 80% of the workforce picking apples in the four-month harvest season.

recruitment of teenagers to work in illicit activities. There are also reports of criminal actors kidnapping groups of internal and international migrants from cargo trains and forcing them to work in drug cultivation, drug trafficking and illegal logging. Interviewees explained that train conductors are sometimes made to stop in specific locations to allow criminal groups to board the trains and kidnap migrants. Indigenous migrants heading to work in the agricultural sector in Sinaloa are believed to be particularly vulnerable.⁷³

The largest employer of displaced Tarahumara people is a vast apple business, comprising about 3 000 hectares. Tarahumara workers reportedly make up 80% of the workforce of about 9 000 temporary and 3 500 permanent employees – gathering and packing apples during the four-month harvest season. The Tarahumara are reportedly seen as a cheap source of hard labour. The founder of a settlement of Tarahumaras described that: 'We are able to tolerate [the work] and we don't complain about the heat or the cold, and some of us don't even speak Spanish'.⁷⁴

Up to 2 000 people live in employer-provided housing on apple orchards during the peak harvest season. The company reportedly only accepts couples without children, because its day-care facilities are not available for the children of temporary workers. There are reports of poor living conditions – including substandard bathrooms and sleeping areas – and a lack of space. The Mexican Secretariat of Labour and Social Welfare (STPS) inspected the housing 11 times between 2007 and 2016, and found 167 'irregularities', which led to almost MXN500 000 (USD27 700) being issued in fines. The company reportedly filed appeals in court, and the sanctions were reversed.⁷⁵

The STPS also identified several labour violations between 2012 and 2016. The company reportedly failed to provide all workers with formal contracts, training and vacation days. It was also reported to lack a health-and-safety risk assessment and a health-and-safety programme for workers, including a fire-response plan. The STPS further found that not all workers were registered with the Mexican Institute of Social Security (IMSS).⁷⁶

The coordinator of the largest company housing facility reported that the Tarahumara were not provided with contracts because they were paid by the day. She added that contracts were obsolete because some of the workers would only stay for a few days, and then leave again. She also said that the company tried to help some Tarahumara to get official identity documents, but they quickly lost or discarded the documents, so the company started issuing its own identity documents. According to her, only 15% of the permanent workers were enrolled with the IMSS, which provides free healthcare. The rest could receive medical attention at a company clinic, or be enrolled temporarily in the IMSS in the case of an emergency. Being registered with the IMSS also gives workers the right to a pension. When workers are not registered, they lose their ability to acquire a pension.⁷⁷

This type of exploitation is not limited to the apple industry. Chihuahua's agricultural sector employs about 90 000 day labourers. These workers have been found to work under precarious conditions in the cultivation and harvesting of various crops.⁷⁸ A lack of employment opportunities and poor working conditions in the highlands of Chihuahua (mostly inhabited by indigenous populations) contribute to internal migration to farms surrounding cities like Cuauhtémoc, Chihuahua, Parral, Juárez and Delicias.

These companies mostly produce fruit and vegetables (such as tomatoes, chili peppers, onions, alfalfa and potatoes). During the harvest season, there is a demand for a large number of day labourers to maximize yields on orchards and farms.⁷⁹ For workers, regularly reported issues include the marginalization of and discrimination against indigenous migrant labourers, low salaries and a lack of access to social security.⁸⁰

Given that day labourers migrate between multiple workplaces and often lack of formal registration, there have been 'disappearances' of migrant workers. In one instance, this happened to some 80 indigenous Rarámuri agricultural day labourers in Camargo. They were later located,⁸¹ but the National Commission on Human Rights (CNDH) reported that the workers had been subjected to forced labour and trafficking in persons.⁸²

Among the most pressing issues is child labour. In 2018, 132 cases of labour exploitation of children were recorded in agricultural areas in Chihuahua.⁸³ This can be attributed

in part to a lack of access to education for children in agricultural areas, especially the children of transitory migrant workers.

The STPS has carried out inspections and information sessions in an attempt to eradicate child labour in agricultural activities. Health visits and check-ups are also provided in migrant workers' shelters. The *Programa de Atención a Personas Jornaleras Agrícolas Migrantes* (Programme for Migrant Agricultural Labourers, or PROJAM) provides assistance to *jornaleros* (day labourers).⁸⁴ In 2019, PROJAM worked with more than 15 government agencies

to generate strategies and actions on issues surrounding health, education, food, housing, social security, income, social cohesion and child labour.

In Chihuahua, PROJAM works with the Inter-Ministerial Commission for the Prevention and Eradication of Child Labour and the Protection of Adolescent Workers.⁸⁵ However, in 2019, the federal government closed the *Programa de Apoyo a Jornaleros Agrícolas* (the Programme for the Support of Agricultural Day Labourers), which supported health services, shelters, food security programmes and assistance to migrants in the agricultural sector.⁸⁶

Displacement and land grabs

There is a high level of displacement in Chihuahua. Much of this is linked to violence, extortion and land grabs associated with criminal groups operating in the state. The CEAV reported in 2017 that Rarámuri communities are displaced by criminal groups engaged in illegal logging.⁸⁷ Local experts and community members interviewed said that entire families have fled from communities in the Tarahumara mountains as they feared becoming victims of violence, or worried that their teenaged sons would be kidnapped and forced to engage in criminal activities.

According to local experts and members of ejidos and indigenous communities interviewed, both international DTOs and, to a lesser extent, local criminal clans, engage in land grabs. In some cases, they use violence or the direct threat thereof to take control of forested land, but there is often no need for a direct threat. Community members are familiar with the groups and know that they will not hesitate to use extreme violence against those who disobey their orders. There are also some instances where criminal groups have reportedly stolen title deeds from landowners. Once they obtain the land, they may sell it or engage in illegal logging and profit from selling the wood.

Interviewees also described cases where individuals and families were displaced due to extortion. Payments become too high to be economically sustainable, and members of ejidos or communities can either default on fees and risk their lives, or leave behind their businesses, communities and homes.

Because of forced displacement, a lack of job opportunities, poverty and violence, many indigenous people in the Sierra Tarahumara migrate to work in the agricultural sector in Chihuahua and other states such as Sonora, Sinaloa and Baja California Sur. Both formal and informal recruiters take advantage of these desperate individuals, making false offers about working conditions and charging sign-up fees. Called *enganchadores*, these recruiters travel to communities in the Sierra Tarahumara to find local workers and transport them to agricultural worksites. In 2015, 200 Tarahumara people were rescued from forced labour in potato fields in Baja California Sur.⁸⁸ Displaced people are vulnerable to becoming victims of trafficking in persons not only in other states, but also in Chihuahua's agricultural sector – especially in apple production.

Kidnapping and forced recruitment

The Mexican Senate has reported instances where DTOs have kidnapped young people in Chihuahua to force them to work in illicit activities, including illegal logging.⁸⁹ According to the Attorney General's Office, criminal groups recruit young people from schools and force them to participate in criminal activities, including working as assassins.⁹⁰

In July 2019, the Attorney General for the Western Region of Chihuahua reported the rescue of 21 people who had been victims of forced labour in the poppy fields of Ocampo and Uruachi. They had initially been offered MXN350 (approximately USD15) per day, but were then forced to work under threats of death and violence, for no pay and little food, for a period of two years.⁹¹

In interviews with GI-TOC, local experts and members of *ejidos* and indigenous communities confirmed reports that DTOs in Chihuahua kidnap and forcibly recruit young people. They described how young people may be shuttled between different criminal activities, including working in logging or loading timber; as *halcones*; collecting *piso* payments; as assassins; and in the cultivation, transport, and sale of drugs. They also said that DTOs use drugs to control teenagers in their employ. The DTOs reportedly give them drugs. Once they become addicted, the DTOs exploit this and use drugs as their only form of payment.

Corruption

Criminal groups foment corruption around the timber trade in Chihuahua through a combination of bribes and threats, forcing authorities to choose between *plata o plomo* (silver [cash] or bullets). Where authorities exist, they reportedly attempt to secure the collusion of local officials through bribery and threats. In some isolated communities in the Sierra region, experts reported that there were no authorities to corrupt. According to interviewees, some regions have witnessed police colluding with the criminal groups that control the zones. In other cases, criminal groups use threats against local leaders, police and their families to conduct their activities without obstruction. Even when they are not constrained by bribes and threats, local institutions often lack the resources and capacity to combat organized crime.

Resilience to organized crime

In Chihuahua (along with other states such as Guerrero, Michoacán and the State of Mexico), communities have adopted a variety of strategies to resist the onslaught of organized crime.

In some cases, communities adopt survival strategies, such as negotiations and agreements on coexisting with organized criminal groups, which may result in local communities being co-opted. In other instances, they adopt innovative resilience strategies to resist organized crime through non-violent means.

Resilience is more likely when there are decent job opportunities for youth (who often fill the low-level ranks of organized criminal groups), as they provide for alternatives to crime and allow them to earn an income, which incentivizes participation in the formal economy. The presence of social enterprises has been linked with improved cohesion in communities and enhanced governance and institutional capacity. One example of an innovative resilience strategy can be seen in the municipality of Guachochi, Chihuahua.



Opium poppies grow in isolated plots in the Sierra Tarahumara. The sap is harvested and used to produce heroin for drug cartels.

© Andrew Lichtenstein/Corbis via Getty Images

Guachochi: Resilience in the face of organized crime

María Luisa Bustillos is an indigenous leader of a Rarámuri community and the indigenous governor (known as a 'siriana') of Nogarachi, located in the municipality of Guachochi in the Sierra Tarahumara. Guachochi has 45 544 inhabitants, 83.2% of whom are living in poverty.⁹² Despite coming up against marginalization, a mestizo cacique (an oppressive mestizo local chief) who had been in power for more than 20 years and violent territorial disputes with organized-crime groups, María Luisa and her organization, Natika, have been the driving force behind the unification of five *ejidos* in Nogarachi, which managed to obtain certification for the sustainable management of their forests.

There is a strong presence of organized crime in Guachochi, where members of the Sinaloa Cartel have been fighting with other groups for territorial control for over six years.⁹³ According to local press reports, these crime groups – some of which operate along familial lines, such as the Salgueiro and Salazar clans – are responsible for almost a hundred killings as part of this ongoing dispute (although there is no exact record).⁹⁴ Poppy and marijuana are cultivated in Guachochi, and Colombian cocaine is trafficked through Guachochi to Ciudad Juárez, before being trafficked across the border to El Paso, Texas. Locally, the ongoing violence has been perceived as an attempt to erase Rarámuri communities from the map.⁹⁵

Communities know that if the ejidos do not actively resist organized-crime groups, criminal elements will try to take over their territory.

One indigenous leader interviewed reported that there are two or three such organized-crime groups active in Guachochi. These groups extort *ejidos* and indigenous communities, and require that they pay a *piso* (in cash or wood) to allow them to work in the territory and to secure their protection from other criminal groups. According to this leader, the presence of organized-crime groups has divided and weakened the Rarámuri people, as these groups threaten, kidnap and kill those who oppose them. The leader and other members of the *ejido* are being threatened because of their activities that aim to empower Rarámuri communities. They continue to persevere despite these threats.

According to the Attorney General's Office, these criminal groups recruit young people from schools and sometimes force them to participate in criminal activities.⁹⁶ In Guachochi, the Sinaloa Cartel has been known to specifically target Rarámuri youth. This was the case with Mario Estorbellín Loya, known as 'El Indio Mario', who was convicted in 2015 for participating in at least three massacres of communities involved in territorial disputes.⁹⁷ Local community members interviewed also reported that young people were forcibly recruited to work for the cartels and act as vigilantes on the roads. They also spoke about young people being controlled through drugs, and the sexual exploitation of women.

Public distrust of authorities is high, and as a result, communities have joined forces to protect each other. They know that if the *ejidos* do not actively resist organized-crime groups, the criminal elements will try to take over their territory. The Rarámuri leaders recognize that if they are to survive, they

must halt land grabs, displacement, illegal logging, deforestation, the control of sawmills by organized crime, threats against external buyers of wood to control timber prices, the forced recruitment of young people to work for the cartels and trafficking in persons.

Natika, or *Napawika Tibúpo Kawí Asociación Civil* (meaning 'together, let us take care of the world'), was established in 2015. Its mission is to ensure the recovery and sustainable community management of local forests and other natural resources. Natika is made up entirely of Rarámuri people, and even in the face of shortages of water, food and the loss of control over native seeds, Natika managed to organize 300 community members to build a dam and start planting potatoes.

Thanks to their initiative, they received support from the Ministry of Agriculture and Rural Development to boost productivity by building irrigation ditches on the edges of the farmland. These activities have become a crucial source of local employment in the region for the last four years.

Natika aims to incentivize young people to find work in their communities and preserve their sense of identity, community and traditions. The organization also encourages young people to pursue higher education and specialized studies. One of the leader's sons now works as a lawyer for Natika, and acts as a mediator between the community and authorities.

Influential Rarámuri leaders have secured agreements among Guachochi's five *ejidos* on joint initiatives that maximize benefits for the communities. For example, every Sunday, all the *ejidos* meet to discuss and delegate tasks – including reforestation, conservation, forest fire prevention and security. They have identified local impacts related to climate change, and have received support from the Sustainable Tarahumara Program to secure forestry certifications from CONAFOR. Given the historic patterns of *cacicazgo* (chiefdoms) and the ongoing

mestizo exploitation of the indigenous population, these achievements and the unification of *ejidos* represents a best practice for other indigenous groups and *ejidos* to follow.

Rarámuri leaders in Guachochi aim to ensure that forestry benefits the environment and local communities. One local Rarámuri leader said: 'Mestizos only think of forests in terms of the volume of wood produced and profitability. They are not interested in the reforestation of the white pine tree, and do not know its meaning. For us, each species of tree has a meaning. A mestizo does not see or perceive it that way.'

The community leaders are working to create decent employment opportunities for young people so that they can generate an income, and are less susceptible to recruitment into organized crime. The types of jobs generated include managing the health of the forests, reforestation and the restoration of forests, environmental governance, soil management, agricultural activities, collecting and protecting native seeds and medicinal plants, managing and protecting waterways, and providing healthcare and education.

Rarámuri workers are also involved in logging in the *ejidos*. The initial process of harvesting is carried out only by Rarámuri workers. This includes marking and cutting down trees, and loading and transporting lumber to sawmills. These workers are generally paid by the load. *Ejido* leaders try to distribute the work equally among the communities. The logging sector is generally male dominated, but there is an *ejido* where women also work in sawmills. *Ejido* leaders believe that this will become more common in the future.

The communities do not own a sawmill and have to use external sawmills and transport providers. They reported that transport operations owned by mestizos often reap greater economic benefits from logging than the communities. Due to instances

The logging sector is generally male dominated, but ejido leaders believe that women will increasingly begin to work in sawmills.

of fraud and delayed payment by wood buyers, indigenous *ejidos* work to ensure that they are paid in full at the time of purchase. In this way, they can ensure that they are able to pay workers' wages on time.

Indigenous *ejidos* often prefer not to work with mestizo-owned sawmills, which they view as providing substandard wages and working conditions. According to community members interviewed, workers in the sawmills usually get paid on a biweekly basis and do not have written contracts.

Communities work to identify buyers, but in most cases, the buyers do not offer fair prices – nor do they pay a premium for certified wood. Natika is currently working to convince the municipal government to commit to purchasing its wood from certified *ejidos*, and to pay a premium for this wood to encourage other *ejidos* to become certified.

The community leaders are working to ensure that life is sustainable for the next generation of Rarámuri and that they maintain their sense of identity. According to one indigenous leader: 'Among our leaders, the idea is to always be talking about our ways so that our young people are not afraid to face the challenges that we are living through and so that they will not leave. We inculcate strength in them because they are the ones who have to persevere. This is to say that we must strengthen the young people who we see as leaders. Only then will we continue resisting and continue to be the owners of our territories.'



DEFORESTATION



Between 1990 and 2005, Mexico lost 6.9% of its forest cover (approximately 4.7 million hectares). In 2011, the United States Department of Agriculture reported that Mexico's average annual rate of deforestation was 0.4%.⁹⁸ According to the FAO, the deforestation rate dropped to 0.1% in 2015.⁹⁹

The most recent government (SEMARNAT) estimate covers the period of 2005–2010, and indicates that Mexico loses an average of 155 000 hectares of forest each year. This marks a significant decrease from the average of 235 000 hectares per year recorded for 2000–2005; and 354 000 between 1990 and 2000.¹⁰⁰ The PRISMA foundation claimed that Mexico's leadership in the area of community-managed forestry has 'substantially contributed to biodiversity conservation and the slowing of deforestation and degradation'.¹⁰¹ Although deforestation rates have decreased since 2005, forest degradation and deforestation generally continue to be major issues in Mexico.¹⁰²

Deforestation in Mexico is usually related to illegal logging, forest fires, the conversion of forests for agricultural use and pastureland, and logging for firewood.¹⁰³ In some areas, forests are degraded or completely deforested for the cultivation of illicit crops.¹⁰⁴

Illegal logging poses one of the largest threats to Mexico's forests. One report indicates that of the 155 000 hectares of forest lost from 2005 to 2010, some 60 000 hectares (39%) were reportedly lost to illegal logging.¹⁰⁵ Mexico is losing its forest cover at a gross rate (referring to all forest clearing, including burning for agriculture) of 250 000 to 260 000 hectares per year, and a net rate (commercial logging) of 127 000 hectares per year. As SEMARNAT only authorizes the change of land use of an average of 12 000 to 13 000 hectares per year, about 95% of deforestation is illegal.¹⁰⁶ According to Mexico's forthcoming National Forestry Programme 2019–2024, illegal logging was responsible for 95% of the country's deforestation.¹⁰⁷

- ◀ **Between 2007 and 2012, an average of 8 434 forest fires occurred each year in Mexico, resulting in an average loss of 348 000 hectares annually.**

© Andrea Pistolesi/Getty Images

Another leading cause of deforestation is forest fires. During May 2019, Global Forest Watch Fires received 77 315 forest-fire alerts from Mexico, ranking the country second after Russia. Between 2007 and 2012, an average of 8 434 forest fires occurred each year, resulting in an average loss of 348 000 hectares annually.¹⁰⁸ During the first five months of 2019 alone, there were reportedly 6 506 forest fires, affecting 484 355 hectares of forest in all 32 states of Mexico. The states most affected included Chihuahua, Chiapas, Oaxaca, Jalisco, Durango, Guerrero, Nayarit, San Luis Potosí, Guanajuato, and Puebla.¹⁰⁹ Some 97% of these fires are caused by human activities.¹¹⁰ Agricultural activities accounted for 39% of forest fires, while others were reportedly caused by illegal loggers.¹¹¹ Both illegal logging and uncontrolled forest fires primarily occur in areas with low levels of social capital, and a lack of economically viable and legal forms of forest use.¹¹²

A 2017 report indicates that deforestation in Mexico is also tied to a lack of regulation and monitoring of land management,¹¹³ which is partially due to a lack of resources.¹¹⁴ The Office of the Attorney General in Mexico has launched a number of investigations for environmental crimes under articles 418, 419 and 420 of the Federal Penal Code, which determines prison sentences of one to nine years and fines of 300 to 3 000 minimum wages for anyone who destroys or cut downs trees or vegetation, or changes forest use, without authorization. Between 2000 and 2018, investigations launched were focused largely on Chihuahua (231), followed by Mexico State (82), Oaxaca (53), Chiapas (50), Jalisco (50), Nuevo León (33), Campeche (31) and Sinaloa (24).¹¹⁵

CONAFOR was created in 2001 and tasked with the conservation and restoration of Mexico's forests, as well as promoting sustainable forestry. Experts interviewed reported that CONAFOR does not have adequate

technical capacity to enforce forestry laws; and that government capacity was further constrained by a lack of resources, along with alleged collusion and corruption, especially in areas where illegal logging is prevalent.

The most endangered forest types are cloud forests and dry forests, both of which are rich in biodiversity.¹¹⁶ Rates of deforestation are also very high in tropical forests, posing a severe threat to Mexico's biodiversity.¹¹⁷ Deforestation also contributes to soil erosion and desertification.¹¹⁸ In illegal-logging hotspots, forests can be degraded to the point of destroying entire ecosystems. In these instances, natural recovery of the forest is severely constrained, as seen in forests that were heavily logged, but which have not shown marked recovery in over 20 years.¹¹⁹

Deforestation does not only affect the environment but also local populations – especially ejidos and indigenous communities living in extreme poverty. Deforestation can also lead to forced displacement, especially when related to land grabs and illegal logging connected to organized crime. This displacement arises not only due to the threat of violence but is also linked to the removal of livelihoods sources for local populations. Forests further provide communities with a source of firewood, and deforestation can result in erosion, changes to the local climate and contaminated drinking water.

Individuals displaced or affected by deforestation become extremely vulnerable to human trafficking, both in forestry as well as in other sectors. This is especially true for the agricultural sector. There have been numerous documented cases where displaced people have been forced to migrate internally to work in agriculture. These individuals are particularly vulnerable to deceptive recruiters who take advantage of their desperation, sometimes resulting in trafficking in persons. In some cases, workers specifically mention deforestation as the main driver of their displacement.¹²⁰

Deforestation in Chihuahua

Deforestation is evident across various regions of the Sierra Tarahumara in Chihuahua. Excessive legal and illegal logging are locally perceived to be the leading cause of deforestation in the region today, in addition to the high rate of forest fires and clearing of land for agriculture and livestock.

Local experts interviewed reported that increasing deforestation and illegal logging in the Sierra Tarahumara are directly connected to the intensified involvement of DTOs in the logging sector. There are also indications that organized-crime groups sometimes set the stumps on fire after illegally cutting down trees (possibly to cover their



A member of a security commission stands guard in a forest in Michoacán, May 2011. His community declared a 'state of siege' against armed groups protecting illegal loggers in the area. © Ronaldo Schemidt/AFP via Getty Images

tracks), and do not allow local people to extinguish the fires. This can result in forest fires, causing the deforestation of much larger areas as well as pollution caused by the smoke.¹²¹

In some areas, organized-crime groups engage in deforestation to make way for the cultivation of illicit crops. For example, to the south of Creel is the so-called 'golden triangle' where Chihuahua, Durango, and Sinaloa meet. This area has long been an epicentre of

drug cultivation, with the climate and rugged terrain making interdiction more difficult. InSight Crime reports that in this area, which is controlled by the Sinaloa Cartel, trees are burned and illegally logged to clear land for the cultivation of poppy and marijuana, sometimes in massive plantations.¹²² It is important to note that in some cases, DTOs also protect certain areas of forest from logging to provide cover for the cultivation of illicit crops, according to experts interviewed.

Illegal logging

The value of illegal logging worldwide is estimated to be up to USD157 billion per year. In Latin America, Africa and South-East Asia, between 50% and 90% of timber is estimated to be illegally logged.¹²³ A 2019 InSight Crime report found that illegally logged wood is 'among the most vibrant criminal markets' in Mexico.¹²⁴

According to the Timber Legality Risk Assessment conducted by Nature Economy and People Connected (NEPCo), Mexico's timber risk score in 2017 was 17 out of 100 – with zero indicating the highest risk. This places Mexico in the high-risk category, alongside neighbouring Guatemala (18/100) and Honduras (0/100).

Estimates from Mexico's leading university, the National Autonomous University of Mexico (*Universidad Nacional Autónoma de México* – or UNAM), indicated that in 2018, at least 70% of Mexican wood was illegally logged.¹²⁵ According to the Federal Prosecutor of the Environment Protection Agency (*Procuraduría Federal de Protección al Ambiente* – or PROFEPA), the production of illegally logged wood accounts for 30% of the authorized annual volume of wood produced in the country.¹²⁶ CONAFOR statistics from 2017 point to an annual trade of up to 15 million cubic metres of illegally logged wood in Mexico each year.¹²⁷ In 2019, a prominent Mexican environmental activist reported that illegal logging generated USD10 billion to USD15 billion in profits annually.¹²⁸

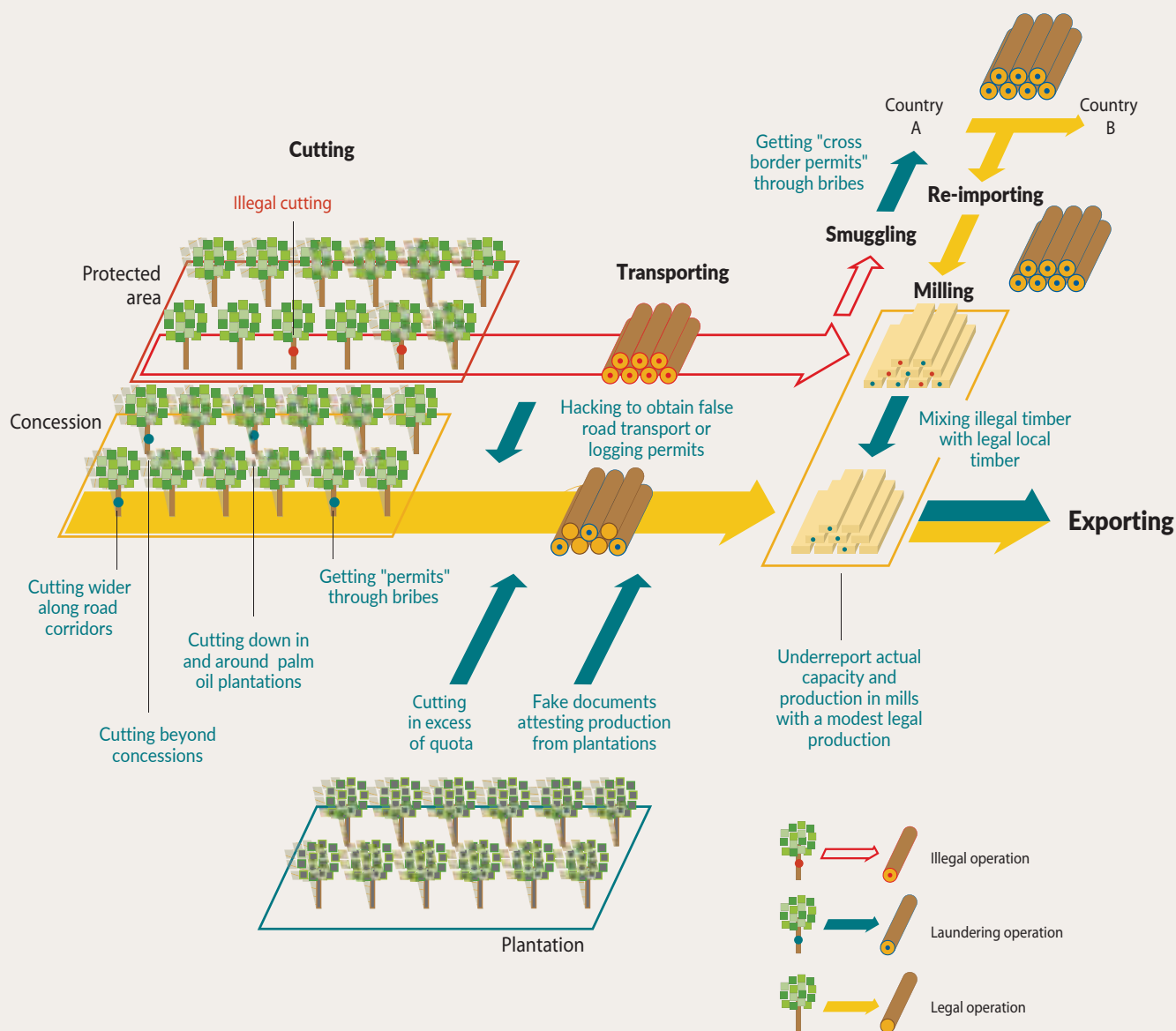


FIGURE 3 The supply-chain structure of the illegal-logging process

SOURCE: The World Atlas of Illicit Flows¹²⁹

Illegal logging occurs across a large number of states in Mexico.¹³⁰ A recent UNAM study found that rates of illegal logging were highest in the states of Chihuahua, Chiapas, Oaxaca, Sonora and Sinaloa.¹³¹

A 2016 *Reforestamos México* survey of 1 344 logging actors across 12 Mexican states found that 652 had harvesting permits, while 692 lacked permits. Some 32% of the producers who lacked permits mentioned poverty and a lack of employment prospects as the main reason for participating in illegal logging; whereas 24% stated that the bureaucratic process was very complicated, and 18% reported that not all *ejidos* met

legal requirements.¹³² For 17% the cost of a technical service provider was too high, and 9% said the response time for granting a Forest Management Programme was excessive. According to the in-country experts interviewed by GI-TOC, the perceived advantages of engaging in illegal logging include higher profits, and saving on the costs and time needed to comply with bureaucratic procedures for obtaining logging permits.

The GI-TOC found that organized-crime groups are closely linked to illegal logging, especially in Chihuahua. These groups may be directly engaged in illegal logging – bringing in crews to clandestinely log protected areas,

or areas held by *ejidos*, indigenous communities and private landowners. They are also involved in the extortion of individuals, communities and companies, both formal and along the illegal wood supply chain. Criminal groups are also closely tied to the laundering of illegally logged wood. Alleged collusion of local officials, as well as business elites, further facilitates the phenomenon of illegal logging.

Illegally harvested wood can be laundered in several ways. Organized criminal groups can steal or force landowners to hand over logging permits. Those involved in illegal logging can also claim that illegally extracted wood came from legitimate concessions. Furthermore, they can sell illegally logged wood to unscrupulous sawmills, which help to launder the wood by mixing it with legally logged wood and converting it into timber, pulp or wood chips.¹³³ The United Nations Environment Program and INTERPOL estimate that 62% of US imports of illegally logged tropical wood (globally) were in the form of paper, pulp and wood chips, and not as roundwood, sawn wood or furniture, which have historically received more attention.¹³⁴

Illegal logging is enabled by various deficits in Mexico's institutional capacity, such as the ineffective enforcement of forestry and environmental legislation, loopholes and confusion around land tenure, burdensome logging regulations, corruption and the presence and influence of organized crime in some regions.¹³⁵ For example, there are reports that local authorities receive bribes in exchange for not inspecting trucks that are transporting illegally logged timber.¹³⁶

Illegal logging in Chihuahua

In Chihuahua, illegal logging has occurred for many years, involving different actors at different scales. These include *ejidos* members who manage CFEs that may log without permits, or outside of the authorized zones; large formal businesses; and informal family businesses that engage in logging without permits or are involved in processing or transport of illegally logged wood. Other actors include state entities that engage in corruption and facilitate the export of wood; intermediaries who connect CFEs and sawmills with buyers from the state, region or other countries; and criminal groups and DTOs that engage in illegal logging and other

In the past 15 years, illegal logging has increasingly been seen as a profitable activity for organized crime.

activities related to the sector, including extortion, land grabbing and wood laundering.

In the past 15 years, illegal logging has been increasingly seen as a profitable activity for organized crime. A major change is that criminal groups involved in illegal logging in Chihuahua are now known for their use of violence and weapons, and in many cases, their links to international DTOs.

The experts interviewed by GI-TOC explained that over the last 10 to 15 years, the price of opium gum dropped by over 80% due to the distribution of new synthetic drugs and that as a result, DTOs and cartels have partially shifted to other profitable sectors – such as illegal logging – to make up for lost revenue. Chihuahua is still heavily forested compared to many other Mexican states. The demand for drugs historically cultivated in Chihuahua has decreased, and efforts to combat drug trafficking have been aggressive compared to lax law enforcement around illegal logging. These factors mean that substantial profits generated by illegal logging will likely remain a driver of illicit activities in the state.¹³⁷

Organized criminal groups first became significantly involved in illegal logging between 2004 and 2007. Local experts interviewed reported that there have since been unprecedented levels of social and environmental impact – including violence, forced displacement, extortion, deforestation and trafficking in persons.

The cartels originally came to the region to cultivate illicit crops, and in some cases engaged in deforestation to plant such crops – often burning the trees, but sometimes selling the wood. These groups soon came to see that illegal logging is itself a highly lucrative activity, and began to move into this market. This offered the additional benefit of territorial control; a way to make up for the decreasing demand for heroin

Illegal logging may seem economically attractive and beneficial at first, but often does more harm than good to communities.

and marijuana; and eventually as a mechanism to transport drugs.¹³⁸

Illegal logging is generally carried out in two ways in Chihuahua, according to local experts interviewed by GI-TOC. When a relatively small number of trees are cut randomly within an expanse of a forest so that it is not highly noticeable, it is known as '*tala hormiga*' (or 'ant logging'). Illegal logging may also be carried out in a much more aggressive, visible way, in which hectares of trees are clear-cut and the remaining vegetation is burned.

Historically, illegal logging was mostly done by the *tala hormiga* method in Chihuahua, with relatively small groups of people trespassing at night and discreetly cutting down individual trees one by one across large expanses of land so that the landowners would not notice. State-level experts say that with the increased involvement of organized crime, illegal logging has become much more brazen, violent, and damaging to local communities as well as the environment.

The direct involvement of organized crime in illegal logging is often accompanied by violent invasion of forested lands, displacement of local indigenous populations, as well as the kidnapping or forced recruitment of young people to do the logging. Experts interviewed reported that criminal groups, including international DTOs, take part not only in illegal logging but also in the processing, transport, laundering and export of illegally logged wood. Organized criminal groups have also begun to assert control over across various entities that are involved in the legal wood supply chain – extorting and intimidating sawmills and transport companies, laundering illegally logged wood, transporting drugs in shipments of logs, and using wood to launder drug money.

Sawmills are integrally connected with the laundering of illegally logged wood, which enables illegal logging to occur. Several legally registered sawmills facilitate illegal logging by buying both legal and illegal wood, mixing it and then selling it as legal wood. San Juanito,

Chihuahua, is an epicentre for such sawmills. According to SEMARNAT data from 2019, in Chihuahua has a total of 2 157 sawmills and wood storage centres, 195 of which are located in Bocoyna – mostly in San Juanito.¹³⁹ There are also reports of clandestine sawmills that operate in the mountains, and directly control illegal logging and the processing and transport of wood.

In some cases, organized criminal groups rely on the threat of violence and extortion to directly control sawmills, while in other cases, they may extort them or force them to buy their illegally logged wood (which they may have logged themselves, or received as an extortion payment).

According to local experts interviewed by GI-TOC, illegal logging may look economically attractive and beneficial to communities at first, but it often does more harm than good to the communities. The State Commission of Indigenous People (COEPI) reported in interviews that the economic benefits of illegal logging often fail to reach the poorest members of communities, who are tempted to participate in illegal logging given a lack of other work opportunities. Illegal logging in the highlands of Chihuahua has caused increased labour-related and human-rights violations, inter- and intra-community conflict, increased violence and forced displacement due to the loss of territories owned by indigenous communities. Additionally, the illegal timber trade negatively affects CFEs by driving down prices for certified and legally logged wood.¹⁴⁰

In Chihuahua, several factors enable illegal logging. These include a lack of adequate regulations and policies, the absence of authorities, a lack of institutional capacity to monitor and respond to complaints, impunity, and corruption at all levels.¹⁴¹ According to InSight Crime, the current logging permit system does not adequately protect against illegal logging. This is compounded by weak enforcement capacity (including a lack of resources and manpower) among official enforcement bodies, including PROFEPA.¹⁴² According to an official response from PROFEPA, between 2012 and 2018, 52 sawmills or wood storage centres linked to illegal timber logging were shut down in Chihuahua, eight of which were located in Bocoyna.¹⁴³ However, they represented a small proportion of unscrupulous

Impunity for illegal logging

In some cases, *ejidos* have sought help through legal channels to prevent and seek restitution in the face of illegal logging, but these efforts have been stymied by a lack of institutional capacity, as well as corruption in some cases. A GI-TOC interview in Chihuahua with an *ejido* member and small landowner provides an illustrative case that shows how difficult, expensive and even counterproductive it can be to file a complaint.

In the Panalochi *ejido* in Bocoyna, Chihuahua, approximately 400 individuals reportedly trespassed and illegally cleared trees from 1 000 hectares of land in just 15 days. The landowner got in contact with a local NGO and was provided with a pro-bono lawyer to help with his case. However, he still had to pay for his travel to the capital city of Chihuahua to report the illegal logging to government authorities.

They filed a complaint with CONAFOR and PROFEPA, providing all the required evidence. Yet the authorities said

that they could not come out to investigate until they were provided with additional proof, so he had to travel back to his land, take pictures and return to the city of Chihuahua.

PROFEPA finally came to his land to take pictures, but after a year, it had still not been declared a criminal act. Instead of pursuing those responsible for the illegal logging, the authorities fined the landowner and forced him to pay for the reforestation of the land where the trees had been felled (as he did not have a permit for logging on that area). The landowner suspected that this was a result of bribery or intimidation of the authorities by the group responsible for the illegal logging. He reported that he had also been threatened personally after filing the report. It is important to note that even with the support of an NGO and a pro-bono lawyer – resources that most small landowners are unable to access – the landowner was unable to secure a remedy and was instead essentially punished for filing a complaint.

sawmills. Local experts interviewed by the GI-TOC considered these enforcement actions as window dressing, rather than forming part of a comprehensive plan to combat illegal logging.

Interviewees also reported that proving illegality in logging is particularly difficult and that as a result, authorities do not generally prosecute individuals involved in this illicit activity.

Although there have been attempts to carry out inspections on the environmental impacts of logging, it is difficult to obtain evidence of illegal logging (other than a lack of required permits). Illegal loggers generally have to be caught in the act during a police raid. However, the individuals detained by police at an environmental crime scene are often informal, low-paid indigenous workers employed by criminal groups

– rather than the individuals who control and benefit from illegal logging.

Authorities are often overwhelmed by the scale of illegal logging, and unable to enforce labour and environmental law. This is largely due to risks associated with enforcement actions in a sector that is often associated with heavily armed criminal groups. Government representatives interviewed by GI-TOC reported that they were threatened when attempting to carry out enforcement actions against illegal logging, and that they could be killed or disappeared if they went to certain areas controlled by organized crime. In one case, it was reported that when a law-enforcement body asked for support from municipal police (who they later found out were controlled by organized-crime actors), they were not provided with assistance, but were told to leave the area and not to return.



Deforestation in San Juanito Bocoyna. © D Siller and R Landa

Illegal logging in Bocoyna

The municipality of Bocoyna is located in the Sierra Tarahumara and occupies an area of 2 710 square kilometres and has 27 909 inhabitants.¹⁴⁴ Some 80% of Bocoyna is covered by forests, 49% of which is allocated to raising livestock, and 3% to agriculture. The remaining 48% is used for forestry.¹⁴⁵

Bocoyna is one of the municipalities with the highest rates of marginalization and social-gap indices in the Sierra Tarahumara.¹⁴⁶ Data from the Rural Development Ministry shows that in the region of Bocoyna, 41.5% of the population suffers from food poverty and 70% live below the poverty line.¹⁴⁷ Most people in Bocoyna are employed in the forestry sector, which generates the vast majority of income for local inhabitants. The sector is marked by low wages, which contribute to elevated levels of poverty in the area.¹⁴⁸

The municipalities of Bocoyna and Chínipas show the highest rates of forest degradation (including deforestation, erosion and use of agrochemicals) in the entire state of Chihuahua (1.03% and 1.10%, respectively).¹⁴⁹ According to local forest engineers

interviewed for this report, deforestation in the Bocoyna region has increased drastically from 0.8 hectares per year in 2008 to between 800 and 1 200 hectares annually in 2018. Bocoyna is also one of the municipalities where agricultural activities contribute the most to deforestation.¹⁵⁰

According to local experts interviewed, new-growth trees predominate in wooded areas. This is a consequence of past logging activities and inadequate forest management, as well as the legal and illegal logging of the thickest, highest-value trees. Paper mills in Anahuac, Chihuahua and Monterrey, Nuevo León are reported to be the main buyers of wood from Bocoyna. According to local experts, the wood is also distributed to the cities of Sonora, Sinaloa and Ciudad Juárez, as well as to the US.

Field researchers found that in Bocoyna, some *ejido*-owned CFEs have been awarded certifications for good forest-management practices, such as the Talayotes and Babureachi *ejidos*. CONAFOR guaranteed these *ejidos* that they would receive economic benefits once certified, but as of yet, the certification process has only resulted

in costs for the *ejidos*. The expected benefits are yet to transpire as they have been struggling to sell the certified wood at a fair price.

According to experts interviewed, buyers take advantage of the *ejidos*' lack of leverage by controlling the market and keeping prices low. This prevents the *ejidos* from receiving a fair price for their certified wood. Furthermore, buyers often insist on paying the same price for certified, uncertified and even illegally logged wood – as there is a lack of demand for certified wood. The flooding of the market with illegally logged wood has also been pushing down prices.

Local *ejido* members reported additional challenges, including forest fires, soil erosion, illegal logging and general insecurity. Although there have been instances of communities attempting to directly confront illegal logging, many movements have been crushed due to intimidation by organized-crime groups. In Bocoyna, illegal logging is carried out mostly by trespassers known as '*avijeros*' (informal vigilantes) or '*talamontes*' (illegal loggers). The *ejidos* seem to be defenceless in the face of these actors.

Sawmills in the San Juanito area of Bocoyna also face various challenges. Bocoyna has the highest number of sawmills in Chihuahua. Some experts interviewed said that it has the largest number of sawmills out of any municipality in the country if informal sawmills are

taken into account. In Bocoyna, there are reports that sawmill owners are forced into buying illegal timber from organized-crime groups. This illegally logged wood can be 'laundered' by mixing it with legal timber. According to PROFEPA data, between 2012 and 2018, some 11 of the 31 sawmills and eight of the 52 timber warehouses that were shut down by authorities in the state of Chihuahua were located in Bocoyna.¹⁵¹

Local and state experts agreed that these operations were publicity stunts which failed to address the scale and root causes of the problems. The experts reported that PROFEPA's capacity is severely constrained in Chihuahua, making it incapable of combating illegal logging, especially in cases associated with organized crime. The field researchers in Chihuahua observed countless trucks transporting timber. Many government checkpoints were unattended, especially in high-risk, isolated zones controlled by organized crime.

Given the lack of support and response from the authorities against illegal logging in Bocoyna, some *ejidos* have used violence as a form of self-defence. These cases are currently isolated, but it is of particular concern there gun possession among locals appears to have increased. As a self-defence strategy, *ejidos* have considered forming alliances between themselves to provide greater surveillance and coordinated responses to illegal logging and organized crime.

Chihuahua's supply chain of illegally logged wood

Research was conducted in Monterrey to find out how wood from Chihuahua was processed into consumer goods sold both in Mexico and other countries. GI-TOC researchers conducted interviews with representatives of companies that produced lumber, pallets, crates, brooms and furniture in Monterrey. It was found that manufacturers purchase a large amount of wood (including illegally logged wood) from Chihuahua, as well as from other countries with high rates of illegal logging, and that they sell the products made from this wood domestically, to the US and Europe. Most of the manufacturers are aware of *piso* payments made to organized-crime groups

by the sawmills and the middlemen from which they source their timber.

Plywood, pallets and crates

The GI-TOC interviewed a representative from a company that has reportedly been operating in Monterrey for close to 40 years. The company manufactures plywood, pallets and wood crates that are made to order according to client specifications. This company has slightly fewer than 30 employees and the capacity to produce approximately 120 pallets a day.

All of the company's products are made from pine, 90% of which comes from Mexico, while the other 10% comes from Chile. The representative indicated that he prefers



Pine makes up a substantial proportion of Mexico's timber production. Here, towers of pine planks to be used in furniture manufacture and construction are seen outside a sawmill in Agua Bendita. © Henry Romero/Reuters via Getty Images

not to buy pine from Chile because it has more knots. He reported that the company purchases four to five trailers full of pinewood each month from Chihuahua and Durango, purchasing pine directly from five or six sawmills in these states. A sister company purchases other types of wood, including from Brazil.

The representative said that the company requests to see the sawmills' permits, but does not have any system to determine either the origin of the wood, or whether it was legally logged. While he indicated that the company complies with legislation on the export of wood-based products, the laws he referenced had to do with insect control – not illegal logging. He reported that although some of the company's suppliers have Forest Stewardship Council (FSC) certificates, clients do not

generally request certified wood. He indicated that he therefore buys little certified wood, and the company does not pay any type of premium for certified wood.

The company sells plywood, pallets and crates to businesses based in Nuevo León, Veracruz, Guanajuato, Tampico, Tamaulipas, Coahuila and Querétaro. While the company reportedly does not directly export its products internationally, it sells its crates and pallets to companies that use them to export their goods to the US. These included manufacturers of sections of pipeline sold to the US; the supplier of a major US-based electronics company; as well as agricultural export companies. It is worth noting how wood-based products such as pallets and crates, which can be used to ship consumer goods, often escape oversight mechanisms.

Broomsticks

The GI-TOC conducted interviews with representatives from two broomstick manufacturers in Monterrey.

The first company has been operating since 1978 and produces brooms, mops, wooden brushes, dustpans and squeegees with wooden handles. The company produces approximately 1 200 mops per day. The only type of wood that it purchases is pine from Chihuahua. The company purchases directly from the owners of sawmills, who provide the pine in wooden cylinders, ready to be converted into broomsticks. The representative reported that the company does not purchase certified wood and that the only considerations are cost and quality.

While the company sells mops and brooms locally, most of its products are exported to the US. Among their clients, they mentioned a prominent US-based low-cost retail chain, as well as a Mexican chain. They generally sell the mops to wholesalers for MXN19 (USD0.99), which retail for approximately MXN80 (USD4.16). The company takes responsibility for sending shipments to the US and dealing with customs, and uses four to five brokerage companies to handle the logistics and connect the company with clients.

The second company has been operating since 1989, has approximately 40 employees and manufactures sticks for brooms and mops. It purchases pinewood only: about three truckloads per month, all from Chihuahua. The representative reported that none of the wood the company purchases is certified.

The company buys all the wood from one intermediary, who in turn buys it from various sawmills in Chihuahua. The intermediary arranges the transport of the wood and provides the company with the necessary permits. The representative reported that the company does not have any type of traceability or compliance system, as he believed that it is the responsibility of the intermediary, not the company, to ensure compliance. The company mostly sells its broomsticks in Nuevo León and Sinaloa, but also exports to two clients in Texas, one of which has been a client for over 10 years.

Furniture

The GI-TOC interviewed a representative of a furniture manufacturer that manufactures doors, kitchen cabinets, dressers and other articles. The company has over 50 employees.

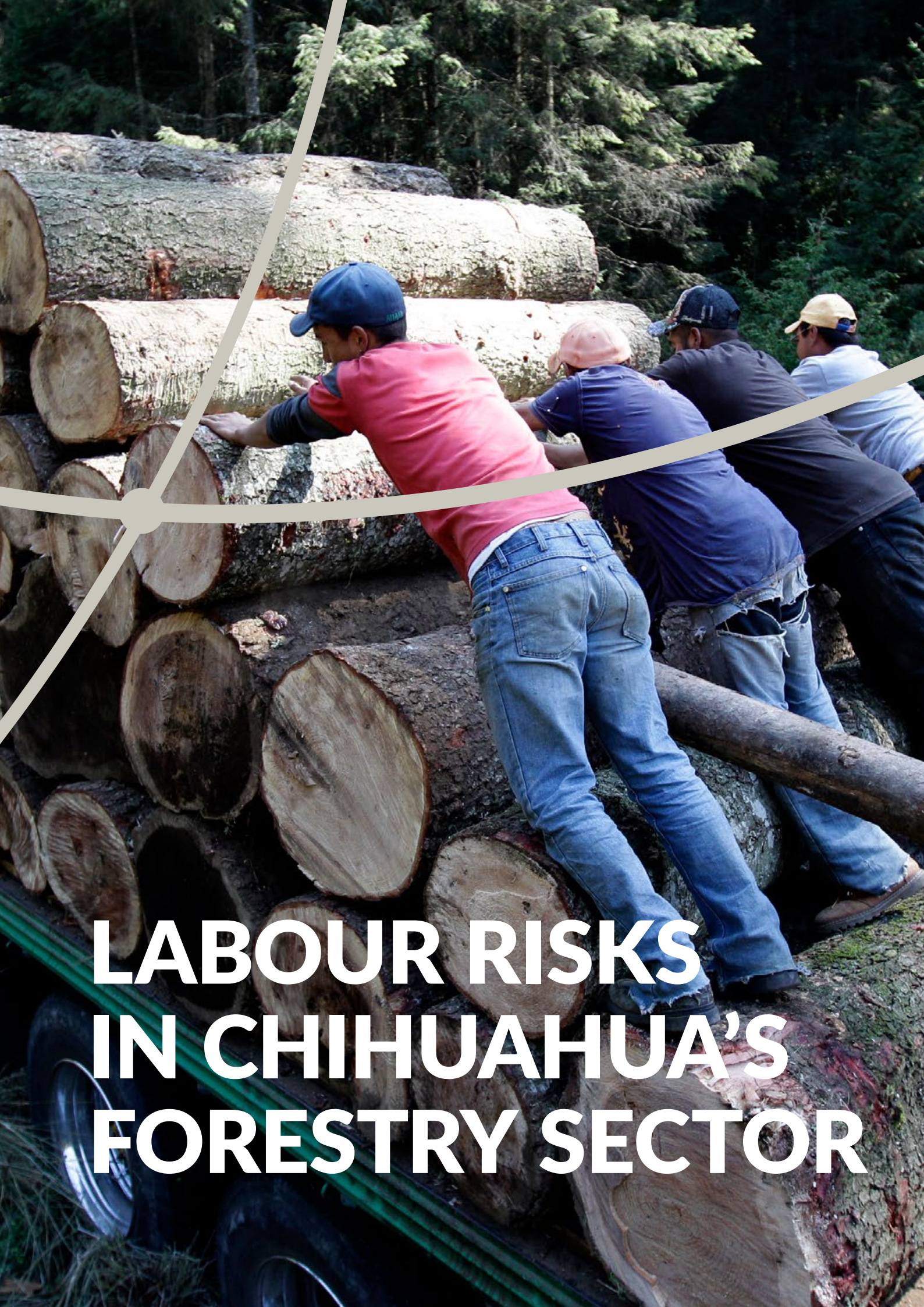
The representative reported that the company purchases pine from Mexico, the US and Chile, along with walnut, oak, and okoume (a softwood imported from Brazil). He reported that approximately every two months, the company purchases a trailer load of pine planks from sawmills located in Chihuahua and Durango, and said that the highest-quality wood comes from Chihuahua.

He explained that the company purchases wood from an intermediary in the city of Monterrey, who spends most of his time in Chihuahua. The intermediary has coordinated the logistics of purchasing the wood from sawmills and transporting it for the company for the past 10 years, but also supplies approximately 20 other companies in the Monterrey area.

The furniture manufacturer representative reported that buying wood from Chihuahua necessitates negotiating with local 'mafias' and paying them a *peso* to prevent shipments of wood from being stopped, and also because the intermediary has been threatened in the past. He reported that the price that the company pays for the wood includes the cost of the *peso*, and that all companies manufacturing wood-based products engage in the same practice of covering the cost of the *peso* – thereby indirectly funding organized-crime groups and conflict in Chihuahua.

He reported that because the company is relatively small, it does not have any type of corporate social responsibility programme or traceability system, so the exact provenance of the wood is unknown. He said that the company does not ask for information about the origin of the wood from the intermediary because they trust him, but claimed that all their purchases had the necessary permits. While the representative said that the company was certified, he could not name the types of certifications. He said that most clients are not concerned with certifications, but rather care about the quality of the furniture.

While the company sells most of the furniture domestically, mostly to architects and construction companies, it also sells furniture to stores in the US, mostly in Texas. The representative also mentioned that the company had sold items to furnish the offices of the state congress building in Mexico.



LABOUR RISKS IN CHIHUAHUA'S FORESTRY SECTOR



Recruitment and hiring

According to local experts and *ejido* members interviewed by GI-TOC, *ejido* general assemblies are responsible for decisions related to recruiting and hiring forestry technical services providers (PSTFs); so-called 'promoters' (who are responsible for monitoring deforestation and provide assistance to the technicians); documenters (who measure the volume of the wood leaving *ejidos*); transporters; and buyers. Assemblies are also in charge of hiring the individuals responsible for logging, loading the logs and reforestation – among other tasks. General assemblies also decide if there is sufficient labour within *ejidos* to carry out necessary tasks, or whether there is a need to subcontract work to others.

In many cases, individual *ejido* members themselves recruit and hire low-skilled workers to carry out tasks on their parcels of land, such as logging, loading logs, and reforestation. In some cases, PSTFs are engaged to recruit and hire these types of workers. According to a report and focus-group discussions with workers, PSTFs hire low-skilled workers for about USD5 per day.¹⁵²

According to experts interviewed, preferential treatment in hiring is typically given to other *ejido* members, followed by '*avecindados*' ('neighbouring persons with *ejido* rights'), who are described in the Agrarian Law as 'non-underage Mexicans who have been living for at least a year in the territory of the *ejido* and have been recognized as residents by the *ejido* assembly or the competent agrarian court.' In some cases, *ejidos* hire *avecindados* who come from other areas and settle on *ejido* lands but are not original, full-fledged *ejido* members. *Avecindados*, whether indigenous or mestizo in ethnicity, are commonly recruited for logging, reforestation and trimming.

External workers may also be 'subcontracted' in a more informal way for temporary tasks. Interviews with local experts, *ejido* members and workers indicate that *ejidos*

- ◀ Workers load a truck with pine logs. Labour exploitation poses a significant risk even in the licit logging industry, as owners are forced to pay extortion fees and need to increase timber production. © Henry Romero/Reuters via Getty Images

organized as CFEs often hire external workers, including internal migrants and local indigenous people. Most of the unskilled, temporary workers hired by *ejidos* are landless indigenous people, mainly from neighbouring indigenous communities. Hiring indigenous people outside the *ejido* is usually done by informal agreements and, in most cases, their wages are lower than those received by mestizo workers.

According to *ejido* members, community members and workers interviewed, contracts may be temporary or for up to a year – depending on the *ejidos*' needs. Unskilled temporary workers are not generally provided with formal contracts which comply with legal requirements. This is particularly true for indigenous workers who are employed by small- and medium-scale producers.

Other employers that hire workers along the forestry supply chain in the Bocoyna region include small-scale, private forestry operations; transport companies; sawmills; warehouses; and organized-crime groups involved in illegal logging; the processing and transport of wood; money laundering and extortion. As very few *ejidos* own sawmills or the cargo trucks needed to transport logs to sawmills, they often have to hire external transporters to haul their wood. One focus group reported that transportation reduced their profits by 25% to 30%, depending on the transport company.

Expert interviews and various reports indicate that organized-crime actors are involved in forcibly recruiting young people for illegal activities, including illegal logging.¹⁵³ This includes both DTOs and local criminal groups, which may invade land and force the local people to work there in illegal logging, or may kidnap teenagers from indigenous communities and force them to engage in illegal logging and other criminal activities in other areas.

It is important to note that not all DTOs and criminal groups have the same modus operandi. Groups like the Sinaloa Cartel, for instance, often seek to obtain the support of local communities by offering lucrative opportunities.

Local experts interviewed by GI-TOC reported that local populations had a more favourable view of the Sinaloa Cartel, which reportedly pay workers regularly and allow them to return to their communities. On the other hand, they viewed the CJNG as violent and exploitative – even 'enslaving' workers. However, interviewees said that both the Sinaloa Cartel and CJNG, along with the Juarez Cartel, use drugs to control workers in one way or another. There were reports that some criminal groups recruit women to work as cooks and cleaners in logging camps, offering good wages. In some cases, local mafias recruit and hire temporary workers to carry out logging and related activities, with varying degrees of deception, coercion and exploitation.

Trafficking in persons, and forced labour

The Mexican NGO, United Against Trafficking (Unidos Contra la Trata) reported in interviews that Mexico has the second-highest number of victims of trafficking in persons of all countries in Latin America. According to the NGO, 380 people (including Mexicans and foreigners) disappear in Mexico each day, approximately 80% of whom were victims of trafficking for labour or sexual exploitation.¹⁵⁴

The International Organization for Migration (IOM) estimated in 2014 that 70% of trafficking victims in Mexico were trafficked for labour exploitation.¹⁵⁵ Seventeen states are recognized

as having elevated levels of forced labour, with the highest rates found in Chihuahua, Sinaloa, Sonora and Baja California Sur.¹⁵⁶

In 2019, the CNDH presented its first analysis of available data on victims of trafficking in persons between June 2012 and July 2017. It stated that federal and state-level prosecutors had identified 5 245 victims during this period. Of these, 85% were women, 23% were minors and 84% were Mexicans. It found that 40% of all male victims were less than 18 years old.¹⁵⁷

While a lack of disaggregated data makes it difficult to identify vulnerable populations, it was clear that individuals who were especially vulnerable to trafficking in persons include indigenous people, migrants in transit, people from the LGBTQ (lesbian, gay, bisexual, transgendered and queer or questioning) community, and people with disabilities. Data provided by the CEAV (contained in the same report) indicates that 17% of all identified victims of trafficking in persons had been trafficked for labour exploitation.¹⁵⁸ The report includes analysis of media coverage, which suggests that a large number of children are trafficked – both for labour exploitation and forced participation in criminal activities.¹⁵⁹

A study published in 2014 by another Mexican NGO, the National Citizen Observatory, found that the agricultural sector was among the 10 sectors with the highest levels of labour trafficking.¹⁶⁰ Civil society organizations consulted by the US-based anti-trafficking NGO, Polaris, reported 60 cases of trafficking and/or labour exploitation in 2014, as well as 24 cases of labour trafficking in 2015 on farms in Chihuahua, Baja California, Baja California Sur, Colima, Coahuila, Sinaloa, Sonora and Jalisco. The states of origin of the victims were Chihuahua and Guerrero. In 2016, the same organizations reported 25 labour trafficking cases, most of which were in the agricultural sector. This included a case where 300 to 400 victims were exploited on a farm in Coahuila.¹⁶¹

In-depth *Los Angeles Times* investigative reporting published in December 2014 found several indicators of forced labour among Mexican agricultural workers across multiple states.¹⁶² Workers were reportedly trapped in remote workplaces, where they were subjected to forced overtime, limits on their freedom of movement and degrading living conditions. They also faced withholding of payment, induced or inflated indebtedness, isolation and the menace of penalty of violence at the hands of armed guards. *Los Angeles Times* further reported that workers were unable to leave their jobs in approximately half of the 30 labour camps visited, due to withholding of payment or debt to company stores. On one large-scale farm, hundreds of workers were reportedly held against their will and were subjected to beatings if they tried to escape.¹⁶³

The 2019 Trafficking in Persons report by the US Department of State reported that *jornaleros* and their children were trafficked for forced labour in the agricultural sector: specifically in the production of sugar, coffee, tobacco, fruit and vegetables.¹⁶⁴ These individuals were reportedly subjected to debt bondage, recruitment fees, degrading living conditions, low or no wages and denial of access to health and educational services.¹⁶⁵ The US Department of Labor's 'List of goods produced by child labor or forced labor' includes Mexican beans, coffee, cucumbers, eggplants, melons, onions, poppies, sugarcane, tobacco, tomatoes and chili peppers.¹⁶⁶

There is a lack of recently published studies on trafficking in persons in the Mexican forestry sector. Therefore, GI-TOC had to rely on field research to assess the risk of trafficking in persons. Based on information collected from interviews with local experts, the GI-TOC carried out an analysis of ILO indicators of forced labour in Chihuahua's forestry sector.

On one large-scale farm, hundreds of workers were reportedly held against their will and subjected to beatings if they tried to escape.

Indicators of forced labour in Chihuahua's forestry sector

The GI-TOC found a number of indicators of forced labour in Chihuahua's forestry sector. These are broken down into indicators of involuntariness and coercion (menace of penalty). It is important to note that all interviewees mentioned that the degree of exploitation was more severe and violent in cases where employers were affiliated with organized crime.

Indicators of involuntariness

■ Unfree recruitment at birth or through transaction such as slavery or bonded labour

Local experts, community and *ejido* members, and workers interviewed by the GI-TOC reported instances where boys between the ages of 13 and 17 were kidnapped or forced to work for organized criminal groups. They were forced to engage in activities generally associated with organized crime, such as the trafficking and sale of drugs. However, these minors are also forced to engage in activities related to the forestry sector, including engaging in illegal logging, working as *halcones* (lookouts) for illegal logging operations, and working as debt collectors and assassins to ensure that *ejidos*, sawmills and transport companies paid their *pisos*.

It is important to note that not all minors were forcibly recruited to work for organized crime. There were reports that different criminal groups used different methods, with the Sinaloa Cartel trying to secure community support by offering locals lucrative opportunities, while other criminal groups used violence and threats to recruit minors. There were reports that in one of the zones controlled by the Sinaloa Cartel, minors were treated well. For example, teenaged girls were reportedly recruited to do cleaning and cooking inside illegal logging camps, were paid well and were free to leave. However, in more remote zones controlled by other groups, teenagers were forcibly recruited and controlled by threats of violence and the provision of drugs.

■ Situations in which the worker must perform a job of a different nature from that specified during recruitment without a person's consent

There were some reports of minors being recruited by organized-crime groups to take part in other

activities, and then being forced to engage in illegal logging. Some community members interviewed reported that organized criminal groups promise teenagers high earnings and an attractive lifestyle. When the teenagers arrive at the worksites, they realize that they are low-level pawns with no control over the tasks they have to carry out – or their conditions of work. Once they had started, it was extremely difficult for them to leave the groups due to threats to their lives. It is important to note that minors may be forced to engage in a variety of criminal activities, and may move among various activities during different times.

There were also reports that adult workers were originally offered decent and regular pay, but that in practice they were paid lower amounts of money – or their payment would be withheld for weeks or even months. For example, a group of workers interviewed reported that a sawmill offered them a good salary, but that at the end of their work period, they were not paid at all.

■ Abusive requirements for overtime or on-call work that were not previously agreed with the employer

Field research found a high risk of forced overtime in Chihuahua's forestry sector. The risk of forced overtime is increased when production quotas are implemented and when organized criminal groups are involved in illegal logging or the extortion of employers.

According to interviews with sawmill owners, *ejidos* members and local experts, sawmills sometimes require that *ejidos* provide them with a certain amount of wood (most often by '*carga*' – a truckload of wood, or a certain number of '*rollos*' – recently cut tree trunks) before they will be paid. This can result in *ejidos* putting pressure on workers – especially outside workers hired temporarily by the *ejidos* – to work long hours so that they can produce enough to be paid. There are also cases where transporters paid by *ejidos* are given compulsory weekly quotas, creating a risk of forced overtime.

The involvement of organized crime can greatly increase the risk of forced overtime. Threats from organized criminal groups are discussed in 'Threats of violence against workers or workers' families, or close

associates' below. According to experts and *ejido* members interviewed by the GI-TOC, there are many cases where organized criminal groups extort *ejidos* and commercial forestry plantations, requiring them to make regular *piso* payments in cash or wood.

There were reports that this type of extortion began to escalate in about 2014. Extortion and the threat of violence greatly increase pressures on production, which increases the risk that employers will force personnel to work overtime to be able to make payments in cash or wood. Interviews indicated that this extreme pressure on *ejidos*, forestry plantations, sawmills and transport companies to make regular cash payments to DTOs – or to provide them with a certain volume of wood – can result in pressure on workers to work overtime to meet these demands. This is especially true for smaller-scale operations with fewer workers and smaller profit margins.

- **Work in hazardous conditions to which the worker has not consented, with or without compensation or protective equipment**

Researchers found that workers employed in the forestry sector were often subjected to hazardous working conditions without the necessary personal protective equipment (PPE), and sometimes without their consent. Health and safety risks in logging and sawmills include cuts, loss of limbs, severe injuries and death from falling trees and timber, exposure to the elements and poisonous snakes, carrying heavy loads and sawdust inhalation. Workers reported that often have to pay for PPE, which can reduce usage rates. In some cases, workers do not even use the most rudimentary PPE, such as helmets. Other risks to workers' health and safety include forced engagement in illicit activities and induced addiction to illegal substances.

- **Forced engagement in illicit activities**

Kidnapped teenagers were reportedly forced to engage in a number of illicit activities, including the cultivation, trafficking and sale of drugs; as lookouts or assassins; and in various activities related to illegal logging. These include felling and hauling trees, transporting and processing wood, wood laundering and the extortion of *ejidos*, indigenous communities, commercial forestry plantations, transport companies and sawmills.

These risks are not limited to kidnapped teenagers. There are also cases where the workers of sawmills and transport companies may be forced to engage in illegal activities related to the processing, transport and laundering of illegally logged wood. In some cases, sawmills are forced by criminal organizations to accept and launder illegally logged wood. In these instances, sawmill workers may be forced either by their employers or the criminal organizations to engage in this illegal activity. Experts interviewed also reported that truck drivers were regularly forced to mix illegally logged wood with shipments of legally logged wood.

- **Induced addiction to illegal substances**

Local experts and members of *ejidos* and indigenous communities interviewed reported that some organized-crime groups provided or sometimes paid minors engaged in illegal logging with drugs to control and manipulate them. There were also reports that workers engaged in illegal logging were given drugs because it helped them to work long and extremely physically demanding shifts, felling and hauling trees.

Indicators of penalty (or menace of penalty)

- **Threats or violence against workers or workers' families and relatives, or close associates**

Interviewees reported that the threat of violence was used to recruit minors, especially in remote areas controlled by criminal groups other than the Sinaloa Cartel. In many cases, explicit threats of violence were not needed as armed individuals, who are known associates of DTOs that carry out brutal acts of violence, would enter a community and demand that teenagers come with them. There was likewise an implicit threat against the lives of teenagers' family members if they or the teenagers resisted DTOs' demands. One interviewee reported that she had been beaten several times after complaining about the working conditions of women and children.

When workers are employed by criminal groups, or individuals or businesses linked to such groups, the fear of physical violence is such that workers will follow orders and only leave their employment once they are permitted to do so. In some cases, workers



Armed individuals, who are known associates of drug cartels, would often enter a community and demand that teenagers come with them. The man shown here was reported to be on the run from both the police and a cartel after allegedly killing a local gunman. © Andrew Lichtenstein/Corbis via Getty Images

are directly threatened with '*tablazos*' (a local term used to refer to threats, which literally means to be hit by a board).

These threats are often followed up by physical violence, kidnapping and murder, which creates a climate of extreme fear. There are also direct threats and violence against *ejidos*, sawmills and transport companies to make them pay the *piso*, which can also affect workers. Workers and members of *ejidos* and indigenous communities reported that those in the employ of DTOs would be killed or 'disappeared' if they did not follow orders.

For workers, leaving their employment without permission or before finishing their contracts therefore brings a very real risk of harm. This is an extremely powerful factor in limiting workers' ability to leave their employment, even when their rights are violated.

■ Restrictions on workers' movement

There are many factors that limit workers' freedom of movement and communication in illegal logging camps. While there were no reports of phones being retained, many illegal logging sites are in isolated mountainous areas where there is a lack of cell-phone reception. This impedes workers' ability to communicate with their family members and friends. There were reports that in some cases, workers could not leave for periods of six months to a year, during which they were unable to communicate with family members. This was seen as a relatively common and acceptable phenomenon in indigenous communities from where workers often migrate to remote agricultural estates.

Many of the areas in which forestry activities are carried out are extremely remote. There is often a lack of public transportation, and transportation is sometimes controlled by the same actors running

logging operations. Even when public transport is available, workers' wages are sometimes retained. This means they cannot pay for transport until the end of their employment.

Organized-crime groups employ a large number of *halcones* (literally meaning hawks, or lookouts), who control people's movement and report back to the cartels. These *halcones* are often young men (including teenagers) who are armed and carry two-way radios to report suspicious movements to more senior DTO members. This constant surveillance is visible and palpable among local populations.

The *halcones* control workers' movement in illegal logging sites, as well as vehicle and foot traffic on roads. These lookouts often stop people to ask what business they have in areas controlled by organized crime, sometimes kidnapping and torturing those who they suspect of being associated with rival cartels or authorities. Their presence can be a strong disincentive for workers to leave their worksites without permission. Even with permission, workers risk being stopped and questioned. Walking on a highway alone brings the risk of being preyed upon or mistaken for a member of a rival cartel, and being beaten, kidnapped or killed.

The *halcones* also conduct surveillance along the illegal logging supply chain. In one case, a sawmill owner would not allow researchers to take pictures of the sawmill because he said that he was always being watched and feared reprisals. Researchers observed multiple instances of pickups affiliated with organized-crime groups tailing trucks transporting logs.

■ **Withholding of wages or other promised benefits**

The withholding of wages is an issue of concern in Chihuahua's forestry sector, especially among workers who are paid piece rates. In some cases, workers are not paid until they have cut, loaded or transported a certain volume of wood.

According to *ejido* leaders interviewed, *avecindados* and indigenous workers are often given weekly or monthly verbal contracts and are only paid at the end of their contracts. In the meantime, they have no access to their earnings and are unable to leave

before their contracts have ended, as they would lose their earnings, and would likely not have money for transport back to their communities.

These types of 'contracts' and wage withholding are sometimes used intentionally to ensure that Tarahumara workers are unable to leave their employment before working for a certain amount of time, or harvesting a certain volume of logs. This is motivated by a stereotype among mestizo *ejido* members that the indigenous workers are '*flojos*' (lazy) and unreliable. Indigenous people have filed complaints to the state's public prosecutor's office for not being remunerated.

Also, as stated above, workers are often paid piece rates according to the volume of wood cut and have to meet production quotas or wait until their employer is paid for a truckload of wood before they are paid. In such cases, they may have to work for long periods, waiting for their wages.

■ **Debt bondage or manipulation of debt**

The involvement of organized-crime groups in the forestry sector can create a risk of induced indebtedness. Local experts and *ejido* members interviewed reported that *ejido* commissioners are sometimes tricked or corrupted by sawmills or organized-crime groups into selling wood at sub-market prices. There are reports of commissioners being offered bribes or plied with alcohol to convince them to sign disadvantageous agreements. Interviewees also described cases where organized criminal groups used threats to force commissioners to sign agreements. This, combined with the charging of a *piso*, can result in induced indebtedness among *ejidos* and sawmills. This, in turn, can cause *ejido* members and sawmills to put pressure on workers to pay the *piso* each month.

Although the GI-TOC did not identify cases where individual workers had to work for a certain amount of time to pay off debts, the charging of the *piso* could mean that *ejidos* have to continue to produce wood for an indeterminate period so that they continue making regular payments to cartels, and avoid serious harm. This can result in pressure on *ejido* members or employees to continue working.

Child labour

The most recent Mexican government survey on child labour (from 2017) found that 3.2 million (11%) children and adolescents between the ages of five and 17 were involved in child labour; down slightly from 12.4% in 2015. The survey further found that the largest proportion of child labourers (35%) were employed in the agricultural sector in 2017, up from 30% in 2015.¹⁶⁷ The government reported that almost 90% (2.2 million) of Mexico's working children and adolescents between the ages of five and 17 were employed in jobs that were not legally permitted, either because they were under the legal working age, or because the work was dangerous.¹⁶⁸ Child labour was reportedly concentrated in rural and agricultural areas, and indigenous and migrant children were considered to be particularly susceptible to child labour.¹⁶⁹

In 2018, the US Department of Labor reported that chili peppers, coffee, cucumbers, eggplants, green beans, melons, onions, sugarcane, tobacco and tomatoes were produced with child labour.¹⁷⁰ Media reports have also identified child labour in the production of avocados, tomatoes, corn, strawberries, spinach, mangos, cucumbers, peppers, zucchinis, green beans, grapes, onions and garlic.

Children in rural areas often work alongside their parents to supplement their family's income, to help parents meet production quotas, or because migrant workers' lifestyles are so transient that their children often do not enrol in school – and have nowhere else to go during the day. The children of day labourers were especially vulnerable to child labour in the agricultural sector. All minors under the age of 18 are legally prohibited from working in this sector, as agricultural work has been defined as hazardous and is thus a particularly dangerous form of child labour.¹⁷¹

Children experienced a number of risks to their health and safety on farms, such as farm-equipment accidents,¹⁷² high rates of malnutrition, anaemia and pesticide-related illnesses.¹⁷³ Between 2008 and 2015, 39 children were killed while working in the agricultural sector, according to the Mexican NGO, El Centro de Derechos Humanos de la Montaña Tlachinollan (the Tlachinollan Centre for Human Rights). The primary causes of death were accidents involving trucks transporting children to and from work, children being run over by tractors, and medical neglect.¹⁷⁴

According to the Red por los Derechos de la Infancia en México (Network for the Rights of Children in Mexico), child labour in illegal activities represents a key challenge to Mexican authorities. Academic studies estimate that up to 30 000 children are involved in criminal activities in Mexico, including trafficking in persons, drug trafficking and other crimes, including illegal logging.¹⁷⁵ The response of the authorities has focused on criminalizing these children, rather than considering them as potential victims of trafficking in persons, which would give them protection under Mexico's anti-trafficking law.

The report indicates that between 2006 and 2010, 3 664 children were apprehended during federal enforcement actions against organized crime.¹⁷⁶ A 2015 *New York Times* article investigated child labour in the poppy fields of Guerrero, and explained how a lack of employment opportunities and having to cover basic needs forced young children to work for the cartels, and farm owners to lease their lands to the Sinaloa Cartel.¹⁷⁷

GI-TOC researchers found that child labour was present in Mexico's forestry sector. The activities that children engaged in varied significantly by state and type of supply-chain actor. In *ejidos*, children may work alongside their parents to learn how to carry out useful activities in the forestry sector. *Ejido* members interviewed reported that this was part of *ejido* traditions. In instances where these children are not missing school or engaging in dangerous work, it could be



Children look out at the scene of a drug-related murder in Juárez, Mexico. There are also documented cases of young children being forced to work for cartels in drug trafficking, illegal logging and other criminal activities.

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considered 'child work' rather than 'child labour' under ILO Convention 138. However, it should be noted that the Mexican government has categorized all forestry work as inherently dangerous, and all minors under the age of 18 are technically prohibited from working in the sector.¹⁷⁸

Many forestry-sector tasks are unsafe, including the felling and hauling of trees and the transport and processing of wood. Children are sometimes engaged by outside employers in hazardous work and are often exposed to health and safety risks with little to no PPE or access to healthcare. They may also be exposed to violence at the hands of criminal groups. These children may also not be able to study if they are working long hours, or their families are unable to cover costs associated with school attendance, or they are employed in isolated areas without access to schools. In San Cristóbal de las Casas, Chiapas, there were reports that children worked in sanding out the curves in lumber, sometimes under the watch of armed guards. The children constantly breathed in sawdust, which can pose risks to their health and safety.

A high-level government official interviewed said that the worst cases of child labour that he had witnessed in his many years working on labour issues involved the exploitation of children in the production of amber (a forestry product) in Chiapas. He reported that these children worked in mining and processing amber, and that some of the children developed severe illnesses related to breathing in amber dust. The official reported that some of these children worked for Chinese criminal groups, which is backed up by media reports.¹⁷⁹

Some rural communities consider children's work in the forestry sector to be a normal activity and even a positive experience.

Child labour in Chihuahua's forestry sector

The employment of children under the legal minimum age for child labour of 15 is relatively uncommon in Chihuahua's forestry sector, but there are some instances where children in *ejidos* work alongside their parents in logging.

Children in *ejidos* tend to learn forestry-related tasks at the age of eight to 10, and may start working in these activities around the age of 12. Because *ejido* members feared being prosecuted under Mexico's new legislation against child labour from 2017, they were hesitant to talk about this topic.¹⁸⁰ This made it difficult to determine in which activities children are engaged, whether these activities are hazardous, and whether their work interferes with their education.

Some rural communities consider children's work in the forestry sector to be a normal activity and even a positive experience, as it teaches children a trade through on-the-job training and contributes to their families' income. Involving children in forestry tasks is illegal, yet traditions – coupled with poverty, a lack of educational opportunities and limited employment prospects in other sectors – may cause *ejido* members to consider forestry work as the best option for their children. This is especially true in rural, impoverished indigenous communities, where families lack the resources to send their children to schools in nearby communities, which can incur significant costs.

There were also reports of child labour in sawmills in Chihuahua, which experts said was more common than child labour in logging. Experts and community members interviewed reported that children under the age of 15 worked in the packing, transport and cleaning of sawdust in sawmills. It is important to note that while work in sawmills is less physically demanding and slightly less hazardous than work in logging, the risk of injury and health-and-safety issues related to sawdust inhalation, carrying heavy loads, falling objects and machinery-related injuries remains high.

A large number of adolescents between the ages of 15 and 18 are employed in Chihuahua's wood supply chain. Teenaged workers may be forcibly recruited, deceived into accepting employment or lured by the promise of high wages – or the perceived glamour of working for an organized-crime group. They may work directly in logging or in sawmills, or may be employed as *halcones*, collectors of *piso* payments or assassins. There were reports that some teenagers were paid with drugs, or that drugs were used as a way to control them and prevent them from leaving. It was difficult to obtain detailed information on these teenagers' whereabouts and the specifics of their recruitment and employment, as their parents were often unaware of these details, or had been threatened not to tell anyone.

Discrimination

Discrimination against women

Systemic discrimination is an issue of concern in Mexico,¹⁸¹ especially against indigenous people and women. Structural and social discrimination is clearly visible in labour dynamics and results in the subordination and exploitation of both groups, preventing their access to decent work. It is common to find individuals from these groups working in lesser-skilled occupations such as the service sector, support services, agriculture and

forestry, which tend to provide the lowest levels of remuneration and opportunities for advancement.¹⁸²

In Mexico there are 61.5 million women, constituting 51.4% of the total population.¹⁸³ While 43.4% of women are economically active, almost double that percentage (approximately 80%) of men are economically active.¹⁸⁴ The agricultural sector employs 3.3% of women, as opposed to 18.1% of men.¹⁸⁵ According to the National Occupation and Employment Survey (ENOE) from 2016, 55.6% of women lack access to formal employment.¹⁸⁶

According to a United Nations FAO report, women own between 10% and 30% of land in rural areas of Mexico, Paraguay, Nicaragua and Honduras. The report further states that women-owned farms tend to be significantly smaller than those owned by men,¹⁸⁷ and their farms often have low-quality soil.¹⁸⁸ Even when women own productive land, they often lack access to credit, markets and technical assistance.¹⁸⁹

According to the WEF, the global gender wage gap was 32% in 2018.¹⁹⁰ Mexico ranked 50th (out of 149 countries) on the list, with a 28% wage gap. However, the National Institute of Women (INMUJERES) reported that women in Mexico earned 6% less than men for equal work during 2016.¹⁹¹ The 2016 ENOE found that, on average, men earned 30% more than women.¹⁹² According to the National Survey on Discrimination (ENADIS), the gender wage gap increases when women come from other disadvantaged groups, such as indigenous groups or people with disabilities.¹⁹³ Indigenous women experience the highest wage gap, according to the National Discrimination Prevention Council (CONAPRED).¹⁹⁴

Field visits and interviews indicate that women commonly suffer from discrimination and exclusion in the forestry sector, especially indigenous women. Even female *ejido* members are often excluded from jobs in logging and sawmills, and especially in forestry companies managed by mestizos. For example, field research in Bocoyna found that women rarely take part in forest-management activities, with the occasional exception of pruning or reforestation. Due to this lack of employment opportunities, many women of the Sierra may find temporary employment as agricultural workers in Cuauhtémoc City, Parral, and other regions in agro-industry.

It is important to note that women have increasingly been taking a leadership role in *ejido* efforts to resist illegal logging and criminal groups, and have been engaging with regional authorities to work collaboratively on these efforts. Researchers were informed of several groups of women who have unified in their demand to work in forestry management and logging activities, forming all-women crews of workers. These women may be recognized by their *casco rosado* (pink safety helmets).¹⁹⁵

It is important to note that women frequently carry out tasks like cooking, cleaning and childcare in *ejidos* for which they receive no remuneration or recognition. A 2015 report found that Mexican women work three times more unpaid hours than men.¹⁹⁶

Women and teenage girls are sometimes recruited to work as cooks or cleaners in logging sites, including those run by criminal groups. Surprisingly, researchers did not encounter reports of labour or sexual exploitation of women in logging sites. Local experts and community members interviewed reported that jobs in cooking and cleaning often paid well. However, interviewees also reported that indigenous women are sexually exploited by authorities in the region and that prostitution is very common in areas controlled by organized-crime groups, including where illegal logging and wood laundering are prevalent.

Women have increasingly been taking a leadership role in efforts to resist illegal logging and criminal groups.



Indigenous communities are particularly vulnerable to organized-crime groups. Here Tarahumara elder Fidel Torres Valdenegro grieves for his son who was murdered by drug traffickers in the Sierra Tarahumara, Chihuahua.

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Discrimination against indigenous people

The Mexican National Board against Discrimination (Consejo Nacional para Prevenir La Discriminación - CONAPRED) has reported that indigenous people and communities face systematic, structural and historical discrimination.¹⁹⁷ In terms of access to rights and opportunities, there is still a high level of inequality that derives mainly from behaviours and prejudices regarding ethnic origin, cultural features, and skin colour, resulting in exclusion, marginalization and poverty.¹⁹⁸ According to ENADIS, in 2017, indigenous populations were discriminated against in the areas of medical services, transport, school and work.¹⁹⁹

Many indigenous workers do not speak any Spanish or have low levels of Spanish fluency and literacy. According to a high-level government expert interviewed, a 2014 study by the United Nations Children's Fund (UNICEF) found that 90.8% of Mexicans who spoke an indigenous language were living in poverty. Furthermore, 2015 statistics indicate that 11% of Mexicans who spoke indigenous languages were migrant workers.²⁰⁰ This affected indigenous children's access to education, resulting in an illiteracy rate of 23% in indigenous communities.²⁰¹ Illiteracy and the inability to speak Spanish make indigenous workers even more vulnerable to exploitation, as it hampers their ability to understand written or verbal descriptions of their conditions of work.

In-country labour experts interviewed by GI-TOC reported that indigenous workers face 'severe' workplace discrimination in Mexico. This includes the agricultural and forestry sectors, where many indigenous workers are underpaid or unpaid, and work long hours under extremely poor conditions. In 2014, the *Los Angeles Times* reported that many indigenous

workers in the agricultural sector experienced wage withholding, as they were not paid until they completed a three-month contract.²⁰²

GI-TOC interviews with experts, workers and community and *ejido* members indicate that indigenous people face a high level of discrimination and racism in Chihuahua's forestry sector. They are often excluded from leadership positions in *ejidos*, and are assigned the most physically demanding, dangerous and lowest-paying tasks. There were multiple reports that indigenous workers were paid less than non-indigenous workers, or that in some cases, they were not paid at all for their labour.

In Chihuahua, interviews with *ejido* members indicate that the Tarahumara are perceived by some as being 'flojos' (lazy) and transient because they sometimes prioritize their families, communities and customs over jobs, and may take time off for traditional 'fiestas' or leave their employment after working for relatively short periods. This sometimes results in coercive employment practices, such as wage retention or threats, to ensure that they work for a certain period of time or meet production quotas. There are also cases where indigenous workers are verbally harassed and insulted.

Field researchers heard reports that indigenous workers were often hired informally on a temporary basis, and were not provided with written contracts, benefits or a guarantee of ongoing employment. This makes it easier to fire informally hired indigenous workers if they complain about conditions of work, which discourages them from doing so.

The exploitation described above is partly facilitated by a high level of impunity for labour violations committed against indigenous people. This, in turn, relates to a lack of enforcement of labour law in areas with indigenous workers. This is compounded by a lack of Spanish fluency and literacy among indigenous populations, which makes it difficult for them to file complaints and seek recourse. Local grievance or complaint mechanisms are far from adequate, especially regarding indigenous languages or access to interpreters. The STPS does not have sufficient capacity to protect the rights of the indigenous population in the Sierra region, and COEPI does not have the power to address labour-rights violations committed against indigenous populations in Chihuahua.

Wage and hour violations

Minimum wage and payment violations are an area of concern in Mexico. In 2019, Mexico's minimum daily wage of MXN102.08 (USD5.24) was the lowest in Latin America compared with the cost of living, and the government has admitted that the minimum wage does not cover workers' basic needs.²⁰³ Therefore, workers who earn less than the minimum wage are likely to be living in extreme poverty.

A 2016 report by the Latin-American Network for Research of Multinational Companies found that 6.65 million (13.4% of) Mexican workers earned the minimum wage or less.²⁰⁴ Data from the National Institute of Statistics and Geography (INEGI) indicated that Mexicans, on average, received no pay for 55% of the hours that they worked.²⁰⁵

Wage violations were found to be more prominent among women, indigenous workers and immigrants. The United Nations' Committee on Economic, Social and Cultural Rights indicated that it had received reports that women and indigenous workers were frequently subjected to underpayment or non-payment of wages.²⁰⁶ A study found that migrant workers employed in the agricultural sector received low pay and were not provided with legally mandated benefits, such as bonuses, paid time off and overtime pay.²⁰⁷

Local grievance or complaint mechanisms are far from adequate, especially regarding indigenous languages or access to interpreters.

While GI-TOC researchers did not encounter a large number of reports of sub-minimum wages among workers employed in logging and sawmills, they did receive reports that workers rarely earned more than MX150 (USD8) per day, which is still less than a living wage. They also reported that migrant workers and indigenous workers often earned significantly less. GI-TOC received reports that while transporters worked long hours, they were generally paid relatively well.

One report found that in the illegal logging sector in Veracruz, workers were paid about MXN240 (USD12) per day – more than double the minimum wage.²⁰⁸ Another study mentions that forestry engineers may hire people in the communities for about USD5 per day.²⁰⁹ After the budget of the National Commission for Protected Natural Areas was reduced by 26% from 2015 to 2016, there were reports that park rangers received extremely low pay. Most were temporary workers with no employment security, as are a significant segment of technicians and CONAFOR officers.²¹⁰

While some workers in the forestry sector are paid by the week, workers are often paid piece rates, according to experts and workers interviewed. Furthermore, employers sometimes instil quotas (such as harvesting a truckload of wood), or require that employees work for a month before they are paid. Loggers and transporters are often paid by the volume of wood cut or per truckload of wood. Likewise, independent transporters may be paid per 'carga' (truckload of wood transported) – and sometimes have to meet weekly quotas.

GI-TOC research found that workers paid a piece rate are often not guaranteed a minimum wage independent of production. The use of piece-rate and quota systems also contributes to long working hours, as many have to work overtime to meet quotas or earn enough to survive. Furthermore, piece-rate pay and production quotas incentivize overtime, and workers who are paid by production are generally not provided with overtime premiums when they exceed regular working hours.

Because workers in the forestry sector are often informally employed and paid piece rates, they usually do not have regular working hours. It is important to note that excessive overtime can be especially dangerous in hazardous activities such as logging, working in sawmills and driving trucks, as fatigue and a lack of sleep greatly increase the risk of accidents.²¹¹ There were reports that in certified *ejidos* which exhibited best practices, employees only worked six hours per day. Yet there were also cases at the other extreme of the spectrum, where organized-crime groups brought in crews to labour 24-hour shifts and illegally log as much wood as they could in the shortest time possible. These crews would sometimes clear about a tonne of wood in three days, according to interviews with experts, workers and community members.

It is important to note that members of *ejidos* themselves often engage in forestry activities, generally setting their own hours and dividing profits among themselves. Their earnings depend largely on the density of forests, the number of *ejido* members, the price they receive for their wood (and consequently how much of the value chain they control) and the honesty of *ejido* leaders in dividing profits. Individuals and groups who hold power within *ejidos* may keep most of the income from the sale of timber products. A 2012 study found that in 38 *ejidos* of the Sierra Tarahumara, 10% of the members received 58% of the income derived from forestry activities.²¹²

In some cases, each *ejido* member may receive the profits from over 200 cubic metres of cut wood on average, while in other cases, each member may only receive the profits from one to two square metres. This is not enough to satisfy members' basic needs and can incentivize

Excessive overtime can be especially dangerous in activities such as logging, as fatigue greatly increases the risk of accidents.

illegal logging and deforestation to subsidize incomes. With population growth in *ejidos* and ongoing deforestation, members' individual earnings will generally continue to diminish, making this way of life unsustainable in some areas. The wood market has been flooded with illegally logged wood, which pushes down prices and exacerbates the problem. Sawmills generally pay the same amount for legally and illegally logged wood, even when *ejidos* have certifications. This results in disillusionment with certifications.

Research revealed an assumption that indigenous workers can cure their own injuries and illnesses with herbs.

Health and safety

The scale of occupational accidents and injuries in Mexico was judged to be of serious concern. According to IMSS statistics, there were 410 266 workplace accidents in 2017,²¹³ and 986 registered accident-related fatalities in the workplace in 2016: a rate of five for every 100 000 workers. In 2016, there were also 23 fatalities related to occupational illnesses, a rate of approximately one per 100 000.²¹⁴ It is important to note, however, that experts said up to 40% of workplace accidents and 90% of occupational illnesses went unreported in 2017.²¹⁵

The ILO has found that while high rates of accidents and occupational injuries can be found in the forestry sector, they are seldom registered because so much of the work in the sector is informal.²¹⁶ There are no current government statistics on the number of health-and-safety violations specific to Mexico's forestry sector.

The STPS, in collaboration with the Universidad Autónoma Chapingo (Chapingo Autonomous University), has developed a toolkit on health and safety in the Mexican forestry sector. The toolkit includes eight technical guides that cover a variety of topics.²¹⁷ Research carried out by NepCON in April 2016 – including interviews and visits to *ejidos* and communities – found that PPE was not generally used, except in some certified forestry enterprises and private plantations, which had stricter requirements. Even in these types of operations, it was observed that PPE was not always used.²¹⁸

While some *ejido* members interviewed by GI-TOC in Chihuahua reported that they provide workers with PPE, others indicated that workers often have to pay for PPE, which lowers the rate of use. GI-TOC research found that in some cases, workers do not even use helmets – even in certified *ejidos*.

GI-TOC research in Chihuahua found several health-and-safety risks related to logging and sawmills. Local experts and community members interviewed reported a large number of accidents. The risks identified include exposure to the elements and poisonous snakes, cuts, loss of limbs and severe injuries and death from falling trees. In sawmills, there is also a risk of cuts and loss of limbs in saw-related accidents, as well as injuries or health risks related to lifting heavy loads, falling timber, and inhaling sawdust.

Researchers found that in logging sites in Chihuahua, workers often lack access to healthcare. Employers rarely register workers with the IMSS, nor do they routinely provide employees with private insurance or healthcare. Even if workers have insurance, there are often no health clinics or pharmacies, let alone hospitals, in proximity to isolated logging sites. Researchers reported that while there are a few health clinics in the town of Creel, they did not provide comprehensive services. There were reports that workers had lost limbs due to a lack of access to adequate healthcare and medication. Other reports pointed to the assumption that indigenous workers could take care of themselves and cure their injuries and illnesses with herbs.



CONCLUSIONS AND RECOMMENDATIONS



The research conducted for this report was a rapid appraisal, and there is a need for much more in-depth research on the intersection between organized crime, trafficking in persons and environmental degradation in the Mexican forestry sector.

Labour issues in the logging industry have received little attention. In frontier logging zones, there are human-trafficking risk factors, such as displacement, corruption and organized criminal activity. There is also trafficking in illicit goods, such as illegally mined minerals and wildlife products. Workers in illicit industries, such as illegal logging, are inherently at greater risk of human trafficking for labour exploitation as they cannot turn to the authorities for help, and their employers operate out of sight of law enforcement.

This research found that in the state of Chihuahua, the growing involvement of organized crime in illegal logging and related activities has greatly increased levels of violence, displacement, vulnerability to being trafficked and deforestation. Illegally logged wood from Chihuahua is often laundered and used to manufacture consumer goods exported to the US. This means that without effective due diligence, companies and consumers who purchase wood-based products from Mexico may be financing organized crime and contributing to trafficking in persons and deforestation.

In Chihuahua, researchers found a clear link between the growing presence of organized crime and the forestry sector. The involvement of criminal groups, especially international DTOs, was found to significantly increase the risk of trafficking in persons and deforestation.

The research indicates that organized criminal groups have become entrenched in various levels of the wood supply chain in Chihuahua. Local 'mafias' have been involved in illegal logging in Chihuahua for decades, but an influx of DTOs in recent years has greatly increased the level of violence, along with other social and environmental impacts. DTOs are directly involved in illegal logging and the control of sawmills, but also benefit tangentially by extorting actors along the supply chain and using the sector to transport drugs and launder drug money.

*Sawmills frequently
'launder' illegally
logged wood by
mixing it with legally
sourced wood.*

The research found that the presence of organized criminal groups greatly increases the risk of trafficking in persons. Some of the newer, more violent DTOs that have appeared in Chihuahua engage in the forced recruitment of teenagers, mainly from indigenous communities. In these cases, adolescents are coerced into illegal logging and other illicit activities, with DTOs using the threat of violence and induced drug addiction to retain them.

The presence of organized crime also contributes to vulnerability to trafficking in various indirect ways. CFEs, *ejido* members and sawmills are often forced to make regular *piso* (protection) payments (or else face threats and violence), which can lead to indebtedness and pressure to increase production. This, in turn, can lead employers to institute practices such as forced overtime – an indicator of forced labour. Additionally, the violence and fear associated with organized crime impede workers' freedom of movement, and employees are far more hesitant to leave their jobs if their employers are believed to be affiliated with DTOs.

The increased involvement of organized crime in illegal logging heightens the risk of deforestation, as DTOs show no respect for environmental law and frequently engage in clear-cutting (a forestry practice in which most or all trees in an area are uniformly cut down). Deforestation takes away the livelihoods, firewood and clean drinking water of local populations and contributes to climate change on a local level. Together with violence, deforestation therefore causes displacement and vulnerability to trafficking in persons.

The problem of marginalization and discrimination against members of indigenous communities is significant across Mexico, and these groups are especially vulnerable to exploitation. When coupled with language barriers, limited access to education and scarce job opportunities, they may be driven to migrate for work in other regions. Mexican authorities have failed to effectively address increasing forced displacement of indigenous communities, thus exposing them to a risk of trafficking in persons and labour exploitation related to violence, displacement and deforestation.

The research found that illegally logged wood – which finances organized crime and conflict, and is linked to trafficking in persons and deforestation – is used in consumer goods sold both domestically and in the US.

Sawmills frequently 'launder' illegally logged wood by mixing it with legally logged wood, making it virtually impossible to trace the wood back to its source. Due to lax legislation on imports of illegally logged wood and weak enforcement of existing laws, Mexico is also a transit point and destination for large amounts of wood from countries such as Peru and Brazil, which have a high rate of illegal logging and deforestation, and a documented risk of trafficking in persons connected with the logging sector.

The GI-TOC was able to trace purchases of major US-based retailers and producers of consumer goods to manufacturers in Monterrey. These manufacturers, in turn, purchase wood from sawmills in high-risk areas of Chihuahua with no due diligence conducted on the legality of the wood, or connections to organized crime, trafficking in persons and deforestation.



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Mexican authorities, international wood companies and other stakeholders have failed to effectively address organized crime, trafficking in persons, illegal logging and deforestation. To combat these phenomena, the GI-TOC has developed a series of recommendations.

Recommendations for further research

1. Carry out additional in-depth research to assess the presence of human trafficking and labour exploitation, including researching indicators of forced labour among internal and external migrants, and indigenous populations in Mexican forestry supply chains.
2. Conduct a national assessment of human-rights violations in the forestry sector, with a special emphasis on women, children and youth.
3. Implement an assessment of environmental crime (including illegal logging and trafficking of natural resources, plants and animals, including endangered species), and its links to organized crime (including violence, extortion, and trafficking in persons, arms and narcotics).
4. Analyze the effects of extortion dynamics related to organized crime on wood-supply-chain actors.
5. Analyze the dynamics of organized environmental crime and links to trafficking in persons on Mexico's southern border with Guatemala, and in the forestry sector in northern Mexico.
6. Carry out an analysis of the intersection between irregular migration, human smuggling and trafficking in persons for labour exploitation in key timber-producing states, with a special emphasis on indigenous groups.
7. Research migration dynamics from the southern border towards the main timber-producing states, and the link between migration and conflicts between organized crime groups.
8. Analyze the risks of human trafficking facing unaccompanied minors on Mexico's southern border, as well as in states along the migration route to the US.
9. Assess possible measures to prevent labour exploitation and human trafficking of migrants during humanitarian crises.
10. Conduct research on sexual exploitation in the forestry sector and links with organized-crime dynamics.
11. In additional research that includes interviews with vulnerable workers, *ejido* members and indigenous peoples, carry out one-on-one interviews rather than focus group interviews. GI-TOC researchers found that workers were more hesitant to provide information on sensitive topics when others were present.
12. Identify and systematize best practices and lessons learned in combating organized crime, illegal logging, deforestation and human trafficking.
13. Carry out research and disseminate lessons learned from cases of community resilience in timber-producing states.

Recommendations for private-sector wood buyers

1. Ensure that supplier codes of conduct and timber-trading company policies explicitly prohibit the sourcing of illegally logged wood.
2. Ensure that supplier codes of conduct and company policies include explicit prohibitions of human trafficking and forced labour, and cover key indicators of forced labour present in the Mexican forestry sector.
3. Carry out effective due diligence measures to ensure that imports of wood-based products from Mexico are not associated with illegal logging, environmental degradation, organized crime, and/or human trafficking in Mexico – or in countries from which Mexico imports wood, including Peru and Brazil.
4. Analyze local supply-chain actors in the harvesting, transportation, sawmill and manufacturing business to identify actors that may be associated with illegal logging, organized crime, environmental degradation and human trafficking.
5. Support the prioritization of human- and labour-rights approaches to assessing social risks in the wood harvesting and manufacturing sector.
6. Improve internal traceability systems for manufacturing companies to determine the provenance of wood sourced by the company.
7. Purchase traceable, certified wood whenever possible.
8. Create a system whereby workers and whistleblowers can report concerns anonymously.
9. Increase purchases of wood from legally registered and certified forestry companies.

Recommendations for countries that import wood from Mexico

1. Enact legislation that requires companies to disclose due diligence efforts in ensuring that wood purchases do not fuel illegal logging, environmental degradation, organized crime and trafficking in persons.
2. Effectively evaluate imports of wood-based products from Mexico to ensure that these are not associated with illegal logging, environmental degradation, organized crime or trafficking in persons either in Mexico, or the countries that export wood to Mexico.
3. Identify and prosecute individuals and companies that import illegally logged wood from Mexico and/or violate laws on environmental crime, financing of organized crime and trafficking in persons.
4. Provide incentives to encourage companies to import fully traceable, certified wood.
5. Fund projects to combat human- and labour-rights violations, including trafficking in persons, in Mexico's forestry sector and regions with a high rate of timber production.
6. Fund projects to encourage decent employment opportunities, improved access to education, community resilience to organized crime and the protection of the environment and local indigenous populations in the Sierra Tarahumara region of Chihuahua.

Recommendations for civil society

1. Promote and strengthen governance conditions and the establishment of multi-stakeholder platforms to combat illegal logging, labour exploitation and human trafficking in high-risk regions.
2. Foster multi-sector alliances between environmentalists, academia, legal services and labour- and human-rights organizations, and in this way promote integrated approaches for improving local capacities to respond to reported criminal activity.
3. Together with groups affected by organized crime, demand and propose legislative changes regarding human and labour rights of high-risk forest communities.
4. Demand that national and local authorities fulfil their duties regarding the management of forest resources in regions affected by organized crime.



Labour issues in Mexico's logging industry have received little attention. © Edro Pardo/AFP via Getty Images

5. Promote transparency and disseminate information regarding procedures, permits, certifications and traceability.
6. Report violations of human and labour rights in forest production.
7. Monitor the protection of the rights of individuals, vulnerable communities and environmental defenders threatened by criminal groups.
8. Contribute to building and organizing local capacity to minimize the impact of criminal activity on forestry practices.
9. Participate in the development of local networking strategies to increase the monitoring and protection of forest resources.
10. Implement local communication strategies to improve the reporting of environmental crimes.
11. Increase local and community capacity to report criminal activities through legal channels.
12. Develop secure information-sharing mechanisms among local CSOs that work on environmental and human-rights issues.
13. Increase local organizations' capacity to identify illegal practices in the forestry sector, particularly regarding labour exploitation and human trafficking.
14. Increase links with committed journalists and reporters at the state and national levels.
15. Strengthen awareness-raising campaigns against environmental crimes and human trafficking in rural areas and the forestry sector.
16. Increase participation in public policy processes to improve law-enforcement mechanisms against illegal and excessive logging.
17. Improve efforts to collect and share information on environmental crimes, and the violation of human and labour rights in areas affected by logging.

Recommendations for Mexican governmental institutions

Recommendations for the federal government

1. Integrate strategies to combat illegal deforestation in the priority lines of action of the National Forest Programme, 2020–2024.
2. Pass laws explicitly prohibiting illegal logging and the import of illegally logged wood, in cooperation with IMEXFOR.
3. Improve the legal framework on forestry, taking into account the environment and the impacts of climate change on future generations.
4. Establish bilateral agreements with countries exporting wood to Mexico and importing wood-based products from Mexico, and work collaboratively to combat illegal logging, environmental degradation and human trafficking in the forestry sector, as well as the organized-crime groups involved.
5. Promote public-private partnerships to reduce the impact of organized crime on the most affected logging regions.
6. Support CSOs that defend the rights of CFEs in the face of organized crime.
7. Increase funding for awareness-raising campaigns on the environment and sustainable forestry-management practices.
8. Increase funding and support for local CSOs that provide legal and social services in areas affected by illegal logging.
9. Increase protection for journalists and CSOs working on cases of environmental crime.
10. Develop resilience indicators to identify effective community initiatives to resist organized crime, and identify, raise awareness of, encourage and fund the replication of best practices.
11. Improve translation services for indigenous people who experience human- or land-rights violations.
12. Promote multi-sectoral (environmental, law enforcement, labour and human-rights institutions) strategies and actions to eradicate illegal

logging, with a special emphasis on rural areas and indigenous populations.

13. Increase follow-up and accountability of reported cases of environmental crimes in timber-producing states.
14. Promote democratic planning mechanisms and the participation of affected communities in strategies against organized crime in cooperation with state governments.
15. Strengthen the capacity of state- and municipal-level environmental authorities in the main timber-producing regions, including human resources, technical capacity building, improved surveillance capabilities and effective law-enforcement practices.
16. Provide federal resources to combat illegal logging, organized crime and human trafficking in Chihuahua, with an emphasis on the Sierra Tarahumara and indigenous people in the region.

Recommendations for the state-level government in Chihuahua

1. Develop state-level strategies on combating organized-crime groups linked to illegal logging, environmental degradation and human trafficking in the forestry sector.
2. Strengthen the capacity of state-level commissions for indigenous people.
3. Increase access to justice at the municipal level in key timber-producing regions.

Recommendations for the Secretariat of the Economy

1. Promote private-public partnerships to strengthen oversight mechanisms.
2. Improve oversight, and establish protections and incentives for wood producers that operate in accordance with the law, in cooperation with IMEXFOR.
3. Provide funding to encourage the creation of decent work opportunities and improved access to education in the Sierra Tarahumara

region, especially among youth and indigenous people.

4. Promote fair trade practices that benefit local certified timber producers, in cooperation with the Secretariat of Environment and Natural Resources (*Secretaría de Medio Ambiente y Recursos Naturales*).

Recommendations for the Secretariat of the Environment and Natural Resources

1. Increase protection and support for environmental and human-rights defenders in compliance with the Escazú Agreement (the first environmental- and human-rights treaty in Latin America and the Caribbean), with a particular focus on defenders of land rights and indigenous people.²¹⁹
2. Fund awareness-raising campaigns against deforestation, and which promote the protection of forest resources.
3. Provide relevant enforcement bodies with the necessary resources, training and security to allow for the effective enforcement of regulations on illegal logging and environmental degradation.
4. Integrate forced-labour indicators into Mexican timber certification schemes.
5. Implement improved permit-tracking systems for logging throughout the supply chains of key products, such as paper and broomsticks.
6. Improve oversight of companies and individuals that provide technical forestry services to minimize corruption and ensure the conservation of natural resources and sustainability.
7. Carry out consumer-oriented awareness-raising campaigns to encourage ethical consumption of wood-based products.

Targeted human-trafficking recommendations for government

1. Modify legislation on trafficking in persons to ensure compliance with the Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children (supplementing the 2000 Convention against Transnational Organized Crime), particularly Article 5 (criminalization) and Article 6 (assistance to and protection of victims of trafficking in persons) of the Palermo Protocol.
2. Increase mechanisms to identify and refer victims, especially among vulnerable populations, such as migrant workers employed in illegal logging.
3. Increase the capacity of federal and state-level, specialized anti-trafficking prosecutors or units to respond more effectively to trafficking cases through increased funding and staff training.
4. Ensure that all suppliers of timber and wood-based products to the federal government conduct rigorous due diligence on trafficking in persons in their supply chains.
5. Improve services for indigenous people who are vulnerable to human trafficking.
6. Strengthen the labour inspection system, particularly in the forestry and agricultural sectors, and enforce laws to hold fraudulent labour recruiters accountable.
7. Strengthen efforts to collect data on human trafficking and labour exploitation in the illegal logging sector.
8. Increase efforts to ensure accountability for public officials who are corrupt or complicit in human trafficking through effective prosecutions and significant prison terms for convicted officials.





ANNEXES

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ANNEX 1

LAW AND POLICY REVIEW

Laws on forestry

In 1992, Mexico reformed the property clause (Article 27) of its constitution and passed the new Agrarian Law, which favours the privatization and/or the division of *ejidos*. While the Forest Law of 1992 focused on promoting local efficiency of timber production, privatization processes led to a reduction in governmental oversight of timber production, and in this way enabled illegal logging, deforestation and trafficking in persons in the sector.²²⁰

A central goal of the 1992 Forestry Law was to simplify the regulatory process to improve efficiency in the timber industry. Before 1992, trucks transporting logs were required to obtain and carry papers that certified their legality. These documents stated the origin, destination and quantity of timber to be transported within a certain timeframe. While acquiring this paperwork was time-consuming and therefore a disincentive for forest management, it provided a mechanism for monitoring illegal logging.

The Forestry Law of 1992 replaced this documentation with a stamp created by a special hammer, which was used to mark the ends of logs and in this way certify the legality of the timber. Widespread abuse of the hammer stamp, along with hammer forgeries,

ensued immediately after the law was passed and led to increased illegal logging, according to multiple experts interviewed. As a result, paper documentation was reinstated several years later.²²¹

According to experts interviewed, these various legal changes, combined with their misinterpretation, brought about a wave of illegal logging.²²² Between 1992 and 1995, between 30 and 40 logging trucks (each truck carrying approximately one tonne of wood) would bring timber out of just two communities on a daily basis.²²³

Forest management in Mexico is currently governed principally by three key legislative instruments: the Agrarian Law of 2017,²²⁴ which primarily governs *ejido* management of forests; the laws that protect the rights of indigenous communities; and *La Ley General de Desarrollo Forestal Sustentable* (the General Law on Sustainable Forestry Development 2018, also known as the Forestry Law of 2018). There are various tensions between the three legislative frameworks.

The Forestry Law of 2018 was passed in June 2018 after seven years of extended consultation between the government, civil society and academic stakeholders. However, several community representatives have

argued that the process lacked transparency and that indigenous communities were not consulted.²²⁵ Critics of the law argue that provisions on the import and trade of illegally logged wood were significantly watered down in the final draft. There has also been criticism around weak protections for the rights of indigenous communities.

The Forestry Law of 2018 included more than 200 amendments to the previous Forestry Law of 2002, and importantly incorporated a new clause in Article 91, which requires that wood importers prove the legal origin of their wood and that the government guarantee traceability.²²⁶ The law also established sanctions for the transportation of timber without necessary documentation, and for the falsification of documentation to cover up the illegal provenance of timber. However, the wording of the Forestry Law of 2018 is broad, arguably making it difficult to demonstrate that a crime has been committed.²²⁷

Laws on imports of wood

Laws on imports of wood into Mexico

The Forestry Law of 2018 dictates that all persons importing, transporting, or handling timber must prove the legal provenance of the wood. Although this is a change from the Forestry Law of 2002, whose import requirements focused on permitting and the extermination of pests, the new Forestry Law of 2018 fails to establish a process for demonstrating the legal provenance of the wood.²²⁹ Although the law envisioned that the government would establish mechanisms for guaranteeing the traceability of timber materials in additional regulations,²³⁰ these mechanisms had yet to be published at the time of research.

Furthermore, the Forestry Law of 2018 only provides for administrative sanctions for the trade of illegally logged timber, rather than criminal penalties, which were advocated for by civil society. This, together with the lack of training provided on the Forestry Law of 2018 to the prosecutors' offices responsible for filing charges against offenders has reportedly hampered prosecutions. A similar lack of training and legal clarity resulted in the dismissal of most complaints under the previous 2002 Law.²³¹

Mexico's import regime has been heavily criticized for failing to empower enforcement authorities to take action on the import of illegally logged wood.²³² The two

For *ejidos*, CFEs and privately owned companies, various regulations and processes govern the issuance of permits for logging, processing, storing and transporting wood. Logging permits generally allow local forestry enterprises (*ejidos* and CFEs) or private landowners to carry out logging on a set number of hectares.

Illegal logging itself is not included as a criminal offence within the Federal Penal Code. However, articles 418, 419 and 420 of the Environmental Crimes Chapter of the Federal Penal Code have been used to prosecute illegal logging for the past 18 years. Article 418 of the Code imposes prison sentences ranging from one to nine years for dismantling or destroying natural vegetation, including by cutting down trees or changing forest use without authorization. Since 2001, 231 preliminary investigations have been launched in Chihuahua for violations of these provisions.²²⁸

authorities responsible for reviewing timber imports, SENARMAT and PROFEPA, are reportedly primarily focused on preventing the entry of pests into Mexico, rather than on preventing the import of illegally logged wood.²³³

Laws on imports of wood into the United States

In 2008, the US introduced the 'Lacey amendment' to the Lacey Act, which made it illegal to import timber and wood products produced illegally in a foreign country into the US.²³⁴ This made the US the first country in the world to make such imports illegal.²³⁵ The amended Lacey Act requires that timber importers provide documentation on the volume of wood imported, the scientific name of the species, and the country of provenance.

As of 2017, six cases had been brought forward for violations of the Lacey Act, half of which were related to wood from Peru. In one of the cases, US importers had to cover all expenses related to the transport, storage and destruction of the wood that they had attempted to import.²³⁶ Although this is believed to have catalyzed a significant decrease in illegal wood products imported into the US, it had not, as at 2013, made any discernible difference to imports from Mexico.²³⁷

Indigenous rights

In Mexico, indigenous people include speakers of indigenous languages, people who self-identify as indigenous, and people who live in communities governed by traditional indigenous institutions (such as councils of elders, traditional autonomous governments and community governments). In some cases, indigenous people and mestizo settlers are members of the same communities.²³⁸

ILO Convention 169 on Indigenous and Tribal Peoples in Independent Countries was ratified by Mexico on 5 September 1990. Mexico developed binding commitments, not only in terms of prior consultation, but also with regard to the rights of access, use and ownership of natural resources and territories.

In 1992, Article 4 of the Constitution of Mexico was amended to recognize the nation's pluri-ethnic and multicultural nature. In April 2001, under the Indigenous Rights and Culture Bill, Article 2 of the constitution was amended to recognize the autonomy and self-determination of indigenous peoples to decide on community matters. These include traditional forms of justice; indigenous involvement in national-, state- and municipal-development plans; indigenous communities' right to prior consultation; and indigenous control over natural resources. However, the law has received

extensive criticism from indigenous groups and state governments for not going far enough.²³⁹

Various other legal frameworks promote equality of opportunity for indigenous people, prohibit discrimination against indigenous peoples and communities, and establish institutions and policies to promote respect for their rights.²⁴⁰

The Forestry Law of 2018 includes among its general goals the 'support for actions which guarantee substantive equality of opportunity for ... indigenous peoples' and 'respecting ... the rights of indigenous communities.'²⁴¹ Nevertheless, the law has been criticized for weakening the rights of indigenous communities.²⁴² Some critics consider it to be in contravention of ILO Convention 169, in particular Article 6, which requires governments to consult with indigenous communities prior to passing legislation that may affect them directly.²⁴³ Furthermore, while laws governing forestry refer to the rights of indigenous people, and provide for the design and implementation of safeguards of these rights, there is a great deal of criticism regarding the implementation of these laws in practice. This is especially true in the areas of prior, free and informed consultation, as well as indigenous peoples' access to, use of and ownership of land.

Land tenure

Traditionally, land ownership in Mexico was communal. However, legal changes in the 19th century transferred the majority of land to non-indigenous elites.²⁴⁴ Inequitable land distribution was a key catalyst for the Mexican Revolution of 1910, which led to significant land reform and the transfer of a significant portion of land to members of *ejidos* and indigenous communities through Article 27 of the 1917 Constitution.

Further constitutional reforms in 1992 made these land rights inalienable, enabling *ejido* members to transfer their land rights.

This was accompanied by a far-reaching programme to regularize communal land rights, *la Programa Nacional de Certificación de Derechos Ejidales y Titulación de Solares Urbanos* (the National Programme for the Certification

of *Ejido* Land Rights and the Titling of Urban Housing Plots – PROCEDE). The programme proved to be extremely successful and resulted in 89% of agricultural households receiving land titles by 2005.²⁴⁵ It was believed that the change enabling the transfer of *ejido* members' land rights would trigger significant privatization of communal lands, but this did not occur to the extent anticipated, with under 10% of *ejido* lands transferred to private ownership as of 2007.²⁴⁶

While the reforms did not result in the mass privatization of communal lands, many attribute the accelerated conversion of forests to agricultural land – and resulting deforestation – to the changes to Article 27 of the constitution and the 1992 Forestry Law.²⁴⁷ This occurred even though the reforms specified that communally held forests could not be divided. Anecdotal evidence

suggests that some communities were informed of the new rights to transfer land without emphasis on the prohibition of the division of forested land.

One case study, scrutinizing changing land use from forestry to avocado cultivation in four communities in 2006, found that the two communities which did not have forestry programmes sold between 50% and 75% of their land to outsiders. Given that this was in breach of the legal requirements against dividing communally held forests, and that formal requirements regarding titling and certification were not followed, all such sales were illegal.²⁴⁸ After selling their land, a significant proportion of these communities subsequently had to work as labourers on the land they had once owned.

Currently, land is held in four distinct forms: by the Federal Government; privately; informal settlements known as *colonias*; and by communities (including *ejidos*). The *ejido* system was introduced through Article 27 of the constitution as 'a form of land tenure in which plots could be individually used but neither sold nor bought'.²⁴⁹ This reform was intended to give indigenous communities rights to ancestral lands; and also to ensure that landless farmers could obtain land rights.

The World Bank currently defines *ejidos* as 'consisting of either indigenous or non-indigenous members with rights, stipulated in law, in communal resources under which an individual family has a right to an individual plot of land allocated by communal decision'.²⁵⁰ Meanwhile, the Mexican government defines *ejidos* as, 'the portion of land that the government has given to the nucleus of a peasant population for their use'.²⁵¹ The *ejido* lands are unseizable, imprescriptible, and unalienable'.²⁵²

Labour law

Recruitment

Recruitment activities are principally regulated by three different instruments: the *Ley Federal del Trabajo* (Federal Labour Law – LFT),²⁵⁷ the *Reglamento de Agencias de Colocación de Trabajadores* (Regulation of Worker Placement Agencies – RACT), and, on the criminal side, the *Ley General para Prevenir, Sancionar y Erradicar los Delitos de Materia de Trata de Personas y para la Protección y Asistencia a la Víctimas de estos*

The reform also created *comunidades agrarias* (agrarian communities). In Chihuahua, *ejidos* tend to be controlled by mestizos, while *comunidades agrarias* are predominantly indigenous. While *comunidades agrarias* are only involved in forestry in Chihuahua to a limited extent, a large number of *ejidos* are focused on forestry.

The municipality of Madera, Chihuahua has the largest *ejido* in Mexico, named *El Largo*. According to its official website, it was established on 20 May 1955. The *ejido* carries out 17% of the forest production of the state of Chihuahua, making it the largest *ejido* forestry producer in Mexico. It has numerous certifications, including one for chain of custody. In October 2019, there was a violent confrontation in the *ejido*, leaving two dead and seven burned vehicles.²⁵³

Article 13 of the Agrarian Law established that, 'avecindados of the *ejido*, for the purposes of this law, are those Mexicans of legal age who have resided for a year or more in the lands of the *ejido* population nucleus and who have been recognized as such by the *ejido* assembly or the competent agrarian tribunal'.²⁵⁴ It thereby establishes that in order to live in an *ejido*, it is not necessary to be a landholder.²⁵⁵ The article further recognizes that *avecindados* have rights to *ejido* lands, to participate in the sale of the corresponding rights, to acquire parcels of *ejido* land for sale, and to participate in *ejido* general assembly meetings.²⁵⁶

To use forest resources for commerce, a proposed *ejido* manager must show evidence of land tenure of the relevant area, and seek authorization from SEMARNAT. The tenure is analyzed and confirmed by a committee of agrarian authorities, coordinated by SEMARNAT and state government officials.

Delitos (General Law to Prevent, Sanction and Eradicate Human Trafficking Crimes and to Protect and Provide Assistance to its Victims).²⁵⁸

Articles 12, 13, 14 and 15 of the LFT establish the roles and responsibilities of labour intermediaries and include provisions on outsourcing. The RACT guarantees free job-placement services for all workers (Article 5); prohibits any type of discrimination in recruitment and hiring (Article 6); and requires that placement agencies

Subjecting individuals to slavery is punishable by 15–30 years' imprisonment.

provide true and clear information about the conditions of employment, and cover the cost of transportation for workers living more than 100 kilometres from the workplace (Article 9). It also requires that outsourcing agents register with the STPS. Finally, under the current anti-trafficking law, any person (including labour intermediaries) who recruits, transports, transfers, retains, delivers or harbours a person for the purpose of exploitation can be convicted of trafficking in persons (Article 10). Mexican law prohibits recruiters and/or

recruitment agencies from charging workers recruitment fees.²⁵⁹

When it comes to the recruitment of workers in the forestry sector, the general law on sustainable forestry development focuses on the recruitment of technical services providers (who are among the highest skilled and least vulnerable workers in the forestry sector),²⁶⁰ establishing that they must be included in a national registry,²⁶¹ and must discuss their pay directly with the *ejido* commissions (Article 107).²⁶² Although there is a reference to the rights of workers in general,²⁶³ there are no other specific guidelines on recruitment in the forestry sector.

Trafficking in persons and forced labour

In 2003, Mexico ratified the United Nations Convention against Transnational Organized Crime of 2000, including the Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children. However, Mexico's current anti-trafficking law does not reflect the intent and purpose of the Palermo Protocol.

Mexico has ratified ILO Conventions 29 and 105 on forced and compulsory labour, along with Conventions 138 and 182 on child labour and its worst forms. Mexican law explicitly prohibits forced and compulsory labour,²⁶⁴ including among children and immigrants,²⁶⁵ though sanctions for forced labour are lower than those for trafficking in persons.²⁶⁶

In October 2007, the Senate passed the Law to Prevent and Sanction Human Trafficking (LPSTP) and created the Commission for Preventing and Sanctioning Human Trafficking.²⁶⁷ In 2012, Mexico passed a new LPSTP, which prohibits all forms of trafficking in persons, but establishes sanctions that the US Department of State judged to be sufficiently dissuasive and criticized for its failure to consider individuals forced to engage in illegal activities as potential victims of trafficking.²⁶⁸

Furthermore, the LPSTP established force, fraud and coercion as aggravating factors in trafficking cases, as opposed to key elements of trafficking – as defined by international conventions, according to the US Department of State.²⁶⁹ It is important to note that the omission of fraud, force or coercion in the overarching

definition of trafficking in persons for labour exploitation, under Article 21, could mean that those who engage in labour-rights violations against a person who willingly took and stayed in a job providing dangerous or unhealthy working conditions or sub-minimum wages could be held accountable for labour trafficking.²⁷⁰ The same logic would apply to labour brokers, under Article 10.

The General Law to Prevent, Sanction and Eradicate Crimes Related to Trafficking in Persons and Assistance to Victims of these Crimes of 2014 imposes jail sentences of five to 10 years, and fines of 1 000–20 000 daily minimum wages for individuals who recruit, transport, retain, deliver, receive or harbour a person for the purpose of exploitation (Article 10).

The Law categorizes slavery, debt bondage, labour exploitation, forced labour, forced begging and forced participation in illegal activities as forms of exploitation. Subjecting individuals to slavery is punishable by 15–30 years' imprisonment, as well as 1 000–20 000 daily minimum wages. Furthermore, the law imposes sentences of three to 10 years' imprisonment for labour exploitation, and 10- to 20-year sentences for forced labour in cases where the victim is coerced or subjected to violence or threats of violence. Penalties are increased by 50% when victims are minors.²⁷¹

The US Department of State reported that Mexican law now protects victims of trafficking in persons from being tried for crimes committed as a result of being

trafficked, and provides foreign victims of trafficking with refugee status in exchange for testimony against their traffickers.²⁷²

In 2012, Federal legislation required that all states bring local trafficking laws into compliance with the trafficking law within 90 days.²⁷³ As of June 2017, 17 of Mexico's 31 states had yet to do so.²⁷⁴

While the general law on sustainable forestry development mentions the trafficking of animal species and wood, it does not mention trafficking in persons or forced labour.²⁷⁵ There is a reference to the protection of human rights, but it is in the context of preventing social and environmental risks.²⁷⁶

Child labour

In April 2014, the Mexican Senate approved a constitutional reform raising the minimum age for child labour from 14 to 15 years of age.²⁷⁷ Under Articles 23 and 995bis of the LFT, employers that hire children are punishable by prison sentences of one to four years, and fines of 250 to 5 000 times the minimum wage.²⁷⁸

Juvenile labourers between the ages of 15 and 17 may work in non-hazardous jobs under certain conditions. The 2014 amendment of Article 123 of the constitution set a six-hour daily working limit for juvenile labourers between the ages of 15 and 17,²⁷⁹ and Mexican labour law requires that they obtain parental permission to work.²⁸⁰

Mexico passed a decree in 2015 amending the LFT and explicitly prohibiting the employment of all minors under 18 years of age in work that would likely harm their health and safety or morals.²⁸¹

The ILO had previously reported that the law established 16 as the minimum working age for several hazardous or unhealthy activities, thereby allowing adolescents between the ages of 16 and 18 to work in hazardous activities – in contravention of ILO Convention 182.²⁸² The ILO reported that the decree established a list of 20 specific occupations in which the employment of minors was prohibited.²⁸³ The Mexican government has categorized all agricultural and forestry work to be inherently dangerous and, therefore, all minors under the age of 18 are prohibited from working in the sectors.

It is important to note that under ILO Convention 138, children between the ages of 13 and 15 are permitted to engage in work that is light, age-appropriate and does not pose a risk to their health or safety or interfere with their education.

Light work may be culturally viewed as an opportunity for children to gain livelihood skills and contribute to their families' food security. However, children should not be working long hours, under conditions that pose a risk to their health and safety, or in jobs that interfere with their education – which is frequently the case with work in the Mexican forestry sector. Experts and community members interviewed pointed out that in some indigenous communities, men as young as 14 are married and have children they must provide for. Their only options for work are the agricultural and forestry sectors, where their employment is prohibited – posing a challenge in practice.

In February 2012, former president, Felipe de Jesús Calderón Hinojosa, signed a decree ordering the amendment of the Mexican Constitution to mandate obligatory education through secondary school.²⁸⁴ The 2012 constitutional reform set 2022 as the limit to comply with the obligation for universal secondary schooling.²⁸⁵ However, full compliance was not expected by 2022 due to a lack of resources to implement the reforms.²⁸⁶ While the constitution specifies that public schools should be free, this was often not the case in practice. Children's families had to pay relatively large sums of money for uniforms, books, school supplies and hidden enrolment fees, which could be beyond the means of marginalized groups.

Discrimination

Article 1 of Mexico's Constitution prohibits all forms of discrimination motivated by ethnic or national origin, gender, age and social status, among other criteria.²⁸⁷ On 29 November 2012, departing Mexican president Felipe de Jesús Calderón Hinojosa signed a comprehensive reform of the LFT, instituting more than 300 changes, effective 1 December 2012. The amendments, which brought Mexico into compliance with international standards on discrimination, explicitly prohibited discrimination based on nationality, ethnicity, religion, disability, immigration status, sexuality and marital status, as well as other forms of discrimination

that violate human dignity.²⁸⁸ With the 2019 reform of the LFT, Article 995 established fines of 50 to 2 500 times the minimum wage for employers that engage in discrimination.²⁸⁹ Mexican law mandates that company policies and trainings on discrimination include information on grievance mechanisms.²⁹⁰

However, the Federal Law to Prevent and Eliminate Discrimination (LFPED) does not provide for the right to non-discrimination under equal conditions throughout the whole of Mexico. The LFPED is not a general law, and therefore does not protect people who live in states that lack anti-discrimination clauses in their regulatory frameworks,²⁹¹ such as Oaxaca, Aguascalientes, Baja California, Baja California Sur, Nayarit, Tamaulipas and Veracruz.²⁹²

Discrimination against women

In March 2007, the Mexican legislature passed the Law on Substantial Equality between Men and Women, which seeks to eradicate gender-based discrimination. According to the US Department of State, Mexican law provides men and women with equal rights and obligations.²⁹³ The Mexican Constitution establishes that 'equal pay shall be given for equal work performed in equal jobs, hours of work, and conditions of efficiency',²⁹⁴ which the ILO judged to be in contravention of ILO Convention 100, as it does not explicitly require equal remuneration for different work of equal value.²⁹⁵

Mexican law also contains protections for pregnant women and mothers.²⁹⁶ The law explicitly prohibits employers from requiring women to take pregnancy tests, or from dismissing pregnant workers.²⁹⁷

Employers may not force pregnant women to carry out strenuous work that could negatively affect their pregnancy.²⁹⁸ Mexican law mandates that women be provided with 12 weeks of maternity leave, which may be taken before or after birth.²⁹⁹

Other laws and policies that protect women include the LFPED, the General Law on Equality between Men and Women, and other Mexican standards on equality and non-discrimination.³⁰⁰ Mexico's Plan Nacional de Desarrollo (National Development Plan) of 2013–2018 was the first to include gender equality as one of its guiding principles, requiring that state programmes promote women's involvement in decision making. The Forest Law of 2018 sets out as an explicit goal

of supporting actions that 'guarantee the substantive equality of opportunity for women' within the forestry sector.³⁰¹

Discrimination against indigenous people

The ILO reported that Mexican law explicitly prohibits discrimination based on national or ethnic origin.³⁰² Reforms of 10 June 2011 to Article 2 of Mexico's Constitution establish the obligation of federal, state and municipal authorities to promote equal opportunities for indigenous people and eliminate discriminatory practices.³⁰³ It furthermore requires that social policies be established to protect indigenous migrants, particularly agricultural day labourers.³⁰⁴

Other laws and regulatory frameworks complement the protection of the rights of indigenous peoples. These include the Agrarian Law (DOF 06-25-2018); the Law on Sustainable Forest Development (DOF 05-06-2018); the Law of Sustainable Rural Development (DOF 12-04-2019); the General Law on Culture and Cultural Rights (DOF 06-19-2017); and the Federal Law to Prevent and Eliminate Discrimination (DOF 21-06-2018). A Law on Prior Consultation of Indigenous Peoples is currently being prepared.

The National Institute of Indigenous Peoples (formerly the National Commission for the Development of Indigenous Peoples) is obliged to define, regulate, design, establish, execute, guide, coordinate, promote, monitor and evaluate policies, programmes, projects, strategies and public actions to guarantee the implementation of the rights of indigenous and Afro-Mexican peoples – as well as their integral and sustainable development and the strengthening of their cultures and identities.³⁰⁵

Wages and hours

A tripartite National Minimum Wage Commission sets legal minimum wage rates each December for the following year. The daily minimum wage was set at MXN123.22 (USD6.55) per day in 2020. It is important to note that the Mexican minimum wage is the lowest in all of Latin America, compared with the cost of living. This means that even if workers are earning the minimum wage, they are likely not to be earning a living wage. Mexico's National Human Rights Commission has stated that minimum wage does not cover workers' basic needs.³⁰⁶

Mexican law prohibits salary deductions that bring workers' wages below the legal minimum.³⁰⁷ Fines may be levied on employers for violations of minimum-wage laws.³⁰⁸ Additionally, salary fraud is subject to criminal penalties under the Federal Penal Code.³⁰⁹ In 2017, the US Department of State reported that employers that violated laws on wages, working hours, and health and safety could face fines of MXN17 330 (USD1 030) to MXN335 940 (USD20 020), which it judged to be insufficiently dissuasive.³¹⁰

The constitution and labour law establish an eight-hour limit on regular working hours, as well as a six-day, 48-hour workweek.³¹¹ Workers have the right to a day of rest for every six days of work. Federal law provides for eight paid annual holidays.³¹²

Employers are required to pay workers 150% of their regular wages for regular overtime hours and double their regular wages for overtime hours in excess of nine hours per week, or for hours worked on weekly days of rest and national holidays.³¹³ Compulsory overtime is prohibited by law.³¹⁴

Health and safety

Article 123 of the Mexican Constitution establishes employers' responsibility for protecting workers' health and safety.³¹⁵ Additional Mexican health-and-safety regulations were issued by the STPS and IMSS.³¹⁶ The government has adopted detailed Federal Regulations on Labour Health, Security and Environment, which establish health-and-safety requirements and require that employers cover expenses related to occupational accidents or illnesses.³¹⁷

The Federal Regulation on Occupational Safety and Hygiene and the Working Environment, Mexico's foremost legislation on health and safety, established standards on the prevention of accidents and occupational illnesses. Other laws that cover health and safety include the General Regulations on the Inspection and Application of Sanctions concerning Labour Legislation Violations; the Regulations of the Secretariat of Labour and Social Welfare; and the Federal Labour Law of 2012.³¹⁸

Employers are required to pay workers 150% of their regular wages for regular overtime hours.

In 2015, the STPS published the *Nuevo Reglamento Federal de Seguridad y Salud* (New Federal Regulations on Health and Safety), which are primarily focused on preventing accidents and occupational illnesses, and holding companies accountable for health-and-safety violations. The regulations require that employers establish robust health-and-safety programmes, including the distribution of orientation manuals for workers, labelling of hazardous substances, the establishment of health-and-safety commissions and the provision of personal protection equipment and training programmes to workers.³¹⁹ Federal law mandates the formation of joint management-worker health-and-safety committees responsible for establishing and enforcing health-and-safety standards in the workplace.³²⁰

The ILO reported that Mexican law only allowed workers to refuse to carry out tasks that were judged to constitute imminent health-and-safety risks by Joint Safety and Health Committees. The ILO judged this provision to be in contravention of its Occupational Safety and Health Convention, which establishes that workers who are in imminent danger have the right to remove themselves from dangerous situations without prior approval.³²¹

The STPS has drafted regulations on health and safety relevant to the forestry sector. For example, NOM-008-STPS-2001 on health and safety conditions in forest exploitation and sawmills establishes minimum requirements and procedures to prevent health-and-safety risks. Compliance with this regulation is mandatory in all workplaces associated with forestry, including the felling and transport of trees, the processing of wood in sawmills and the finishing and curing of wood. The regulation requires that employers carry out an analysis of health-and-safety risks, inform workers about the risks and the procedures that they should follow in order to minimize these hazards, and provide them with necessary PPE and training.³²²



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ANNEX 2

OTHER COUNTRY AND SECTOR FACTORS THAT INCREASE VULNERABILITY TO TRAFFICKING IN PERSONS

The marginalization of indigenous populations

Indigenous workers are especially vulnerable to exploitation due to language barriers, race-based discrimination and a disproportionate lack of access to education and job opportunities, which drive them to migrate for work in other regions.³²³ Discrimination and racial inequality are significant problems across Mexico.³²⁴

Mexico's population can be broken down into Amerindian-Spanish (62%), predominantly Amerindian or indigenous (21%), Amerindian (7%), and other (10%).³²⁵ It is estimated that in Mexico there are some 12 million indigenous people.³²⁶ The states with the largest indigenous populations are Oaxaca (14.4%), Chiapas (14.2%), Veracruz (9.2%), Mexico (9.1%), Puebla (9.1%), Yucatán (8.8%), Guerrero (5.7%), and Hidalgo (5%). A large percentage of indigenous people live in small villages with fewer than 100 inhabitants, which are often isolated from large cities.³²⁷

The indigenous population has historically been affected by high levels of poverty and vulnerability.³²⁸ At a national level, 55.5% of indigenous people live in

municipalities with high levels of poverty.³²⁹ In 2017, in rural areas, 61% of the indigenous population lived in extreme poverty, compared to 19% of non-indigenous Mexicans.³³⁰ Some 72% of Mexico's indigenous peoples lived in extreme poverty in 2017, according to INEGI.³³¹

In Mexico, the 2018 Human Development Index (HDI), which includes indicators of health, education, and income, was 0.6761 for indigenous populations – compared with 0.767 for non-indigenous populations (values are expressed as a number between 0 and 1: the higher a country's HDI score, the higher its level of human development, and vice versa). Indigenous populations were especially disadvantaged according to HDI indicators of income.³³² For centuries, the main causes of marginalization among indigenous populations have been discrimination, exploitation and land grabs, along with inter-community conflicts control over land, forests and water sources.³³³

The 1992 agrarian reform and modifications of land ownership laws reduced indigenous communities'

access to productive farmland. Combined with decreased public investment in indigenous regions,³³⁴ this resulted in underdevelopment and increased rates of poverty. This forced many indigenous groups and communities to look for employment opportunities in rural areas and cities, where, in the vast majority of cases, they had access to only low-wage employment.³³⁵ At the same time, trade agreements favoured the promotion of highly industrialized agricultural processes, mobilizing large numbers of indigenous day labourers from the poorest states of the country. The main three sending states of migrant indigenous workers are Oaxaca, Guerrero and Hidalgo; while the main receiving states of indigenous migrants are Sonora, Sinaloa and Baja California.³³⁶

Indigenous populations have traditionally been employed in agriculture and the manufacture of artisanal goods. It is estimated that 45.9% of indigenous men and 18.2% of indigenous women work in the agricultural sector; while 25.3% of indigenous women devote themselves to domestic work or the production of handicrafts, and 10% of indigenous men work in construction.³³⁷

The jobs that indigenous people have access to are often informal or unpaid, excluding them from benefits such as social security, health services and retirement, and leaving them extremely vulnerable at the end of their working life. Approximately 92% of indigenous people living in rural areas have never made social security contributions. The high level of informal employment and lack of government inspections in the relevant sectors mean that indigenous workers are often subjected to labour exploitation, including low wages, excessive working hours, discrimination, a lack of access to health care and benefits, and verbal, physical, and sexual abuse.³³⁸ In 2014, the *Los Angeles*

The jobs that indigenous people have access to are often informal or unpaid, excluding them from benefits, such as social security, health services and retirement.

Times reported that many indigenous workers in the agricultural sector experienced wage withholding, as they were not paid until they had completed their three-month contracts.³³⁹

In addition to working in the agriculture sector, indigenous people also work in the forestry sector. They are hired to perform various tasks – both legal and illegal – and work in their own communities as well as in distant forest concessions. These tasks include logging and transporting wood, which is generally the heaviest and most dangerous work in the sector. It is important to note that organized-crime groups and DTOs recruit both indigenous adults and minors to work in illegal logging and other illicit activities by offering them large sums of money and false promises, sometimes also using threats and violence.

Land grabs, violence and deforestation are driving up the level of forced displacement of indigenous communities, which exposes them to an increased risk of trafficking in persons and labour exploitation. Furthermore, a lack of local access to health, education and legal services contributes to the migration of indigenous communities. This also makes them more vulnerable to trafficking in persons, as they are sometimes kidnapped when using trains or buses, and forced to work for organized-crime groups. A lack of access to information in their own languages further increases risks to deceit and labour exploitation.

Poverty and human development

Although Mexico is the world's 11th largest economy³⁴⁰ and is considered an upper-middle-income country, high poverty rates persist – along with wide economic gaps between social classes.³⁴¹ According to the OECD, Mexico had the third highest GDP of developed countries in 2018.³⁴² Despite Mexico's relatively high GDP per capita for Latin America, approximately

46.2% of Mexico's population lived in poverty in 2018.³⁴³ This is an increase from 43.6% in 2017.³⁴⁴

Between 2008 and 2018, the number of people living in poverty in Mexico increased from 49.5 million to 52.4 million. There were 9.3 million people living in extreme poverty, equivalent to 7.4% of the population.³⁴⁵ In Mexico, 74.9% of indigenous people are



Indigenous leader of a Rarámuri community focusing on forestry resilience. © AC Natika

living in poverty, of which 35.5% are living in extreme poverty. Some 84% of indigenous women in rural areas live in poverty, 45.7% of whom live in extreme poverty. Finally, 49.6% of minors live in poverty.³⁴⁶

A 2017 OECD report found that Mexico has the largest income gap among all OECD countries, with the wealthiest 10% of the population earning 20 times the amount of the poorest 10%. This is about eight times the average for OECD countries.³⁴⁷ The OECD reported that poverty and inequality are growing across multiple states and sectors and that wage gaps and the growth of informal employment are two of the biggest contributors.³⁴⁸

Over 11 million people are estimated to live in or around Mexico's forested areas, which tend to have

the highest rates of poverty and marginalization.³⁴⁹ Rural and indigenous populations, which make up the vast majority of the inhabitants of forested areas, are especially affected by extreme poverty. Approximately two thirds of the country's extremely poor live in rural areas,³⁵⁰ in which 21% of Mexico's population lives, according to 2015 data from Mexico's National Council for Evaluation of Social Development Policy (CONEVAL).³⁵¹

Extreme poverty can result in decreased access to education, which contributes to cycles of poverty plaguing workers in the agricultural and forestry sectors. Some families are so poor that they need their children to work in order to survive, leading them to drop out of school – and perpetuating the cycle of poverty.

Poverty also contributes to illegal logging, as impoverished people must look for ways to meet basic needs.³⁵² There are indications that precarious economic conditions make people vulnerable to being pressured into illegal logging by the organized criminal groups that control the sector.³⁵³ Due to the lack of job opportunities, they have no other source of income or work and may therefore seek or accept work in logging. Another issue is that in some very remote areas, such as mountains and jungles, the rural population lacks access to government programmes, making it difficult for them to survive and making them more vulnerable to being pressured into working in illegal logging.

In Chihuahua, 90% of the Tarahumara indigenous people (who refer to themselves as Rarámuri) live in the 23 municipalities that comprise Chihuahua's Sierra

Precarious economic conditions make people vulnerable to being pressured into illegal logging by the organized criminal groups.

Tarahumara region, an expansive mountain range that is part of the Sierra Madre. This region is characterized by high levels of marginalization and poverty, as well as violence, organized crime and both illegal and legal logging.³⁵⁴ The historical geographic overlap of forest resources and a lack of employment opportunities, high levels of poverty, low levels of human development and widespread discrimination mean that illegal activities, including illegal logging and timber trafficking, are among the only sources of income in these regions. This facilitates the recruitment of youth by local organized-crime groups.



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ANNEX 3

MEXICO'S FORESTRY SECTOR AND SUPPLY CHAIN

Mexico is ranked as the country with the 11th largest forest cover worldwide.³⁵⁵ Approximately 6.2 million hectares of Mexico's forests are allocated for timber production.³⁵⁶

As a result of Mexico's geographic position, complex topography and climate variations, the country's forest ecosystems are highly diverse.³⁵⁷ Some 51% of Mexico's forested area is comprised of temperate forests, while the remaining 49% is made up of tropical forests.³⁵⁸

There are two main types of temperate forests in Mexico: coniferous forests (dominated by over 45 species of pine trees and, to a lesser extent, oak), which account for 79.8% of temperate forests in the country,³⁵⁹ and broadleaf forests (dominated by oak trees, usually interspersed with pines), comprise 14.5%.³⁶⁰

There are three types of tropical forests: tropical dry deciduous forests, tropical sub-evergreen forests, and tropical evergreen.³⁶¹ Typically these forests are composed of a range of species such as mahogany, cedar, black poisonwood, sapodilla, granadillo, machiche, gregorywood, katalox and ziricote.³⁶²

Approximately 11.04 million people inhabit Mexico's forested areas, which provide many of them with natural resources.³⁶³ Forested areas are held broadly by three different groups: communities, private landowners and the government. Approximately 51% of Mexican land is rural, and most of it is held by *comunidades indígenas* (indigenous communities) and *ejidos*.³⁶⁴ Indigenous communities are made up of people of the same ethnic group, sharing the right to a territory, whereas an *ejido* is defined as a 'land-holding consisting of either indigenous or non-indigenous members with rights, stipulated in law, in communal resources under which an individual family has a right to an individual plot of land allocated by communal decision', which is known as *reparto agrario* – agricultural distribution.³⁶⁵ (See also Annex 1 of this report for more information.)

In 2003, it was estimated that 80% of Mexico's forests were owned by communities (both *ejidos* and indigenous communities).³⁶⁶ By 2016, this figure had fallen to 61%,³⁶⁷ and in 2017, only 55% of Mexico's forested land was estimated to be in the possession of *ejidos* or communities.³⁶⁸

In December 2016, there were approximately 28 000 *ejidos* and 2 100 agrarian communities mostly inhabited by indigenous peoples in Mexico, making up around 3.2 million inhabitants in total.³⁶⁹ In some cases, *ejidos* and *comunidades indígenas* establish CFEs, generally ranging from 500 to 1 000 hectares, to manage communally held forests.³⁷⁰

Approximately 30% of forests are held by private land-owners, commonly in small and medium-sized plots ranging from 500 to 1 000 hectares.³⁷¹ However, in some cases, multiple 'smallholders' may be from the same families and collectively hold large extensions of forest. El Programa Estratégico Forestal para México (the Mexican Forestry Program Strategy) promoted Plantaciones Forestales Comerciales (commercial forestry plantations – PFCs) to increase timber production, reduce the pressure on natural forests, encourage private investment and convert degraded or unproductive areas into productive forests.³⁷² PFCs cover over 100 000 hectares of land in Mexico, with one PFC alone occupying over 10 000 hectares of land in four states, while the smallest PFC occupies 1 000 hectares of land.³⁷³

Finally, as much as 12% of Mexico's forests are held by the state in the form of national forests and reserves run by the National System of Natural Protected Areas (SINANP).³⁷⁴ In 2014, there were 932 protected areas,

covering 14.5 million hectares.³⁷⁵ However, a 2016 report found that before the 1990s, these protected areas were not always established for the purpose of conservation. This contravenes the international conservation standards that require a core area for conservation, surrounded by a buffer area where some activities are allowed.³⁷⁶ Therefore, over 80% of SINANP protected areas are classified as multiple-use reserves, which allows for a wide variety of uses and activities. While each reserve must have a management program that specifies use and conservation, as of 2013, only 44% had such plans.³⁷⁷ The FAO ranks Mexico third globally for the largest area of forests designated primarily for the conservation of biodiversity, but this is misleading as these 'protected areas' are not exclusively dedicated to conservation.³⁷⁸

According to a 2016 report, the large percentage of community-owned forests in Mexico means that timber production is often not seen as the ultimate goal.³⁷⁹ Rather, forests are seen to serve multiple functions: as religious or ceremonial sites, for recreation, for conservation or carbon capture, as a source of water, and for the harvesting of both timber and non-timber products. This multi-use approach is predominant across various types of forest ownership, but especially in communal forests.

Geography of logging

Forestry production in Mexico is mainly concentrated in Durango, Chihuahua, Veracruz, Michoacán and Oaxaca. These five states account for 67% of the total production (4.1 million cubic metres), while two states alone (Chihuahua and Durango) accounted for almost half of Mexico's total production in 2015.³⁸⁰

In 2016, the top states in terms of volume of wood produced were Durango (35.1%), Chihuahua (13.2%), Veracruz (7.8%), Michoacán (6.7%), and Oaxaca (5.9%).³⁸¹ Pine makes up a significant proportion of timber produced in Mexico, and is commonly found in a

number of states including Chihuahua, Chiapas, Oaxaca, Durango, Guerrero, Michoacán, Jalisco and portions of Central Mexico.³⁸²

Forests are seen to serve multiple functions: as religious or ceremonial sites, for recreation, for conservation or carbon capture, as a source of water, and for the harvesting of both timber and non-timber products.



FIGURE 4 Community ownership of forested areas in Mexico, 2016

SOURCE: Inter-American Institute for Cooperation on Agriculture, Food and Agriculture Organization

● Region
 xx Number of communities owning over 200 hectares of forest
 xx Total forest and farmland under their jurisdiction (million hectares)



Deforestation in the state of Chiapas. © Adalberto Rios Szalay/Sexto Sol/Getty Images

In total, 12.3% of Mexico's forests can be found in the state of Chihuahua, making it the state with the highest concentration of forests in all of Mexico. Chihuahua has 24.7 million hectares of fertile land, 18.8 million hectares (76%) of which is forested. Of this fertile land, 6.8 million hectares are used for forestry, more than 17.5 million hectares are used for livestock and 1.5 million hectares are used for agriculture.³⁸³ Logging has been authorized for a total area of 4.4 million hectares

(23% of Chihuahua's forested land), while the total area on which logging is currently taking place is estimated at 1.3 million hectares.³⁸⁴ However, there are no official reports quantifying *illegal* deforestation in Chihuahua. Logging, along with livestock and agricultural activities, is a significant driver of deforestation in Chihuahua.³⁸⁵ The municipalities with the highest levels of timber production within in the State of Chihuahua are Bocoyna, Madera, Guadalupe y Calvo and Guachochi.³⁸⁶

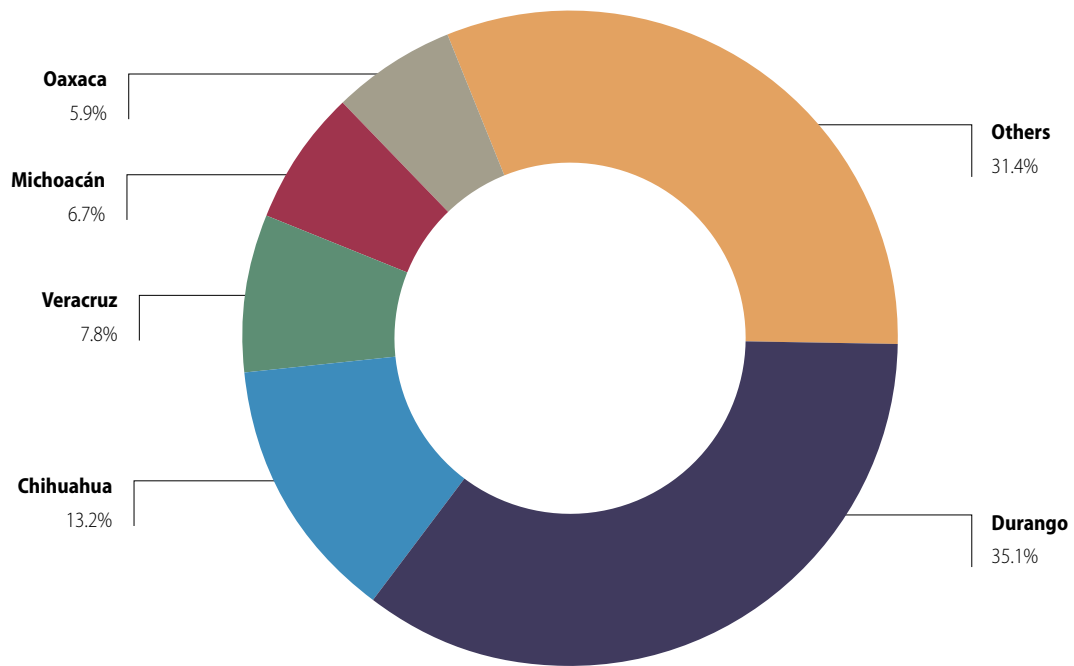


FIGURE 5 Top timber-producing states in Mexico, 2016

SOURCE: Official data, Government of Mexico³⁸⁷

Forestry products and trade

Mexico is the fourth largest producer of roundwood in Latin America and the Caribbean (LAC). In 2018, Mexico produced 5.2 million cubic metres of roundwood, representing 6% of the roundwood produced

throughout the LAC region. In 2018, Mexico was also the 11th largest producer of tropical sawn wood and the third largest exporter of construction carpentry products, mouldings, cane and bamboo in the region.³⁸⁸

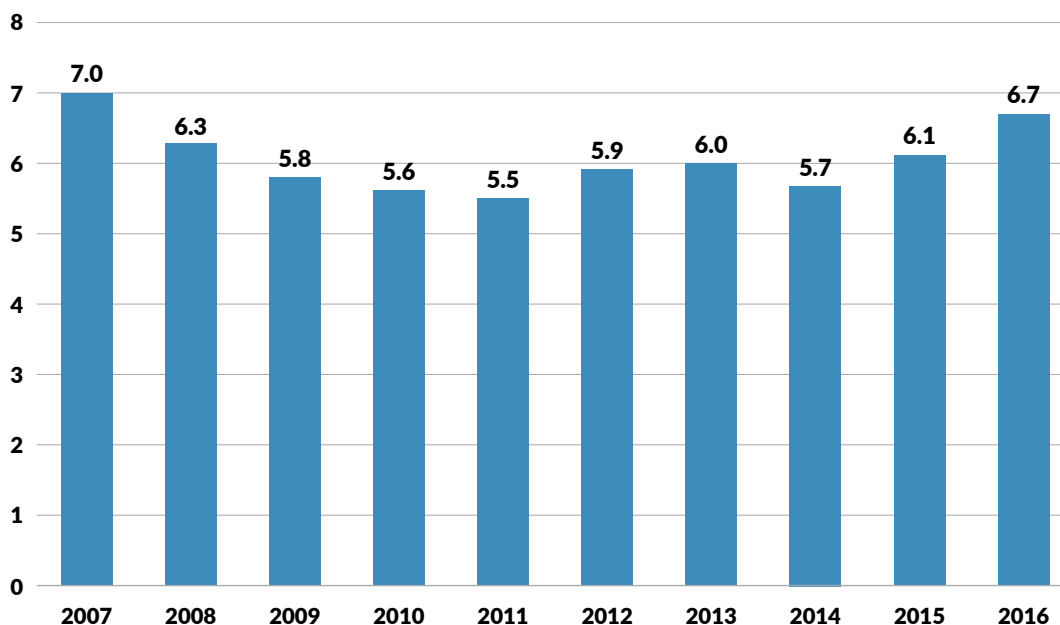


FIGURE 6 Timber production in Mexico, 2007–2016 (million m³)

SOURCE: SEMARNAT³⁸⁹

Pine made up about 70% of Mexico's timber production in 2017,³⁹⁰ down from about 75% in 2016. Oak was the second most heavily logged species in 2016, constituting 11% of timber

production (see Table 3).³⁹¹ Mexico has the potential to commercialize a number of other species, especially eucalyptus and different types of cedar (see Table 4).³⁹²

TABLE 3 Timber forest production by type and group (m³)

Type and/or group	2015	2016	Percentage
Pine	4 577 679	5 040 049	75.1%
Fir tree	220 824	185 257	2.8%
Other coniferous	43 067	34 266	0.5%
Oak	660 948	737 741	11.0%
Other broadleaf tree	270 282	296 641	4.4%
Precious woods	13 378	31 660	0.5%
Common tropical trees	336 064	389 670	5.7%
TOTAL	6 122 242	6 715 284	100%

SOURCE: SEMARNAT³⁹³

TABLE 4 Surface area of the main wood species used for timber

Species	Surface (ha)	Percentage
Eucalyptus (gum tree)	21 167.8	21.1%
Cedar	20 705.0	20.7%
Pine	13 566.2	13.5%
Melina or gramhar	10 830.1	10.8%
Teka	9 024.5	9.0%
Mahogany	6 328.4	6.4%
Rubber tree	2 892.0	2.9%
Other	15 617.0	15.6%
TOTAL	100 131	100%

SOURCE: SEMARNAT³⁹⁴

Most wood harvested in Mexico (73%) is sent to sawmills. In addition to timber, there are a number of other forestry-related products. These include sawn wood (which constitutes about three quarters of production in terms of volume), followed by cellulose (9%), charcoal (5%), veneer and plywood (5%), firewood (4%) and posts (1%).³⁹⁵ Additional products include resin, fibres, rubber, amber, waxes, rhizomes, soil, mushrooms, seeds, leaves, moss, hay, amber, ornamental plants, tannin, gums, medicine, fruits, nuts, spices and honey.³⁹⁶

The Mexican forestry sector experienced an annual growth rate of 3.9% between 2008 and 2011.³⁹⁷ In 2011, the forestry sector on the whole (including timber, the processing of wood, paper and pulp) generated USD7 billion (almost 0.6% of the country's GDP).³⁹⁸ In 2016, the sector generated

MXN41.3 billion (USD2.2 billion), which is a 0.7% decrease compared to 2015. Forestry production represented 0.2% of the national GDP during 2016.³⁹⁹

Between 2012 and 2016, Mexico produced some 995 602 cubic metres of timber, with an average annual value of approximately MXN2.7 billion (USD142 million). In 2016, the estimated value of production increased to MXN3 billion (USD159 million).⁴⁰⁰ Mexico's production of roundwood (timber not used as firewood) totalled 44.2 million cubic metres in 2015.⁴⁰¹ Between 2003 and 2012, timber generated an average of 0.13% of Mexico's GDP.⁴⁰² The contribution of timber to the GDP has more than doubled in recent years, generating an average of 0.27% of Mexico's GDP between 2012 and 2017.⁴⁰³ Even though two-thirds of Mexico's forests are believed to have commercial potential,⁴⁰⁴ the contribution of the timber industry to the national

Furthermore, the influx of illegally logged wood into the market has pushed down prices, including for sustainably produced wood.

formal economy is relatively low and domestic demand for timber has surpassed production.

Trade deficits have increased significantly in the last 15 years as Mexico failed to compete with timber products imported from other countries at cheaper prices. A significant proportion of Mexican timber is harvested in mountainous regions. Rough terrain and limited or seasonal road access complicate transport and greatly increase production costs, which is estimated to exceed the world average by 35–40%.⁴⁰⁵ The only products to have bucked this trend are rare high-grade wood, sawn wood and precious species, which remain competitive in the international market.⁴⁰⁶

The Mexican timber industry yields relatively low returns on investment, and this is one of the challenges to modernization in the forestry sector.⁴⁰⁷ The high production costs and lack of competitiveness in the international market have made Mexico's timber sector unattractive to investors, which limits funding for technological advances or low-impact harvest methods. This creates a vicious cycle, as Mexico falls behind countries with advanced technology. Similarly, the infrastructure surrounding the timber market, such as sawmills and transportation, has also contracted in recent years.⁴⁰⁸

In 2015, slow growth in production and ever-increasing demand led to a trade deficit of USD6.32 billion in timber, pulp, and paper products. After 2015, the Mexican government initiated various strategies to address this trade deficit in addition to those that had already been in place through budget allocated to CONAFOR between 2001 and 2016.⁴⁰⁹ Mexico's National Strategy on Sustainable Forest Management and the Increase of Production and Productivity for 2013–2018 highlights the importance of promoting sustainable use of forest ecosystems, and sets out a goal of 20.9 million cubic metres of annual domestic production without jeopardizing biodiversity.⁴¹⁰

Similarly, the new Forest Law of 2018 identifies the development of sustainable forestry as a 'priority' area for national development.⁴¹¹

While there is a great deal of potential for sustainable forestry in Mexico, there are impediments to the growth of this sector. It has been reported that although approximately 15 million hectares of forests meet the conditions (economic, social and infrastructural) for sustainable forestry, only about half of this land is used for sustainable forestry in practice.⁴¹² This is likely due in part to the fact that *ejidos* and CFEs rarely receive any type of premium for certified or sustainably produced wood. Sawmills generally pay the same for wood of the same quality, preferring quality over sustainability, according to experts interviewed. Furthermore, the influx of illegally logged wood into the market has pushed down prices, including for sustainably produced wood.

Wood logged in Mexico is used by local communities, is an input for domestic manufacturing (both by artisans and industry) and is exported abroad. At a local level, it is used for firewood and timber to build houses and furniture. For example, in northern Mexico, pinyon pines are used by local communities to produce firewood, charcoal and to a lesser extent, timber.⁴¹³

The US International Trade Commission reported that between 2013–2017, 4% of forestry products imported into the US came from Mexico.⁴¹⁴ It further reported that imports from Mexico had seen small rates of annual growth in recent years.⁴¹⁵ Some 76% of Mexico's wood furniture exports are destined for the United States.⁴¹⁶

Wood imports

Mexico also imports a large volume of wood. The country has long been perceived as an attractive destination for traders of illicit timber given high domestic demand for wood and lax legal frameworks. Some estimates indicate that Mexico imports as much as two-thirds of the timber it consumes.⁴¹⁷ In 2016, Mexico imported 1.6 million cubic metres of coniferous sawn wood. In the LAC region, Mexico was the largest importer of coniferous sawn wood by far,

importing a full 53% of the coniferous sawn wood in the region.⁴¹⁸

A lax legal framework makes Mexico one of the largest import markets for Peruvian timber after China, the Dominican Republic and the US.⁴¹⁹ A 2018 Environmental Investigation Agency (EIA) report found that all Peruvian exporters and Mexican importers involved in the timber trade between the two countries had traded timber classified as being at a high risk of illegal logging.⁴²⁰ This combination makes it a target for traders who are unable to import their illegally logged wood into the US, which has more stringent regulations.

The 2018 EIA report also indicated that Mexico was one of the principal importers of illegally logged wood from the Peruvian Amazon.⁴²¹ In a 2017 study, the Center for International Environmental Law (CIEL) identified Mexico as the world's largest importer of Peruvian wood sold by companies that have been placed on a CIEL 'red list' for possibly trading in illegally logged timber.⁴²² In fact CIEL found that a full three-quarters of all of the Peruvian wood imported into Mexico come from 'red-listed' companies.

Countries such as the US have integrated regulations on the trade in illegal timber into their laws and trade agreements.⁴²³ Mexico, however, has not taken significant steps to crack down on the import of illegally harvested wood. Mexican law does not require importers to provide evidence of the legal origin of wood that they are importing into the country.⁴²⁴

Illegally logged wood from the Peruvian Amazon is likely tied to both deforestation and trafficking in persons. In 2019, the US Department of State listed logging as one of the eight sectors in Peru in which trafficking in persons was most prevalent.⁴²⁵ In the same year, the US

Mexico imports more illegally logged Peruvian wood than any other country, and this wood is associated with an especially high risk of trafficking in persons and forced labour.

Department of Labour included timber among the three Peruvian goods produced with forced labour in its 'List of goods produced by child labor and forced labor'.⁴²⁶ In 2017, the Peruvian government reported that forced labour was most common in logging and illegal mining in the Amazon.⁴²⁷

In 2015, the ILO published two studies on forced labour in the Amazon region of Peru. The study on illegal logging found various indicators of forced labour, especially indicators of work and life under duress. There were also a smaller number of indicators of forced and deceptive recruitment of workers, and impossibility of workers leaving their employment. Women, young people and indigenous people were found to be especially vulnerable to forced labour.⁴²⁸

As mentioned above, Mexico imports more illegally logged Peruvian wood than any other country, and this wood is associated with an especially high risk of trafficking in persons and forced labour. Given Mexico's strong commercial ties to the US, at least some of this wood is likely being exported to US consumers in one form or another. This means that when US companies purchase 'Mexican' wood or products, these commodities may be tied to illegal logging, organized crime, environmental degradation and trafficking in persons not only within Mexico but also in Peru and other countries that export wood to Mexico.



A lax legal framework makes Mexico one of the largest import markets for Peruvian timber. © Delimont, Herbig & Associates/Getty Images

The Yacu Kallpa

In 2015, a cargo ship named the *Yacu Kallpa* departed with a massive volume of timber from Iquitos, Peru. The vessel was inspected as part of an international operation led by INTERPOL, in the Mexican port of Tampico.⁴²⁹ According to the 2018 EIA report, the amount of timber on the boat 'covered two city blocks and sat six stories high.'⁴³⁰ It was later determined that 96% of the timber was illegally logged.⁴³¹ Although the ship had official documentation from Peru, it was found to contain false information, which helped to confirm that the timber had been logged illegally.⁴³²

Mexico seized the shipment, but due to a lack of legislation on illegal timber imports, no criminal charges were laid.⁴³³ To pursue the case, foreign authorities were required to invoke bilateral prosecution agreements based on sufficient evidence that organized criminal groups were involved. Peruvian authorities attempted to do so, in collaboration with Mexican counterparts. Their efforts were undermined, however, when the smugglers sold the vessel to evade legal responsibility, and Mexican importers and Peruvian businessmen lobbied relentlessly for Mexican authorities to release the shipment. The timber was eventually released without Peruvian authorities being informed, and in the end, the consignment was only slightly delayed and made its way into the Mexican market.⁴³⁴

One of the top two suppliers of wood to the *Yacu Kallpa* had its license to export wood to the US suspended for selling illegally logged timber. This constituted the first time in which the US used its Free Trade Agreement with Peru to sanction a company. The same company has been the top supplier of Peruvian wood to Mexico in recent years:

between 2013 and 2016, it was responsible for providing 42% of all of the timber received in the port of Tampico.⁴³⁵

A recent investigation by the Mexican NGO, Conectas, found that the *Yacu Kallpa* had made multiple trips to Mexico between 2013 and 2016, transporting 65 262 cubic metres of wood that was suspected to have been logged illegally in Peru.⁴³⁶ In 2018, it was calculated that a full 91% of the wood transported from Peru to Mexico over the span of three years was illegally logged. Conectas reported that the wood was sold to 30 Mexican companies, 10 of which collectively purchased 81% of the *Yacu Kallpa*'s timber consignments.

According to Conectas, the two companies CG Grupo Forestal S.A and CG Universal Wood S.A that purchased the largest volumes of wood are owned by José Ernesto Ceballos Gallardo, who was investigated in 2016 by the US for importing illegally logged wood.⁴³⁷ He also owns a major lumber and plywood company, which was accused in 2016 of importing illegally logged wood from Peru. Another one of these top 10 importers is owned by the director of the Mexican-Peruvian Chamber of Commerce, which was instrumental in securing the release of the seized wood.⁴³⁸

These companies can sell the illegally logged wood domestically (to launder it and further obscure the supply chain); use it to produce consumer goods, which can be sold locally or internationally; or act as intermediaries and subsequently export the timber to the US and elsewhere. How the wood is ultimately used remains mostly unknown, but Mexico is a major exporter of wood and wood-based products, especially furniture, to the US. This makes it highly likely that this wood ended up being exported to consumers in other countries.



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ANNEX 4

LAND TENURE IN THE FORESTRY SECTOR

Ejidos

In Chihuahua, the main social structure governing forestry are *ejidos* (agrarian communities), which are the main owners of forests and their resources, in accordance with agrarian law. An *ejido* is a form of communal land tenure that dates back to the Mexican Revolution, which resulted in the redistribution of 52% of agrarian land to landless peasants.⁴³⁹ They are organized and operate according to their own internal regulations. Decisions are made through assemblies led by an *ejido* commissioner and a *consejo de vigilancia* (oversight council).⁴⁴⁰

As of the beginning of 2019, SEMARNAT had authorized 176 *ejidos* to engage in the exploitation and management of forests in the Sierra Tarahumara. Of these, 30% are rentier *ejidos* that rent out the rights to carry out logging on their land to others; 56% are producers of timber; and 14% own forestry companies which possess their own sawmills and sell the wood that they harvest as lumber.⁴⁴¹ In Chihuahua, 14.6% of the area authorized for forest management is private property and the other 85.4% is owned by *ejidos* and communities.⁴⁴²

When the concept of the *ejido* was introduced in the Sierra Tarahumara of Chihuahua through the implementation of post-revolutionary agrarian law, many of the properties granted to *ejidos* or agrarian communities fell

within other existing social structures, namely the native indigenous communities of the Sierra region. These communities were not taken into proper consideration. By law, indigenous communities have the preferential right to the use of natural resources on their lands and territories.⁴⁴³ The post-revolutionary *ejido* system was superimposed over original indigenous territory in the Sierra, and failed to take into account pre-existing indigenous rights to land use, according to local experts interviewed by the GI-TOC.

Experts further reported that *ejidos* were disproportionately controlled by *mestizos*, at the expense of indigenous communities who have experienced historical injustices over their right to the natural resources on their ancestral lands. *Mestizos* gained control over most *ejido* commissions, another structure that was superimposed over traditional local governance systems in indigenous communities.

This created an asymmetrical power structure, with *mestizos* at the top enjoying greater access and control over forest resources. The exploitation of forests in Chihuahua consequently bears the mark of *mestizo* land use, influenced by industrialization and market incentives. This has led to the subjugation of members of indigenous communities. Instead of having control over the use of their ancestral resources, these communities are now employed as poorly paid, temporary day

labourers in logging, as well as the transportation and processing of timber.

The *ejido* system in Chihuahua is very complex, and the Agrarian Law establishes that *ejidos* may operate according to their own regulations. Some *ejidos* operate similarly to a private forestry company, with management and workers, while others operate much more like indigenous community associations, distributing responsibilities and profits among community members. The private sector has access to forest resources through contracts with *ejidos* for logging rights. They require explicit authorization from *ejidos* and permits from SEMARNAT to carry out logging on *ejido* lands.⁴⁴⁴

Community forestry programmes can act as a significant defence against deforestation. By comparison, areas where land rights are sold to non-community members have often experienced much higher rates of deforestation.⁴⁴⁵ However, some critics of the *ejido* land tenure system argue that the power of the government over the management of wildlife and mineral resources curtails the ability of *ejido* members to choose the optimum land use, and limits them to timber extraction as their only option for survival.⁴⁴⁶

Community forestry enterprises

Mexico is the country with the largest area of certified community-managed forests (forested lands legally held in the form of an *ejido* or communal property).⁴⁴⁷ Communal forests that are collectively managed for timber production are termed 'community forest enterprises' (CFEs). They have the objectives of protecting, restoring, harvesting, logging and industrializing forest lands.⁴⁴⁸ CFEs are managed in the form of collective land ownership, divided between indigenous communities and *ejidos*.⁴⁴⁹

Community forestry in Mexico began in the 1980s, when the judiciary deemed it illegal to grant private concessions on community land. The decision had followed lobbying by about 30 communities in Sierra Juarez, who had seen much of their land leased out to private companies through lengthy concessions.⁴⁵⁰ The

Ejido assemblies are technically responsible for decisions on forest management and the selection and recruitment of PTSFs and buyers. However, these decisions are frequently made by the head of the *ejido* commission. This *cacicazgo* (chiefdom) system encourages poor practices and corruption. According to local experts interviewed by GI-TOC, there is often a lack of transparency around the distribution of profits among *ejido* members, which can contribute to the inequitable distribution of profits. In some cases, the head of the *ejido* commission retains a significant portion of the profits. This incentivizes the overexploitation of forests, as well as the exploitation of individuals involved in logging and the processing of timber.

Large *ejidos* that generate significant profits are especially susceptible to corruption. In some instances, large companies actively seek to corrupt *ejido* authorities or engage in practices to ensnare *ejidos* in debt, according to experts interviewed. For example, the researchers were told of a case where wealthy wood buyers sponsored a luxurious trip to Cancún for an *ejido* commission leader, and then told him that he owed them the money for the trip. This was used as leverage in negotiating an agreement that benefited the buyers at the expense of the *ejido* members.

legal framework for communal forestry was established by the Forestry Law of 1986, which formally recognized communities' rights to contract forestry services and manage forest resources on their land, and cancelled existing concessions.⁴⁵¹

The bulk of community forestry programmes, which have experienced significant success, were launched in the 1980s and 1990s. Initiatives started at the grassroots level and expanded quickly, in part due to government support and subsidies.⁴⁵² CONAFOR, which is responsible for overseeing community forestry, provides support to a significant proportion of CFEs. In 2013, the body launched a programme of financial support for ecological services, which provides financial incentives for a range of ecological and conservation efforts and benefits a significant number of CFEs.⁴⁵³

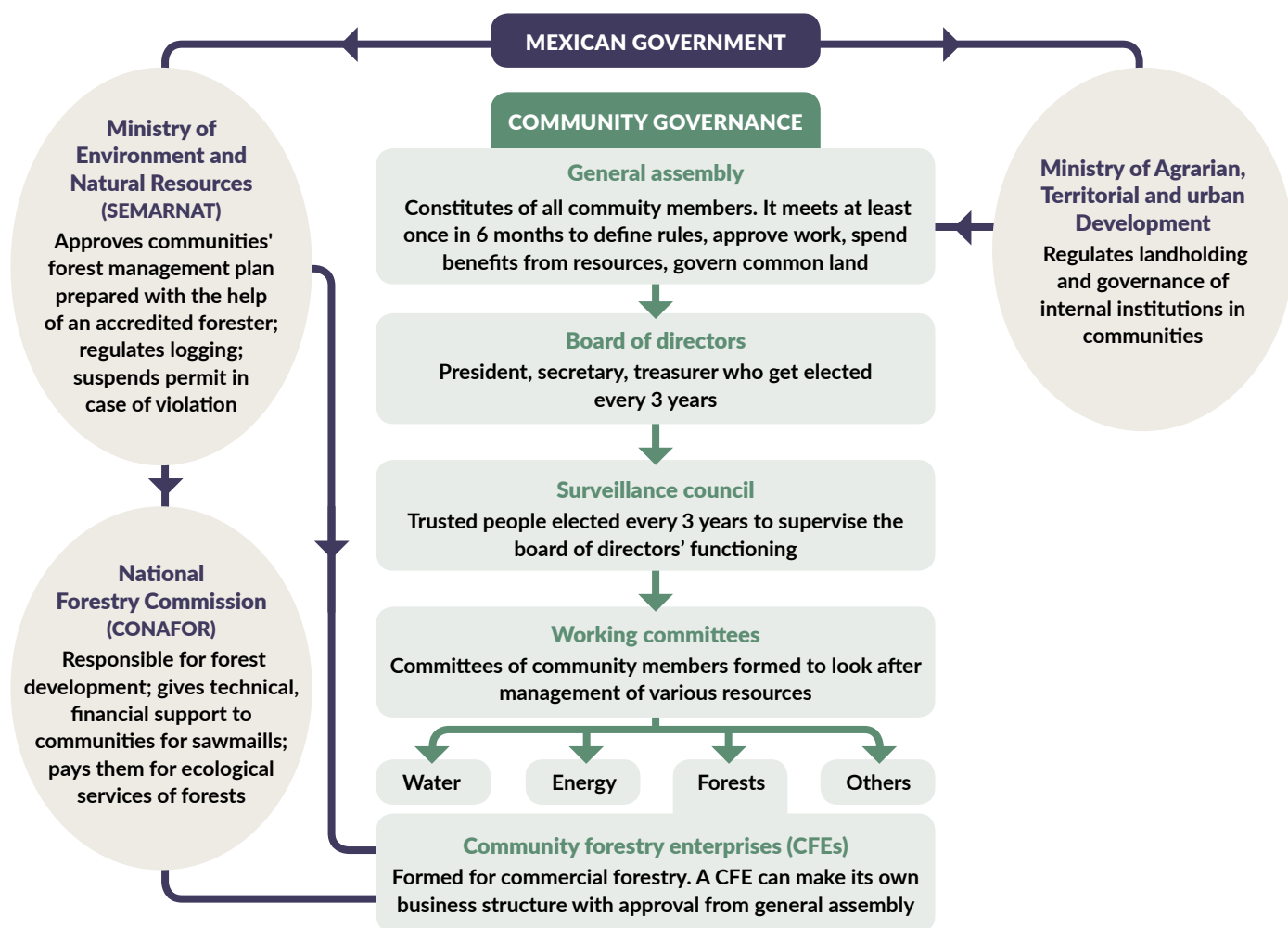


FIGURE 6 Regulation and governance of Mexican forestries

SOURCE: Down to Earth⁴⁵⁴

As of 2015, it was estimated that there were almost 1 000 CFEs across Mexico, including communities that own forested land and sell concessions to private loggers, those that harvest timber and sell it to private sawmills, and those that harvest and process timber themselves.⁴⁵⁵ CFEs vary significantly in size and levels of organization, with some operating at an industrial scale and competing on international markets. CFEs produce over 85% of Mexico’s timber volume.⁴⁵⁶ In many regions, CFEs provide a significant number of employment opportunities to local communities.

CFEs typically use only approximately 60% of their land coverage for timber production, as the objectives of CFE forest management include a range of activities unrelated to logging. These include both

economic activities (such as orchards, agriculture and livestock) and non-economic activities (such as conservation and community wellbeing). Communities often see timber production as a cyclical activity, which is used to supplement other forms of income rather than as the primary source of livelihoods.⁴⁵⁷

A 2015 survey on 30 CFEs found that a significant proportion harvested slightly more timber than they grew, posing a sustainability challenge.⁴⁵⁸ A number of programmes launched in the last few years – including the Programme for Communities and Forest Management and the Indigenous and Community Biodiversity Project – have focused on strengthening community governance to improve environmental management and the long-term sustainability of CFEs.⁴⁵⁹

Commercial forestry plantations

Commercial forestry plantations in Mexico have experienced sluggish growth, and their contribution to the timber sector is limited. The government has found that this is partly due to the ongoing under-capitalization of the sector, which relates to perceptions among investors that the industry is a high-risk investment, particularly in areas held by *ejidos*. In addition, over-regulation of the sector makes it highly bureaucratic. This complicates and delays the process for attaining permits and government subsidies.⁴⁶⁰ The establishment of commercial forestry plantations requires significant capital investment at the outset, and there can be significant delays before profits can be recouped.

Such support has typically been focused on accelerating the establishment of new commercial forestry

areas, maintaining existing areas and providing technical assistance. Government support granted to individuals or corporations (*ejidos*, communities, and companies) is aimed at facilitating the establishment of commercial forestry plantations, and can include the provision of technical assistance during and after establishment.⁴⁶¹

The Government of Mexico included the expansion of commercial forestry plantations as one of the key priorities of its National Development Plan of 2014–2018 to combat deforestation and to encourage economic growth.⁴⁶² Nevertheless, Mexico's commercial forestry production remains significantly below domestic demand.⁴⁶³



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ANNEX 5

KEY ACTORS AND THEIR VULNERABILITIES IN CHIHUAHUA

Actor 1

LOCAL COMPANIES (EXTERNAL TO THE EJIDO), WEALTHY AND INFLUENTIAL GROUPS OR FAMILIES

Profile:

These businessmen can be small-scale industrialists or members of oligarchic families. They usually have their own infrastructure (cargo trucks, warehouses and sawmills) and employ local workers, not necessarily from the *ejido*. They have the capacity to negotiate with other groups, companies, authorities, technicians and criminal networks to reach agreements on the control and trade of wood. They also exploit concessional lands.

Involvement in criminal logging activities:

- They may buy, transport and transform illegally logged or mixed timber.
- They do not require the authorities' support, but they do receive benefits from programmes that subsidize or encourage productivity in the field.
- The company may have entered into opaque agreements with the *ejido* commissioner, thus facilitating corruption within the chiefdom in the *ejidos*.
- Some families may cooperate with cartels to maintain control over illegal logging.⁴⁶⁴
- They may kidnap guides and steal permits to legalize wood and sell it.

Vulnerability:

They receive threats and are forced to pay extortion fees to armed groups and cartels.

Actor 2

EXTERNAL NETWORKS AND CONTROL AGENTS FROM ABROAD

Profile:

Non-locals living outside the state of Chihuahua. They employ trucks, drivers, administrators and recruiters. Although they are not necessarily a company, they have a high level of organization and administration. They usually have the capacity to negotiate with other groups, authorities, technicians or criminal networks to establish agreements in the control and trade of wood.

Involvement in criminal logging activities:

- They control part of the wood trade, laundered from other states or from the US (e.g. Texas).
- They threaten those who wish to expose or report them.
- They may benefit from opaque or abusive contracts established with the *ejidos* to obtain concessions.
- Organized-crime groups may guarantee their security in exchange for financial compensation.
- They can cooperate with other local organized-crime groups and form alliances.

Vulnerability:

Because they are not present at the local level, their workers are exposed to violence, threats and invasion from other groups and cartels.

Actor 3

THE EJIDO COMMISSARIAT

Profile:

The members of the commissariat represent the *ejido* population and administer the common resources, in the terms set by the assembly, with the powers of a general attorney. They inform the assembly on the budget; current and past operations and the use of common lands; and also give information to the state of the communal lands.⁴⁶⁵ They distribute authorizations for exploitation and sign agreements with buyers and workers (both formal and informal). The majority of them are mestizos and rarely involved in criminal logging activities.

Involvement in criminal logging activities:

- They can withhold information from *ejido* members and therefore be complicit in arranging and facilitating illegal logging and the trade of illegal timber.
- They may use the chiefdom structure as means of abusing power in the *ejidos*, unfairly distributing profits; discriminating against or exploiting indigenous workers with low wages and heavy tasks; allowing child and adolescent labour; and failing to ensure sufficient security measures are put in place.
- They may be complicit in alliances established with organized-crime groups involved in criminal logging and trade activities.

Vulnerability:

- They are constantly exposed to manipulation, threats, subjection and extortion by mafias, businessmen, cartels and corrupted authorities.
- Their lands can be invaded, exploited and burned.
- They may be manipulated or misinformed by the PSTF and may be accused of illegal logging in their territory.
- They may be forced to tolerate market abuses or unfair trade and may be violently forced to yield to the exploitation of their lands.

Actor 4

TECHNICAL FOREST SERVICES PROVIDER (PSTF)

Profile:

Technical professionals identified in the National Forest Registry. They are generally part of the forest management unit (known as UMAFOR) for the different forest regions or watersheds. They develop forest management and implement programmes and technical studies; conduct consultancies; evaluate environmental services; and plan zoning tasks, reforestation and plague prevention, among other tasks. They are professionals hired or employed by the *ejidos* in an assembly agreement.

Involvement in criminal logging activities:

- Some may be corrupt and therefore favour overexploitation for their own economic benefit.
- They may also strengthen the chiefdom, which leads to the abuse of mestizo *ejidatarios* (*ejido* members) and the exclusion of indigenous *ejidatarios* and young peasants who have no access to common resources.
- As they were hired for specific tasks, they do not support or accompany the reporting of cases of illegal logging or the illegal timber trade.

Vulnerability:

They are constantly exposed to manipulation, threats, subjection, extortion and constant surveillance by mafias, businessmen and cartels. They can be forced with violence to cooperate.

Actor 5

LOCAL AUTHORITIES

Profile:

Municipal authorities such as police, public security, commanders, road or checkpoint monitors or forest review booths.

Involvement in criminal logging activities:

Some cooperate with organized groups and therefore encourage or allow corrupt practices in the timber trade. This absence of local authorities strengthens criminal groups and facilitates the use or threat of violence in conflicts and invasions.

Vulnerability:

They are constantly exposed to manipulation, threats, subjection, extortion and constant surveillance by mafias, businessmen and also cartels. They may be forced by violence to cooperate with these groups. Death threats and assassinations, as well as bribing of municipal officers, have been reported in the Bocoyna region.⁴⁶⁶

Actor 6

SAWMILL OWNERS

Profile:

The sawmills are storage and processing centres for raw forest materials. Logs are transferred there to be processed and sold onto markets. Sawmills do not usually belong to the *ejido*. Few *ejidos* have their own sawmills, and no more than 20 employees work there. Sawmills have to comply with various Mexican health-and-safety standards and the General Law of Sustainable Forestry Development. The surveillance and inspection of sawmills is the responsibility of PROFEPA and the public safety authorities. Sawmills typically receive wood in rolls. Although they could be *ejidatarios*, the owners maintain the sawmill independently as these are externally paid services. They have the capacity to negotiate with various actors in the wood supply and trade chain. They must be able to provide documentation that guarantees the legal origin of the raw materials being processed at the sawmill.

Involvement in criminal logging activities:

- They may buy illegally logged wood from criminal groups (especially in informal sawmills); collaborate with them in wood-laundering activities; control prices in the wood trade; force their employees to participate in timber laundering; and pay for child labour (of minors as young as 12 or 13) for dangerous activities, such as cleaning saws and removing blades.
- Sawmill owners may bribe authorities and form part of cartels (in Bocoyna only, nine sawmills belong to organized-crime groups linked to the cartels),⁴⁶⁷ and provide precarious working conditions (especially to employees working at night).

Vulnerability:

They are threatened and monitored by organized-crime groups linked to drug-trafficking cartels.

Sawmill owners may be forcibly displaced by cartels. They may be forced to pay piso fees in cash or volumes of trees to maintain their business, and may be forced to receive, store and process illegally logged timber. Their sawmills can be burned as a threat.⁴⁶⁸ They can be kidnapped or executed if they refuse to collaborate.⁴⁶⁹

Actor 7

FREIGHT CARRIERS

Profile:

These are usually private services independent of the *ejido*, although the owner may be a member of the community. It can be an individual owner of a freight transport service, or a small freight company already linked to the transportation of wood. They usually take a considerable part of the forest revenue. The drivers charge the service for freight or delivery. While transporting wood, they must carry documentation that proves the legal provenance of the timber. They may be working in a network. The crime of transporting illegal forest products is regulated in Article 359 of the Penal Code of the State of Chihuahua. They move 50 to 100 logs per load.

Involvement in criminal logging activities:

- They can collaborate with mafias and organized-crime groups in order to load, transport and distribute illegal or laundered wood.
- They may force their drivers to transport illegally logged timber,⁴⁷⁰ and bribe the inspection and road authorities. They can also act independently.⁴⁷¹

Vulnerability:

Trucks can be burned as a threat or in order to block the sale of products. Drivers may be required to load and transport illegal timber, or face violently attacks by organized-crime groups.

Actor 8

THIRD RESIDENTS, OR AVECINDADOS

Profile:

Although they are not originally from the *ejido*, *avecindados* or 'third residents' have inhabited *ejidal* lands for at least a year, and have been granted a special statute by the *ejido* assembly.

They are prioritized (after *ejidatarios*) as workers for activities such as cutting, dragging, cleaning, thinning, monitoring, cleaning or reforestation activities. They are hired seasonally and schemes of their salaries vary. They can be on the payroll of *ejido* workers. Like *ejidatarios* and indigenous people, they may look for temporary jobs in the agro-industry or in a *maquila* (a manufacturing factory in Mexico, usually near the US-Mexico border, that operates under a favourable duty- or tariff-free basis).

Involvement in criminal logging activities:

Only indirectly if they work in a job that is related to illegal logging or illegal timber trade.

Vulnerability:

They are constantly exposed to threats by organized-crime groups and cartels. Due to their exposure to armed violence, they do not denounce illicit activities in the Sierra. Like *ejidatarios*, they can have relatives working for organized-crime groups and cartels.

Actor 9

MEMBERS OF AN EJIDO, EJIDATARIOS

Profile:

Members of an *ejido* with rights over the use and forest exploitation of their lands. They can be organized following the model of forest communities and function as forestry companies. *Ejidatarios* can be mestizos or indigenous. They do not usually have access to legal support to defend themselves or file claims. Mestizo *ejidatarios* enjoy preferential treatment in the distribution of work, employment and work in assigned lots. They have basic equipment to work their lands.

Some work on the lands they own, and others subcontract workers outside of the *ejido*. Some are also in charge of the surveillance of the *ejido*. They may work on forest harvesting for short periods or on an annual basis. Not all *ejido* members work in the forestry sector, and some may seek other sources of employment in agriculture, mining or livestock. *Ejidos* own 80% of forest-exploitation rights in Chihuahua.

Involvement in criminal logging activities:

- The *ejidatarios* can indirectly participate in deforestation if their leader – or the chairman of the commission – establishes or supports the overexploitation of forest resources. This may also occur if there is no transparency in the selection of buyers, or if technical services being provided are inadequate.
- Some *ejidatarios* invade other lands and carry out clandestine logging at night to generate additional profits. The risk of prosecution is perceived to be minimal. In these instances, their workers have no choice but to participate in illegal logging.
- They may be linked to other mafias or groups that buy and sell illegally logged timber.

Vulnerability:

Ejidatarios' relatives (sometimes their sons) may be forcibly recruited by organized-crime groups. If so, they usually remain silent and do not report this, because they would risk their relatives' lives. They may be exposed to corruption through the chieftdom of their commissariat.

Ejidatarios who denounce illegal logging may be threatened by local groups and assaulted by cartels. Many fear for their safety and do not usually denounce or report illegal logging activities.

They can also be forced to carry out illegal logging for organized-crime groups. In such instances, they can be threatened, persecuted and assaulted by groups linked to narco-ecologist cartels who ostensibly 'protect' the forests, or by the cartel that controls that territory.

They may be required to pay a *piso* fee to sell timber (whether it is legal or not). *Ejidatarios* can also be held responsible for illegal logging activities taking place on their lands.

Actor 10

INDIGENOUS PEOPLE WHO ARE NOT EJIDATARIOS

Profile:

These are people belong to one of the four indigenous communities in the Sierra:

- The Rarámuri (from the high and low Tarahumara mountain region)
- The Pima or Obá people (northern part of Madero and Temosachi)
- Pueblo Guarijío (from the low Tarahumara to Sonora)
- Puebla Tepehuan (in the southern part)

Their system of organization and forest management precedes the *ejido* system, is dispersed across many territories and has different names. The rights of these populations are recognized by the Law on the Rights of Indigenous Peoples of the State of Chihuahua. They have the right to autonomy and may establish their own dynamics of territorial organization.

Most do not have *ejidal* rights. They are seen as a workforce by the agro-industry and the forestry sector. They have very little capacity and support to defend their lands and customs and are hired for short periods for cutting, cleaning and dragging. Their salary schemes vary.

Involvement in criminal logging activities:

None.

Vulnerability:

These populations' forests are frequently overexploited due to abusive management and trade schemes, and they are usually the last to derive real benefits from their forests. They may experience dispossession of their lands and forced displacement because of illegal logging, violence and agrarian conflicts.

These communities also experience high degrees of discrimination both in terms of wages earned and the type of work that they are recruited to do. Exposure to forced participation in illicit activities and even forced recruitment is frequently encountered – particularly among young people.

The imposition of non-traditional structures and the presence of violence in the region lead to the fragmentation of communities. Communities' ancestral rights over their lands are violated.

Resistance leads to communities being threatened, and people have been killed for defending their lands and forests.

The Rarámuri have been oppressed by mestizos for centuries, which intensifies armed violence. Formal contracts are rare, so they are constantly exposed to labour exploitation. In some isolated cases, mestizo employers were fined for labour exploitation of employees.

Actor 11

LOGGERS, OR AVIJEROS, AND CARGO WORKERS

Profile:

These are independent local people or groups, and may be ejidatarios or residents. Some loggers have basic equipment (e.g. chain saws) and sometimes hire temporary workers or work as a network.

Involvement in criminal logging activities:

- They participate in illegal logging activities to generate extra cash and sometimes threaten the forest *ejidos* or burn their forests.
- They take advantage of the agrarian uncertainty of forest lands.
- They can cut 1 000 hectares in 15 days with 400 employed workers.

Vulnerability:

They do not usually have formal contracts or benefits. Thus, they are exposed to exploitation and may be forced to participate in illegal logging. They are constantly exposed to threats, forced recruitment and armed violence.

Actor 12

PRIVATE PROPERTY OR RANCH OWNERS

Profile:

People who maintain a rural private property. They represent 19% of the territory in Chihuahua.

The use or productive use of their lands is diverse and can include agriculture, livestock and tourism. They rely on temporary or permanent workers.

Involvement in criminal logging activities:

They may tolerate illegal logging on their lands.

Vulnerability:

They may be exposed to threats and be forced to tolerate illegal logging on their land. Their property can be invaded at night by loggers linked to illegal logging or organized-crime groups.

They do not denounce abuses because they fear for their safety.

NOTES

- 1 UN, United Nations Convention against Transnational Organized Crime and the Protocols Thereto, 2000, <https://www.unodc.org/unodc/en/organized-crime/intro/UNTOC.html>.
- 2 UNODC, Human Trafficking, <https://www.unodc.org/unodc/en/human-trafficking/what-is-human-trafficking.html>.
- 3 UN, United Nations Convention against Transnational Organized Crime and the Protocols Thereto, 2000, <https://www.unodc.org/unodc/en/organized-crime/intro/UNTOC.html>.
- 4 ILO, Forced Labour Convention C29, 1930, https://www.ilo.org/dyn/normlex/en/f?p=NORMLEX-PUB:12100:0::NO::P12100_ILO_CODE:C029. See also ILO, Hard to see, harder to count – Survey guidelines to estimate forced labour of adults and children, 2012, http://ilo.org/global/topics/forced-labour/publications/WCMS_182096/lang-en/index.htm.
- 5 ILO, Forced Labour Convention C29, 1930, https://www.ilo.org/dyn/normlex/en/f?p=NORMLEX-PUB:12100:0::NO::P12100_ILO_CODE:C029.
- 6 ILO, Hard to see, harder to count – Survey guidelines to estimate forced labour of adults and children, 2012, https://www.ilo.org/wcmsp5/groups/public/---ed_norm/--declaration/documents/publication/wcms_182096.pdf.
- 7 ILO, Hard to see, harder to count – Survey guidelines to estimate forced labour of adults and children, 2012, https://www.ilo.org/wcmsp5/groups/public/---ed_norm/--declaration/documents/publication/wcms_182096.pdf.
- 8 International Labour Office Department of Statistics, Guidelines concerning the measurement of forced labour, 10-19 October 2018, https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/meetingdocument/wcms_648619.pdf.
- 9 ILO, Hard to see, harder to count – Survey guidelines to estimate forced labour of adults and children, 2012, http://www.ilo.org/wcmsp5/groups/public/---ed_norm/--declaration/documents/publication/wcms182096.pdf.
- 10 International Labour Office Department of Statistics, Guidelines concerning the measurement of forced labour, 10-19 October 2018, https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/meetingdocument/wcms_648619.pdf.
- 11 These indicator lists are not intended to be exhaustive or inflexible. The Guidelines Concerning Measurement of Forced Labour notes that the individually listed indicators are provided inter alia. That is, the indicator list should not be considered exhaustive and leaves open the possibility that additional indicators might create involuntary work or menace of penalty in different contexts. The ILO has also described, in previous guidance documents on conducting forced labour research such as *Hard to See, Harder to Count (2012)*, *the importance of creating local definitions for indicators*.
- 12 Verité, Strengthening Protections Against Trafficking in Persons in Federal and Corporate Supply Chains, 2017, <https://www.verite.org/wp-content/uploads/2017/04/EO-and-Commodity-Reports-Combined-FINAL-2017.pdf>.
- 13 The Fund for Peace, Fragile States Index Annual Report 2019, 2019, <https://fundforpeace.org/wp-content/uploads/2019/04/9511904-fragilestatesindex.pdf>.
- 14 World Economic Forum, The Global Competitiveness Report 2018, 2018, <http://www3.weforum.org/docs/GCR2018/05FullReport/TheGlobalCompetitivenessReport2018.pdf>.
- 15 Chappell, Bill, Mexico Is World's Second Most Violent Country, Report Says, NPR, May 2017, <https://www.npr.org/sections/thetwo-way/2017/05/10/527794495/mexico-is-called-worlds-second-most-violent-country>.
- 16 Council on Foreign Relations, Criminal Violence in Mexico, <https://www.cfr.org/interactive/global-conflict-tracker/conflict/criminal-violence-mexico>.
- 17 World Bank, Intentional homicides (per 100 000 people), 2015, <https://data.worldbank.org/indicator/VC.IHR.PSRC.P5>.
- 18 US Department of State Overseas Security Advisory Council (OSAC), Mexico 2017 Crime & Safety Report, 2017, <https://www.osac.gov/pages/ContentReportDetails.aspx?cid=21326>.
- 19 BBC Mundo, *Los mapas que muestran los radicales cambios de influencia territorial de los carteles del narcotráfico en México*, 2017, <https://www.bbc.com/mundo/noticias-america-latina-40576103>.
- 20 US Department of State OSAC, Mexico 2017 Crime & Safety Report, 2017, <https://www.osac.gov/pages/ContentReportDetails.aspx?cid=21326>.
- 21 Council on Foreign Relations, Criminal Violence in Mexico, <https://www.cfr.org/interactive/global-conflict-tracker/conflict/criminal-violence-mexico>.
- 22 Ibid.
- 23 Bonello, Deborah, Illegal Logging in Chihuahua is Now Mexico Cartel Territory, InSight Crime, 10 January 2019, <https://www.insightcrime.org/news/analysis/illegal-logging-chihuahua-mexico-cartel/>.
- 24 Ibid.
- 25 La Razón, *Les dan trabajo... empacando droga*, 28 December 2010, <https://www.razon.com.mx/mexico/les-dan-trabajo-empacando-droga/>.

- 26 Franco-Migues, Darwin, *No Son Tres Somos Todos: jóvenes, las principales víctimas de desaparición en México*, Análisis Plural, ITESO, October 2018, <https://rei.iteso.mx/bitstream/handle/11117/5612/S2%20%23NoSonTresSomosTodos-%20j%C3%B3venes%2c%20las%20principales%20v%C3%adtimas%20de%20desaparici%C3%B3n%20en%20M%C3%A9xico.pdf?sequence=2>.
- 27 Ibid.
- 28 Ramirez, Sandy E, *Economía y criminalidad en el capitalismo contemporáneo*, Memoria, 5 June 2019, <https://revistamemoria.mx/?p=2593>.
- 29 Verité, Strengthening Protections Against Trafficking in Persons in Federal and Corporate Supply Chains, 2017, <https://www.verite.org/wp-content/uploads/2017/04/EO-and-Commodity-Reports-Combined-FINAL-2017.pdf>.
- 30 NEPCon, Timber Legality Risk Assessment: Mexico, 2017, <https://www.nepcon.org/sites/default/files/library/2017-11/NEPCon-TIMBER-Mexico-Risk-Assessment-EN-V1.2.pdf>.
- 31 La Crónica de Chihuahua, *Se apodera el narco del negocio de la tala ilegal del bosque en Chihuahua*, December 2017, <http://www.cronicadechihuahua.com/Se-apodera-el-narco-del-negocio-de-51633.html>.
- 32 Acción Urgente para Defensores de Derechos Humanos, A.C. (ACUDEEH), *Talamontes y narcos desplazan a familias en Coyuca de Catalán*, 15 May 2011, <http://acuddeh.org/spip.php?article1993>.
- 33 Justice in Mexico, Organized Crime and Violence in Mexico: Analysis Through 2018, April 2019, <https://justiceinmexico.org/wp-content/uploads/2019/04/Organized-Crime-and-Violence-in-Mexico-2019.pdf>.
- 34 Bonello, Deborah, Illegal Logging in Chihuahua is Now Mexico Cartel Territory, InSight Crime, 10 January 2019, <https://www.insightcrime.org/news/analysis/illegal-logging-chihuahua-mexico-cartel/>.
- 35 Ibid.
- 36 Garfío, Antonio, *Ya operan en Chihuahua cinco cárteles de droga*, *El Heraldo de Chihuahua*, 24 March 2019, <https://www.elheraldodechihuahua.com.mx/local/ya-operan-en-chihuahua-cinco-carteles-de-droga-3226330.html>. Also see *La Silla Rota*, *CJNG, El Cártel mas Poderoso de México: opera en 22 entidades*, 13 June 2019, <https://lasillarota.com/estados/cjng-el-cartel-mas-poderoso-en-mexico-opera-en-22-entidades-cjng-estados-drogas/290604> and *Reporte Indigo*, *CJNG Superará al Cártel de Sinaloa como el más Poderoso del Mundo*, 3 December 2019, <https://www.reporteindigo.com/reportes/cjng-superara-al-cartel-de-sinaloa-como-el-mas-poderoso-del-mundo/>.
- 37 *Narco-ecologistas or eco-narcotraficantes protect the forest against deliberate logging because it would damage their drug production (of opium poppy and cannabis). Narcodepredadores take and exploit everything they can from the forest, including logging. These groups recruit young people to work in all of their illegal activities.*
- 38 Holguín, Ricardo, *Madera y tala clandestina en Chihuahua, en manos del crimen organizado*, *El Heraldo de Chihuahua*, 1 September 2018, <https://www.elsoldeparral.com.mx/republica/justicia/madera-y-tala-clandestina-en-chihuahua-en-manos-del-crimen-organizado-1960437.html>.
- 39 Bonello, Deborah, Illegal Logging in Chihuahua is Now Mexico Cartel Territory, InSight Crime, 10 January 2019, <https://www.insightcrime.org/news/analysis/illegal-logging-chihuahua-mexico-cartel/>.
- 40 Topete, Ernesto, *Cárteles disputan control de la tala ilegal en la sierra de Chihuahua*, *El Heraldo de Chihuahua*, 29 August 2018, <https://www.elsoldemexico.com.mx/republica/sociedad/carteles-disputan-control-de-la-tala-ilegal-en-la-sierra-de-chihuahua-1951631.html>.
- 41 Bonello, Deborah, Illegal Logging in Chihuahua is Now Mexico Cartel Territory, InSight Crime, 10 January 2019, <https://www.insightcrime.org/news/analysis/illegal-logging-chihuahua-mexico-cartel/>.
- 42 Ibid.
- 43 Ibid.
- 44 Topete, Ernesto, *Cárteles disputan control de la tala ilegal en la sierra de Chihuahua*, *El Heraldo de Chihuahua*, 29 August 2018, <https://www.elsoldemexico.com.mx/republica/sociedad/carteles-disputan-control-de-la-tala-ilegal-en-la-sierra-de-chihuahua-1951631.html>. See also *El Diario de Chihuahua*, *Incendio arrasa con aserradero*, 16 June 2019, <https://www.eldiariodechihuahua.mx/estado/incendio-arrasa-con-aserradero-20190616-1528218.html> and *Omnia*, *Tras enfrentamiento incendian aserradero en San Juanito*, 16 June 2019, <http://www.omnia.com.mx/noticia/111239>.
- 45 Bonello, Deborah, Illegal Logging in Chihuahua is Now Mexico Cartel Territory, InSight Crime, 10 January 2019, <https://www.insightcrime.org/news/analysis/illegal-logging-chihuahua-mexico-cartel/>.
- 46 Ibid.
- 47 SEMARNAT, SEMARNAT/UCPAST/UT/862/19, Documents sent as a response to an official request of information regarding number of sawmills and wood storage centres by state in Mexico, Transparency Unit, April 2019.
- 48 Bonello, Deborah, Illegal Logging in Chihuahua is Now Mexico Cartel Territory, InSight Crime, 10 January 2019, <https://www.insightcrime.org/news/analysis/illegal-logging-chihuahua-mexico-cartel/>.
- 49 Global Witness, Mexico Must Act Now to Protect Environmental Defenders, 6 December 2017, <https://www.globalwitness.org/it/blog/mexico-must-act-now-protect-environmental-defenders/>.
- 50 Global Witness, Defenders Annual Report 2017, 2017, <https://www.globalwitness.org/ru/campaigns/environmental-activists/defenders-annual-report/>.
- 51 CEMDA, *En 2018 fueron asesinadas 21 personas en México por defender la tierra, el medio ambiente y el territorio*, 25 March 2019, <https://www.cemda.org.mx/en-2018-fueron-asesinadas-21-personas-en-mexico-por-defender-la-tierra-el-medio-ambiente-y-el-territorio/>.
- 52 Global Witness, *Enemies of the state? - How governments and businesses silence land and environmental defenders*, 2019, <https://www.globalwitness.org/en/campaigns/environmental-activists/enemies-state/>.
- 53 Pradilla, Alberto, *México, el sexto país más peligroso para defensores del medio ambiente; hubo 14 asesinatos en 2018*, *Animal Politico*, 29 July 2019, <https://www.animalpolitico.com/2019/07/defensores-medio-ambiente-asesinatos-mexico/>.
- 54 Amnesty International, Mexico: State protection measures were not enough to prevent the killing of environmental defender Julián Carrillo, 24 January 2019, <https://www.amnesty.org/en/latest/news/2019/01/mexico-state-protection-measures-were-not-enough-to-prevent-the-killing-of-environmental-defender-julian-carrillo/>.
- 55 Ibid.

- 56 Lopez, Alberto, *El valiente compromiso de Isidro Baldenegro con el medio ambiente*, *El Pais*, 18 March 2018, https://elpais.com/internacional/2018/03/18/mexico/1521378150_901724.html.
- 57 OHCHR, Human Rights Council, Report of the Special Rapporteur on the situation of human rights defenders on his mission to Mexico, 2018, https://www.hchr.org.mx/images/doc_pub/A_HRC_37_51_Add_2_EN.pdf.
- 58 US Department of State Bureau of Democracy, Human Rights, and Labor, 2013 Country Reports on Human Rights Practices, 2013, <http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm>.
- 59 Front Line Defenders, Front Line Defenders Global Analysis, 2018, https://www.frontlinedefenders.org/sites/default/files/global_analysis_2018.pdf.
- 60 Washington Office on Latin America, Turning the Tide on Impunity: Protection and Access to Justice for Journalists and Human Rights Defenders in Mexico, 2019, <https://www.wola.org/wp-content/uploads/2019/03/ENGLISH-WOLA-PBI-2019.pdf>.
- 61 Bonello, Deborah, Illegal Logging in Chihuahua is Now Mexico Cartel Territory, InSight Crime, 10 January 2019, <https://www.insightcrime.org/news/analysis/illegal-logging-chihuahua-mexico-cartel/>.
- 62 CEMDA, *En 2018 fueron asesinadas 21 personas en México por defender la tierra, el medio ambiente y el territorio*, 25 March 2019, <https://www.cemda.org.mx/en-2018-fueron-asesinadas-21-personas-en-mexico-por-defender-la-tierra-el-medio-ambiente-y-el-territorio/>. See also Global Witness, Defenders Annual Report 2017, 2017, <https://www.globalwitness.org/ru/campaigns/environmental-activists/defenders-annual-report/>.
- 63 Bonello, Deborah, Illegal Logging in Chihuahua is Now Mexico Cartel Territory, InSight Crime, 10 January 2019, <https://www.insightcrime.org/news/analysis/illegal-logging-chihuahua-mexico-cartel/>.
- 64 Global Witness, Defenders Annual Report 2017, 2017, <https://www.globalwitness.org/ru/campaigns/environmental-activists/defenders-annual-report/>.
- 65 Human Rights Watch, Mexico: Events of 2017, 2018, <https://www.hrw.org/world-report/2018/country-chapters/mexico>.
- 66 Ibid.
- 67 CEMDA, *En 2018 fueron asesinadas 21 personas en México por defender la tierra, el medio ambiente y el territorio*, 25 March 2019, <https://www.cemda.org.mx/en-2018-fueron-asesinadas-21-personas-en-mexico-por-defender-la-tierra-el-medio-ambiente-y-el-territorio/>.
- 68 Amnesty International, State of the World's Human Rights Report 2014/15, 2015, <https://www.amnesty.org/en/documents/pol10/0001/2015/en/>.
- 69 Gallegos, Zorayda, *El Despojo de los Tarahumaras: Los Rarámuris que Colectan en las Tierras de otros*, *El Pais*, 2018, <https://elpais.com/especiales/2018/campo-mexicano/chihuahua/despojo-tarahumaras.html>.
- 70 Ibid.
- 71 Ibid.
- 72 Ibid.
- 73 Siller, Diana, *Esperamos montarnos al tren de carga para irnos a la pizza del tomate, Justicia Ambiental Derechos humanos (JADE)*, <http://jadeorg.com/esperamos-montarnos-al-tren-de-carga-para-irnos-a-la-pizza-del-tomate/>
- 74 Gallegos, Zorayda, *El Despojo de los Tarahumaras: Los Rarámuris que Colectan en las Tierras de otros*, *El Pais*, 2018, <https://elpais.com/especiales/2018/campo-mexicano/chihuahua/despojo-tarahumaras.html>.
- 75 Ibid.
- 76 Ibid.
- 77 Ibid.
- 78 *Gobierno del Estado de Chihuahua, Secretaría del Trabajo y Prevención Social, Hacén visibles a jornaleros agrícolas*, <https://www.stpschihuahua.com/projam>.
- 79 Manjarrez-Domínguez C.B., Tarango J. and Hernández-Rodríguez O.A., *Jornaleros agrícolas migrantes en el Estado de Chihuahua, México: análisis de su entorno y trayectoria generacional, Sociedad, Estado y Territorio*, vol. 4, no. 2, 79-108, 2015.
- 80 Escobar Latapí, Agustín, Philip Martin and Omar Stabridis, Farm Labor and Mexico's Export Produce Industry, 31 October 2019, <https://www.wilsoncenter.org/publication/farm-labor-and-mexicos-export-produce-industry>.
- 81 desInformémonos, *Localizan a jornaleros desaparecidos en Chihuahua*, 31 May 2017, <https://desinformemonos.org/localizan-jornaleros-desaparecidos-chihuahua/>.
- 82 Comisión Nacional de Derechos Humanos (CNDH), *Recomendación General No. 37 sobre el respeto y observancia de los derechos humanos en las actividades de las empresas*, 2019, https://www.cndh.org.mx/sites/default/files/documentos/2019-07/RecGral_037_anexo.pdf.
- 83 Gonzalez, Erika, *Sancionan 132 casos de explotación infantil*, *El Heraldo de Chihuahua*, 10 October 2018, www.elheraldodechihuahua.com.mx/local/delicias/sancionan-132-casos-de-explotacion-infantil-2088544.html.
- 84 Gobierno del Estado de Chihuahua, Secretaría del Trabajo y Prevención Social, *Hacén visibles a jornaleros agrícolas*, <https://www.stpschihuahua.com/projam>.
- 85 Gobierno de los Estados Unidos Mexicanos, *Cambio, Los organismos ahora forman parte de la Comisión Interinstitucional para la Prevención y Erradicación del Trabajo Infantil en Chihuahua*, <http://www.cambio.gob.mx/cambio16/spip.php?articulo2491>.
- 86 Vega, Andrea, *Autoridades federales desaparecen el único programa de apoyo a jornaleros agrícolas*, *Animal Político*, 29 March 2019, <https://www.animalpolitico.com/2019/03/gobierno-programa-jornaleros-agricolas/>.
- 87 La Crónica de Chihuahua, *Se apodera el narco del negocio de la tala ilegal del bosque en Chihuahua*, December 2017, <http://www.cronicadechihuahua.com/Se-apodera-el-narco-del-negocio-de-51633.html>.
- 88 Animal Político, *Rescatan a 200 tarahumaras; eran víctimas de explotación laboral e infantil*, 16 March 2015, <https://www.animalpolitico.com/2015/03/rescatan-a-200-tarahumaras-eran-victimas-de-explotacion-laboral-e-infantil/>.
- 89 Hispanics In Philanthropy (HIP), *Una Mirada desde las Organizaciones de la Sociedad Civil a la Trata de Personas en México*, http://www.senado.gob.mx/comisiones/trata_personas/docs/trata.pdf.
- 90 Varela, David, *Disputan Dos Prios Guachochi y Batopilas*, *El Heraldo de Chihuahua*, 15 February 2018, <https://www.elheraldodechihuahua.com.mx/local/disputan-dos-prios-guachochi-y-batopilas-950544.html>.
- 91 Escogico, Manuel, *Obligaban narcos a jornaleros a cosechar amapola*, *El Diario de Chihuahua*, 12 July 2019, <https://diario.mx/estado/obligaban-narcos-a-jornaleros-a-cosechar-amapola-20190712-1538778.html>.

- 92 Gobierno de los Estados Unidos Mexicanos, SEDESOL, *Informe Anual Sobre la Situación de la Pobreza y Rezago Social de Guachochi*, 2017, http://diariooficial.gob.mx/SEDESOL/2017/Chihuahua_027.pdf.
- 93 Gobierno de los Estados Unidos Mexicanos, SEDESOL & CONEVAL, *Informe Anual Sobre la Situación de la Pobreza y Rezago Social de Guachochi*, 2010, https://www.gob.mx/cms/uploads/attachment/file/34238/Chihuahua_027.pdf.
- 94 Varela, David, *Disputan Dos Prios Guachochi y Batopilas*, *El Heraldo de Chihuahua*, 15 February 2018, <https://www.elheraldodechihuahua.com.mx/local/disputan-dos-primos-guachochi-y-batopilas-950544.html>.
- 95 Revista Siempre, *Sanar a la Madre Tierra del Mal Hecho de la Humanidad*, January 2019, <http://www.siempre.mx/2019/01/sanar-a-la-madre-tierra-del-mal-hecho-por-la-humanidad/>.
- 96 Varela, David, *Disputan Dos Prios Guachochi y Batopilas*, *El Heraldo de Chihuahua*, 15 February 2018, <https://www.elheraldodechihuahua.com.mx/local/disputan-dos-primos-guachochi-y-batopilas-950544.html>.
- 97 Ibid.
- 98 USAID, USAID Land Tenure Profile: Mexico, 2011, <https://landportal.org/library/resources/usaids-land-tenure-country-profile-mexico>.
- 99 Food and Agriculture Organisation, *Global Forest Resources Assessment 2015: How are the world's forests changing?*, www.fao.org/3/a-i4793e.pdf.
- 100 Gobierno de los Estados Unidos Mexicanos, SEMARNAT, *Ecosistemas terrestres*, https://apps1.semarnat.gob.mx:8443/dgeia/informe_resumen14/02_ecosistemas/2_3.html.
- 101 Programa Regional de Investigación sobre Desarrollo y Medio Ambiente, *Conservation and Community Rights: Lessons from Mesoamerica*, 2016, http://rightsandresources.org/wp-content/uploads/2017/02/Prisma_Conservation-and-Community-Rights_Lessons-from-Mesoamerica_December-2016.pdf.
- 102 USAID, USAID Land Tenure Profile: Mexico, 2011, <https://landportal.org/library/resources/usaids-land-tenure-country-profile-mexico>.
- 103 Ibid.
- 104 International Tropical Timber Association, *Status of tropical forest management 2005, 2006*, http://www.ccmss.org.mx/wp-content/uploads/2014/10/Status_of_tropical_forest_management_2005.pdf.
- 105 Ochoa, Guillermo, *Siete de cada diez árboles son vendidos de forma ilegal en México*, *Tribuna*, 18 September 2019, <https://www.tribuna.com.mx/campo/Siete-de-cada-diez-arboles-son-vendidos-de-forma-ilegal-en-Mexico-20190918-0139.html>.
- 106 Gobierno de los Estados Unidos de Mexico, Programa Especial del PND, *Programa Nacional Forestal 2014-2018*, <http://www.conafor.gob.mx:8080/documentos/docs/4/5382Programa%20Nacionam%20Forestal%202014-2018.pdf>.
- 107 Forthcoming National Forestry Program, 2019-2024, not officially published yet as of February 2020.
- 108 Gobierno de los Estados Unidos de Mexico, Programa Especial del PND, *Programa Nacional Forestal 2014-2018*, <http://www.conafor.gob.mx:8080/documentos/docs/4/5382Programa%20Nacionam%20Forestal%202014-2018.pdf>.
- 109 Excelsior, *Regístran 6,506 incendios forestales, afectan 484,355 hectáreas*, 18 June 2019, <https://www.excelsior.com.mx/nacional/registran-6506-incendios-forestales-afectan-484355-hectareas/1319230>.
- 110 Gobierno de los Estados Unidos de Mexico, Programa Especial del PND, *Programa Nacional Forestal 2014-2018*, https://www.gob.mx/cms/uploads/attachment/file/254431/Programa_Nacional_Forestal_2014-2018.pdf.
- 111 Ibid.
- 112 USAID, USAID Land Tenure Profile: Mexico, 2011, <https://landportal.org/library/resources/usaids-land-tenure-country-profile-mexico>.
- 113 NEPCON, *Timber Legality Risk Assessment: Mexico*, 2017, <https://www.nepcon.org/sites/default/files/library/2017-11/NEPCON-TIMBER-Mexico-Risk-Assessment-EN-V1.2.pdf>.
- 114 Ibid.
- 115 Monroy, Jorge, *Tala ilegal, el otro delito silencioso*, *El Economista*, 5 February 2019, https://www.iis.unam.mx/blog/wp-content/uploads/2019/02/03_merino.pdf.
- 116 USAID, USAID Land Tenure Profile: Mexico, 2011, <https://landportal.org/library/resources/usaids-land-tenure-country-profile-mexico>.
- 117 Ibid.
- 118 Ibid.
- 119 Barsimantova, J., and Navia Antezana, J., *Forest cover change and land tenure change in Mexico's avocado region: Is community forestry related to reduced deforestation for high value crops?*, *Applied Geography*, 2011, <https://www.sciencedirect.com/science/article/abs/pii/S0143622811001706>.
- 120 Gallegos, Zorayda, *El Despojo de los Tarahumaras: Los Rarámuris que Colectan en las Tierras de otros*, *El País*, 2018, <https://elpais.com/especiales/2018/campo-mexicano/chihuahua/despojo-tarahumaras.html>.
- 121 Bonello, Deborah, *Illegal Logging in Chihuahua is Now Mexico Cartel Territory*, *InSight Crime*, 10 January 2019, <https://www.insightcrime.org/news/analysis/illegal-logging-chihuahua-mexico-cartel/>.
- 122 Ibid.
- 123 May, Channing, *Transnational Crime and the Developing World*, *Global Financial Integrity*, March 2017, <https://www.scribd.com/document/342932042/Global-Financial-Integrity-Transnational-Crime-and-the-Developing-World>.
- 124 Bonello, Deborah, *Illegal Logging in Chihuahua is Now Mexico Cartel Territory*, *InSight Crime*, 10 January 2019, <https://www.insightcrime.org/news/analysis/illegal-logging-chihuahua-mexico-cartel/>.
- 125 Ochoa, Guillermo, *Siete de cada diez árboles son vendidos de forma ilegal en México*, *Tribuna*, 18 September 2019, <https://www.tribuna.com.mx/campo/Siete-de-cada-diez-arboles-son-vendidos-de-forma-ilegal-en-Mexico-20190918-0139.html>. See also Gaworecki, Mike, *Critics say proposed changes to Mexico's Forestry Law threaten sustainable forest management by local communities*, *Mongabay*, 9 April 2018, <https://news.mongabay.com/2018/04/critics-say-proposed-changes-to-mexicos-forestry-law-threaten-sustainable-forest-management-by-local-communities/>.
- 126 Gobierno de los Estados Unidos de Mexico, Programa Especial del PND, *Programa Nacional Forestal 2014-2018*, <http://www.conafor.gob.mx:8080/documentos/docs/4/5382Programa%20Nacionam%20Forestal%202014-2018.pdf>.
- 127 NEPCON, *Mexico Timber Risk Profile*, 2017, <https://www.nepcon.org/sourcinghub/timber/timber-mexico>.

- 128 Ochoa, Guillermo, *Siete de cada diez árboles son vendidos de forma ilegal en México*, *Tribuna*, 18 September 2019, <https://www.tribuna.com.mx/campo/Siete-de-cada-diez-arboles-son-vendidos-de-forma-ilegal-en-Mexico-20190918-0139.html>.
- 129 Nellemann, C. et al., World Atlas of Illicit Flows, RHIPTO-INTERPOL-GI, 2018, <http://globalinitiative.net/wp-content/uploads/2018/09/Atlas-Illicit-Flows-FINAL-WEB-VERSION-copia-compressed.pdf>.
- 130 NEPCon, Timber Legality Risk Assessment: Mexico, 2017, <https://www.nepcon.org/sites/default/files/library/2017-11/NEPCon-TIMBER-Mexico-Risk-Assessment-EN-V1.2.pdf>.
- 131 Ochoa, Guillermo, *Siete de cada diez árboles son vendidos de forma ilegal en México*, *Tribuna*, 18 September 2019, <https://www.tribuna.com.mx/campo/Siete-de-cada-diez-arboles-son-vendidos-de-forma-ilegal-en-Mexico-20190918-0139.html>. See also Gaworecki, Mike, Critics say proposed changes to Mexico's Forestry Law threaten sustainable forest management by local communities, *Mongabay*, 9 April 2018, <https://news.mongabay.com/2018/04/critics-say-proposed-changes-to-mexicos-forestry-law-threaten-sustainable-forest-management-by-local-communities/>.
- 132 NEPCon, Timber Legality Risk Assessment: Mexico, 2017, <https://www.nepcon.org/sites/default/files/library/2017-11/NEPCon-TIMBER-Mexico-Risk-Assessment-EN-V1.2.pdf>.
- 133 Ibid.
- 134 United Nations Environmental Program, The Environmental Crime Crisis: Threats to sustainable development from illegal exploitation and trade in wildlife and forest resources, 2014, <http://wedocs.unep.org/handle/20.500.11822/9120>.
- 135 Gobierno de los Estados Unidos de Mexico, Programa Especial del PND, *Programa Nacional Forestal 2014-2018*, <http://www.conafor.gob.mx:8080/documentos/docs/4/5382Programa%20Nacionam%20Forestal%202014-2018.pdf>.
- 136 NEPCon, Timber Legality Risk Assessment: Mexico, 2017, <https://www.nepcon.org/sites/default/files/library/2017-11/NEPCon-TIMBER-Mexico-Risk-Assessment-EN-V1.2.pdf>.
- 137 Bonello, Deborah, Illegal Logging in Chihuahua is Now Mexico Cartel Territory, *InSight Crime*, 10 January 2019, <https://www.insightcrime.org/news/analysis/illegal-logging-chihuahua-mexico-cartel/>.
- 138 Ibid.
- 139 SEMARNAT/UCPAST/UT/862/19, Documents sent as a response to an official request of information regarding number of sawmills and wood storage centres by state in Mexico, Transparency Unit, SEMARNAT, April 2019.
- 140 Gaworecki, Mike, Critics say proposed changes to Mexico's Forestry Law threaten sustainable forest management by local communities, *Mongabay*, 9 April 2018, <https://news.mongabay.com/2018/04/critics-say-proposed-changes-to-mexicos-forestry-law-threaten-sustainable-forest-management-by-local-communities/>.
- 141 Gobierno de los Estados Unidos de Mexico, SEMARNAT, *Trámites relacionados al tema de forestal y suelos*. <https://www.gob.mx/semarnat/acciones-y-programas/tramites-relacionados-al-tema-de-forestal-y-suelos>.
- 142 Bonello, Deborah, Illegal Logging in Chihuahua is Now Mexico Cartel Territory, *InSight Crime*, 10 January 2019, <https://www.insightcrime.org/news/analysis/illegal-logging-chihuahua-mexico-cartel/>.
- 143 PROFEPA, Transparency Unit, PFP/1.7/12C.6/00562/19, Response to request #161300029319, April 2019.
- 144 Gobierno del Estado Libre y Soberano de Chihuahua, *Acuerdo N° 010/2019: Plan Municipal De Desarrollo 2018-2021 Municipio De Bocoyna*, 9 January 2019, http://www.chihuahua.gob.mx/attach2/anexo/anexo_03-2019_acuerdo_010_pmd_bocoyna.pdf.
- 145 Secretaria de Desarrollo Rural, *Programa Sectorial 2010-2016, Chihuahua, Mexico*, 2012, <http://www.chihuahua.gob.mx/attach2/sf/uploads/indtfisc/progSER2010-2016/ANEXODESARROLLORURAL.pdf>.
- 146 Pinedo, A. A., et al., *Diagnóstico ambiental y análisis espacial de la Sierra Tarahumara*, Proyecto Tarahumara Sustentable, Universidad Autónoma de Chihuahua, Chihuahua, México, 2018. <http://www.tarahumasustentable.mx/assets/c1-diagnostico-ambiental-y-espacial-st-002.pdf>
- 147 Secretaria de Desarrollo Rural, *Programa Sectorial 2010-2016, Chihuahua, Mexico*, 2012, <http://ihacienda.chihuahua.gob.mx/tfiscal/indtfisc/progSER2010-2016/ANEXODESARROLLORURAL.pdf>.
- 148 Anta, S., Arreola, A., Martín, A., *Diagnóstico de las políticas y programas. Consultoría realizada para el Proyecto Tarahumara Sustentable. Campo de Acción Manejo Forestal*, IDESMAC-DCAAACALLINFO, Chihuahua, México, 2018
- 149 Ibid.
- 150 Grupo Integral de Servicios Ecosistémicos Eyé Kawí A.C., *Diagnóstico sobre Determinantes de Deforestación y Degradación Forestal en zonas Prioritarias en el estado de Chihuahua*, Alianza México para la Reducción de Emisiones por Deforestación y Degradación, México, 2014, http://www.biopasos.com/biblioteca/M-REDD+DiagnosticoDeterminantesDeforestacionChihuahua_2014.pdf.
- 151 Gobierno de Estados Unidos Mexicanos, PROFEPA, *Respuesta ante la Solicitud de Información sobre Ubicación de aserraderos donde se realizaron clausuras del 2012 - 2018: Oficio No.PFPA/1.7/12C.6/00562/19*, México, April 2019.
- 152 Azarcoya, G., Beatriz, [Initial?], *La Sierra Tarahumara, el bosque y los pueblos originarios: estudio de caso de Chihuahua*, 2012, <http://www.fao.org/forestry/17194-0381f923a6bc236aa91ecf614d92e12e0.pdf>.
- 153 Gibling, John, Murder of Mexican Environmental Activist Isidro Baldenegro Occurred Amid an Atmosphere of Impunity: Violence against the Rarámuri indigenous people is widespread and goes largely unnoticed, *Sierra*, 20 January 2017, <https://www.sierraclub.org/sierra/green-life/murder-mexican-environmental-activist-isidro-baldenegro-occurred-amid-atmosphere>.
- 154 El Manana, Son víctimas de trata más de 200 personas al día, 31 July 2014, <http://www.elmanana.com.mx/noticia/40087/%E2%80%98Son-victimas-de-trata-mas-de-200-personas-al-dia%E2%80%99.html>.
- 155 UNODC, *Diagnóstico Nacional sobre la situación de trata de personas en México*, 2014, http://www.gob.mx/cms/uploads/attachment/file/37682/Diagnostico_UNODC.pdf.
- 156 Martínez, León A., *Para entender el trabajo forzoso o esclavitud moderna*, *El Economista*, 22 November 2016, <https://www.economista.com.mx/arteseideas/Para-entender-el-trabajo-forzoso-o-esclavitud-moderna-20161122-0134.html>.
- 157 Comisión Nacional de los Derechos Humanos (CNDH), *Diagnóstico sobre la Situación de la Trata de Personas en México 2019*, 2019, https://www.cndh.org.mx/sites/default/files/documentos/2019-07/DIAGNOSTICO-TDP-2019-RE_0.pdf.
- 158 Ibid.
- 159 Ibid.

- 160 Observatorio Nacional Ciudadano (ONC), *Estadística sobre la eficiencia en el combate a la trata de personas en México*, 2014, <http://onc.org.mx/wp-content/uploads/2014/01/Documento-Trata-ONC-.pdf>.
- 161 Polaris, Landscape Analysis of Human Trafficking for Labor Exploitation in Mexico, 9 May 2018, <https://polarisproject.org/wp-content/uploads/2019/09/Landscape-Analysis-Human-Trafficking-for-the-Purpose-of-Labor-Exploitation-in-Mexico.pdf>.
- 162 Marosi, Richard, Hardship on Mexico's farms, a bounty for US tables, *Los Angeles Times*, 9 December 2014, <http://www.latimes.com/la-app-mexico-part-1-story.html#page=1>.
- 163 Ibid.
- 164 US Department of State, Trafficking in Persons Report, June 2019, <https://www.state.gov/wp-content/uploads/2019/06/2019-Trafficking-in-Persons-Report.pdf>.
- 165 Ibid.
- 166 US Department of Labor, 2018 List of Goods Produced with Child Labor and Forced Labor, September 2018, <https://www.dol.gov/sites/dolgov/files/ILAB/ListofGoods.pdf>.
- 167 Gobierno de los Estados Unidos Mexicanos INEGI, *Módulo de Trabajo Infantil 2017*, 2017, https://www.inegi.org.mx/contenidos/programas/mti/2017/doc/mti2017_resultados.pdf.
- 168 Gobierno de los Estados Unidos Mexicanos, Secretaría del Trabajo y Previsión Social, *Resultados del Módulo de Trabajo Infantil 2015*, 2015, http://www.stps.gob.mx/bp/gob_mx/Boletin%20STPS%20MTI%202015.pdf.
- 169 Sánchez, Julián, Llamam OIT y STPS a redoblar esfuerzos contra trabajo infantil, *El Universal*, 11 June 2012, <http://www.eluniversal.com.mx/notas/852779.html>.
- 170 US Department of Labor, 2018 List of Goods Produced with Child Labor and Forced Labor, September 2018, <https://www.dol.gov/sites/dolgov/files/ILAB/ListofGoods.pdf>.
- 171 UNICEF Mexico, Trabajo infantil: Jornaleros agrícolas, https://www.unicef.org/mexico/spanish/17044_17516.htm.
- 172 Hawley, Chris, Mexican Farms Employ Kids Illegally, UN Says, *USA Today*, 8 May 2008, http://usatoday30.usatoday.com/news/world/2008-05-08-mexicolabor_N.htm.
- 173 Rangel, Teresa Rojas, *El Enseñante en un Contexto Educativo Multicultural: Retos del Trabajo Escolar con la Población Infantil Jornalera Migrante*, *Revista Para Maestros de Educación Básica, Entre Maestros*, Universidad Pedagógica Nacional, vol. 4, no. 10, 2004. See also Rangel, Teresa Rojas, *Las Niñas y los Niños Jornaleros Migrantes en México: Condiciones de Vida y Trabajo*, National Pedagogical University of Mexico, 2005, <http://sociedadlatinoamericana.blgoo.com/las-ninas-y-los-ninos-jornaleros-migrantes-en-mexico-condiciones-de-vida-y-trabajo#VHNTJYVF8TO>.
- 174 *El Economista*, *En México trabajan 4 millones de niños*, 29 April 2016, <http://eleconomista.com.mx/sociedad/2015/03/11/mexico-trabajan-4-millones-ninos>.
- 175 Comisión Nacional de los Derechos Humanos (CNDH), Niñas, Niños y Adolescentes, Víctimas del Crimen Organizado en México, 2019, <https://www.cndh.org.mx/sites/default/files/documentos/2019-11/Estudio-ninas-ninos-adolescentes-victimas-crimen.pdf>.
- 176 Red por los Derechos Infancia en México, *Infancia y conflicto armado en México*, 2011, <http://www.derechosinfancia.org.mx/iaespanol.pdf>.
- 177 Ahmed, Azam, Young Hands in Mexico Feed Growing US Demand for Heroin, *The New York Times*, 29 August 2015, <https://www.nytimes.com/2015/08/30/world/americas/mexican-opium-production-rises-to-meet-heroin-demand-in-us.html>.
- 178 Gobierno de los Estados Unidos Mexicanos, Secretaría del Trabajo y Previsión Social, *Decreto por el que se reforman y derogan diversas disposiciones de la Ley Federal del Trabajo, en materia de trabajo de menores*, 12 June 2015, http://www.diputados.gob.mx/LeyesBiblio/ref/lft/LFT_ref27_12jun15.pdf.
- 179 Sin Embargo, *Bandas chinas explotan niños por el ámbar de Simojovel, pueblo olvidado de Chiapas*, 18 May 2015, <https://www.sinembargo.mx/18-05-2015/1345183>.
- 180 Gobierno de los Estados Unidos Mexicanos, Secretaría del Trabajo y Previsión Social, Protocolo de Inspección de Trabajo en Materia de Erradicación de Trabajo Infantil y Protección al Trabajo Adolescente Permitido, 2017, https://www.gob.mx/cms/uploads/attachment/file/318327/Protocolo_de_Inspeccion_n_para_Trabajo_Infantil.pdf.
- 181 Consejo Nacional para Prevenir la Discriminación (CONAPRED), *Antecedentes en Materia de Discriminación en México*, 2019, https://www.conapred.org.mx/index.php?contenido=pagina&id=504&id_opcion=650&op=650.
- 182 CONAPRED, *Encuesta Nacional sobre Discriminación 2017*, 2017, https://www.conapred.org.mx/userfiles/files/PticionENADIS2017_08.pdf.
- 183 Gobierno de los Estados Unidos Mexicanos, Instituto Nacional de Estadística y Geografía, *Encuesta Intercensal 2015*, 2015, https://www.inegi.org.mx/contenidos/programas/intercensal/2015/doc/eic_2015_presentacion.pdf.
- 184 Vela Barba, Estefanía, *La Discriminación en el Empleo en México*, CONAPRED, 2017, https://www.conapred.org.mx/documentos_cedoc/completoDiscriminacion08122017.pdf.
- 185 Gobierno de los Estados Unidos Mexicanos, Instituto Nacional de Estadística y Geografía, *Mujeres y hombres en México 2016*, 2016, http://cedoc.inmujeres.gob.mx/documentos_download/MHM_2016.pdf.
- 186 Ibid.
- 187 Bose, Purabi et al., Women's rights to land and communal forest tenure: A way forward for research and policy agenda in Latin America, *Women's Studies International Forum*, Vol 65, November 2017, <https://www.sciencedirect.com/science/article/pii/S027753951730420X#bb0010>.
- 188 Duranton, G., Vernon Henderson J., Strange, W. C., *Handbook of Regional and Urban Economics*, vol. 5, 2015, <https://www.sciencedirect.com/handbook/handbook-of-regional-and-urban-economics>.
- 189 Kosowski, R. L., and Salih N. N., Credit Markets, *Principles of Financial Engineering*, Third Edition, 2015, <https://www.sciencedirect.com/topics/social-sciences/credit-market>.
- 190 World Economic Forum, The Global Gender Gap Index 2018, 2018, <http://reports.weforum.org/global-gender-gap-report-2018/key-findings/>.
- 191 Alcaldes de México, *Mujeres ganan 6% menos que los hombres en trabajos iguales*, 26 January 2016, <http://www.alcaldesdemexico.com/notas-principales/mujeres-ganan-6-menos-que-los-hombres-en-trabajos-iguales/>.
- 192 Flores, Zenyazen, *Mujeres ganan 30% menos que hombres*, *El Financiero*, 8 March 2017, <http://www.elfinanciero.com.mx/economia/mujeres-ganan-30-menos-que-hombres.html>.
- 193 CONAPRED, *Encuesta Nacional sobre Discriminación 2017*, 2017, https://www.conapred.org.mx/userfiles/files/PticionENADIS2017_08.pdf.

- 194 Ibid.
- 195 Suarez, Gerardo, *Caborachi: una empresa forestal rarámuri de vanguardia*, CCMSS, 5 December 2019, www.ccmss.org.mx/caborachi-una-empresa-forestal-ramuri-de-vanguardia/.
- 196 El Financiero, *En México, sólo 45% de horas trabajadas se pagan: Inegi*, 13 July 2015, <http://www.elfinanciero.com.mx/economia/en-mexico-55-de-horas-dedicadas-al-trabajo-contribuyen-a-economia.html>.
- 197 CONAPRED, *Discriminación en contra de la población indígena en México*, https://www.conapred.org.mx/index.php?contenido=noticias&id=798&id_opcion=243&op=448.
- 198 Ibid.
- 199 CONAPRED, *Encuesta Nacional sobre Discriminación 2017*, 2017, https://www.conapred.org.mx/userfiles/files/Pt-cionENADIS2017_08.pdf.
- 200 Granados Alcantar, José Aurelio, *Tendencias de la migración interna de la población indígena en México de 1990-2015*, 2018, http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S0186-72102018000200327.
- 201 El Universal, *Analfabetismo es tres veces mayor en población indígena*, 10 August 2018, <https://www.eluniversal.com.mx/estados/analfabetismo-es-tres-veces-mayor-en-poblacion-indigena-inee>.
- 202 Marosi, Richard, *Hardship on Mexico's farms, a bounty for US tables*, *Los Angeles Times*, 9 December 2014, <http://www.latimes.com/la-app-mexico-part-1-story.html#page=1>.
- 203 US Department of State, Bureau of Democracy, Human Rights and Labor, *Country Reports on Human Rights Practices: Mexico*, 2016, <http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm?year=2016&dliid=265600>.
- 204 Red Latinoamericana de Investigaciones sobre Compañías Multinacionales, *Trabajo Decente en América Latina*, 2016, http://www.redlat.net/site/wp-content/uploads/2016/04/trabajo_decente_america_latina.pdf.
- 205 El Financiero, *En México, sólo 45% de horas trabajadas se pagan: Inegi*, 13 July 2015, <http://www.elfinanciero.com.mx/economia/en-mexico-55-de-horas-dedicadas-al-trabajo-contribuyen-a-economia.html>.
- 206 ILO, CEACR: Individual Direct Request concerning Protection of Wages Convention, 1949 No. 95, Mexico (ratification: 1955), 2009, <http://www.ilo.org/ilolex/cgi-lex/pdconv.pl?host=status01&textbase=iloeng&document=22654&chapter=9&query=Mexico%40ref&highlight=&querytype=bool&context=0>.
- 207 Guerra Ochoa, María Teresa, *Trabajadores Migrantes En La Agricultura Mexicana*, Asociación Iberoamericana de Juristas Del Derecho Del Trabajo Y La Seguridad Social, 2009, <http://aijdtssgc.org/2009/11/20/trabajadores-migrantes-en-la-agricultura-mexicana/>.
- 208 Cancino, Karla, *La necesidad los induce a la tala clandestina : todos los días se afecta fauna y flora*, *El Sol de Córdoba*, 29 December 2018, <https://www.elsoldecordoba.com.mx/local/la-necesidad-los-induce-a-la-tala-clandestina-todos-los-dias-se-afecta-fauna-y-flora-2857485.html>.
- 209 Azarcaya Gonzalez, Beatriz, *La Sierra Tarahumara, el bosque y los pueblos originarios: estudio de caso de Chihuahua (Mexico)*, 2012, <http://www.fao.org/forestry/17194-0381f923a6bc236aa91ecf614d92e12e0.pdf>.
- 210 NEPCon, *Timber Legality Risk Assessment: Mexico*, 2017, <https://www.nepcon.org/sites/default/files/library/2017-11/NEPCon-TIMBER-Mexico-Risk-Assessment-EN-V1.2.pdf>.
- 211 Matsa, M., and Mandowa, J., *Occupational safety and health problems in forest harvesting operations: Case of Wattle Company Nyanga Pine Estate, Zimbabwe*, *International Journal of Development and Sustainability*, 2015, <https://isdsnet.com/ijds-v4n4-2.pdf>.
- 212 Azarcaya Gonzalez, Beatriz, *La Sierra Tarahumara, el bosque y los pueblos originarios: estudio de caso de Chihuahua (Mexico)*, 2012, <http://www.fao.org/forestry/17194-0381f923a6bc236aa91ecf614d92e12e0.pdf>.
- 213 Instituto Mexicano del Seguro Social, *Memoria Estadística 2015*, <http://www.imss.gob.mx/conoce-al-imss/memoria-estadistica-2015>.
- 214 Vicenteño, David, *Hubo mil 408 muertes por riesgos de trabajo en 2016*, *Excelsior*, 23 June 2017, <http://www.excelsior.com.mx/nacional/2017/06/23/1171583>.
- 215 Camhaji, Elias, *Un obrero muere cada ocho horas por un accidente de trabajo en México*, *El País*, 20 April 2017, http://internacional.elpais.com/internacional/2017/04/19/mexico/1492557142_650364.html.
- 216 Prevencion Integral, *Condiciones de trabajo en el sector forestal: Un análisis desde la perspectiva de genero*, ORP 2017, 2017, <https://www.prevencionintegral.com/canal-orp/papers/orp-2017/condiciones-trabajo-en-sector-forestal-analisis-desde-perspectiva-genero>.
- 217 Gobierno de los Estados Unidos Mexicanos, Secretaría del Trabajo y Previsión Social, *Sector Forestal*, https://autogestionsst.stps.gob.mx/Proyecto/Publico/PS_Agro_Forestal.aspx.
- 218 NEPCon, *Timber Legality Risk Assessment: Mexico*, 2017, <https://www.nepcon.org/sites/default/files/library/2017-11/NEPCon-TIMBER-Mexico-Risk-Assessment-EN-V1.2.pdf>.
- 219 Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean, https://repositorio.cepal.org/bitstream/handle/11362/43583/1/S1800428_en.pdf.
- 220 Barsimantova, J., and Navia Antezana, J., *Forest cover change and land tenure change in Mexico's avocado region: Is community forestry related to reduced deforestation for high value crops?*, *Applied Geography*, 2011, <https://www.sciencedirect.com/science/article/abs/pii/S0143622811001706>.
- 221 Ibid.
- 222 Ibid.
- 223 Ibid.
- 224 Gobierno de Estados Unidos Mexicanos, *Ley Agraria 2017*, <https://www.gob.mx/cms/uploads/attachment/file/247227/LeyAgraria2017.pdf>.
- 225 Enciso, A., and Poy, L., *Ley forestal no fue consultada a pueblos indígenas: Red MOCAF*, *La Jornada*, 2 May 2018, <https://www.jornada.com.mx/ultimas/2018/05/02/ley-forestal-aprobada-no-fue-consultada-a-pueblos-indigenas-red-mocaf-1583.html>.
- 226 Ortiz Tapia, Elizabeth, *The black hole in Mexico's Forestry Law*, *Ojo Publico*, 22 October 2018, <https://ojo-publico.com/902/black-hole-mexicos-forestry-law>.
- 227 Ibid.
- 228 Monroy, Jorge, *Tala ilegal, el otro delito silencioso*, *El Economista*, 6 February 2019, <https://www.economista.com.mx/politica/Tala-ilegal-el-otro-delito-silencioso-20190205-0151.html>.
- 229 Gobierno de los Estados Unidos Mexicanos, Cámara de Diputados, *Ley General de Desarrollo Forestal Sustentable 2018*, http://www.diputados.gob.mx/LeyesBiblio/pdf/LGDFS_050618.pdf.

- 230 Ibid.
- 231 Ortiz Tapia, Elizabeth, The black hole in Mexico's Forestry Law, *Ojo Público*, 22 October 2018, <https://ojo-publico.com/902/black-hole-mexicos-forestry-law>.
- 232 Urrunaga, J., Johnson, A., and Orbeago Sánchez I. D., Moment of Truth: Promise or peril for the Amazon as Peru confronts its illegal timber trade, EIA, January 2018, <https://content.eia-global.org/posts/documents/000/000/694/original/MomentofTruth.pdf?1520443534>.
- 233 Ortiz Tapia, Elizabeth, The black hole in Mexico's Forestry Law, *Ojo Público*, 22 October 2018, <https://ojo-publico.com/902/black-hole-mexicos-forestry-law>.
- 234 Union of Concerned Scientists, The Lacey Act's Effectiveness in Reducing Illegal Wood Imports, 2015, <https://www.ucsusa.org/sites/default/files/attach/2015/10/ucs-lacey-report-2015.pdf>.
- 235 Ibid.
- 236 CIEL, "Continuous Improvement" in Illegal Practices in the Peruvian Forest Sector, 2017, <https://www.ciel.org/wp-content/uploads/2017/11/EnglishVersionFinal.pdf>.
- 237 Union of Concerned Scientists, The Lacey Act's Effectiveness in Reducing Illegal Wood Imports, 2015, <https://www.ucsusa.org/sites/default/files/attach/2015/10/ucs-lacey-report-2015.pdf>.
- 238 Sociedad para la promoción del Manejo Forestal Sostenible, *Estándares Mexicanos para la Certificación del Manejo Forestal FSC*, August 2009, <https://mx.fsc.org/preview.fsc-std-mex-05-2010-mexico-natural-and-plantation-es.a-62.pdf>.
- 239 ILO, Committee of Experts on the Application of Conventions and Recommendations, Freedom of Association and Protection of the Right to Organise Convention: Observation, 2015, http://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID,P11110_COUNTRY_ID,P11110_COUNTRY_NAME,P11110_COMMENT_YEAR:3254999,102764, Mexico, 2015.
- 240 Comisión Nacional de Derechos Humanos, *Derechos Humanos de los Pueblos Indígenas en México*, 2012, https://www.cndh.org.mx/sites/default/files/doc/cartillas/14_Cartilla_DH_Pueblos_Indigenas.pdf.
- 241 Gobierno de los Estados Unidos Mexicanos, Cámara de Diputados, *Ley General de Desarrollo Forestal Sustentable 2018*, http://www.diputados.gob.mx/LeyesBiblio/pdf/LGDFS_050618.pdf.
- 242 Robles, Jaqueline, *Exigen organizaciones de Oaxaca no aprobar ley forestal*, *NVI Noticias*, 13 March 2018, <https://www.nvinoticias.com/nota/87445/exigen-organizaciones-de-oaxaca-no-aprobar-ley-forestal>.
- 243 Ortiz Tapia, Elizabeth, The black hole in Mexico's Forestry Law, *Ojo Público*, 22 October 2018, <https://ojo-publico.com/902/black-hole-mexicos-forestry-law>.
- 244 Thomas, Christopher, *The Inadequacy of Article 27 Reforms in Shaping Sustainable Ejidos*, University of Michigan, <http://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/1095/thomsc041400.pdf?sequence=1>.
- 245 USAID, *USAID Land Tenure Profile: Mexico*, 2016, https://www.land-links.org/wp-content/uploads/2016/09/USAID_Land_Tenure_Mexico_Profile.pdf.
- 246 Barsimantova, J., and Navia Antezana, J., Forest cover change and land tenure change in Mexico's avocado region: Is community forestry related to reduced deforestation for high value crops?, *Applied Geography*, 2011, <https://www.sciencedirect.com/science/article/abs/pii/S0143622811001706>.
- 247 Ibid.
- 248 Ibid.
- 249 Altamirano-Jiménez, Isabel, How do Real Indigenous Forest Dwellers Live?, *Neoliberal Conservation in Oaxaca, Mexico, Atlantis*, vol. 38, no. 1, 2017.
- 250 World Bank, In Mexico, forests deliver for jobs climate commitments, 10 May 2016, <http://www.worldbank.org/en/news/feature/2016/05/10/in-mexico-forests-deliver-for-jobs-and-climate-commitments>.
- 251 Definition of *ejido*: <https://mexico.leyderecho.org/ejido/>
- 252 Gobierno de Estados Unidos Mexicanos, *Ley Agraria, Título Tercero, Capiutlo II, Sección Cuarta, Artículo 64, Última Reforma 17-04-2008*, 2018, http://www.diputados.gob.mx/LeyesBiblio/pdf/13_250618.pdf.
- 253 Ejido El Largo, *Ejido El Largo y Anexos*, www.ejidoellargo.com.mx.
- 254 Gobierno de los Estados Unidos Mexicanos, *Registro Agrario Nacional. Circular DJ/1.3.1.6./1: Vecindados, como se Acredita esta Calidad*, <http://www.ran.gob.mx/ran/dgaj/Normateca/Documentos/Circulares/Anteriores/Derechos%20individuales/Reconocimiento%20de%20vecindados/CIRCULAR%20DJ-1.3.1.6.-1.pdf>.
- 255 Ibid.
- 256 Lopez, Julio, *Vecindados*, *Enciclopedia Jurídica Online*, <https://mexico.leyderecho.org/avecindado/>.
- 257 Gobierno de los Estados Unidos Mexicanos, Cámara de Diputados del H. Congreso de la Unión, *Ley Federal del Trabajo*, 2019, http://www.diputados.gob.mx/LeyesBiblio/pdf/125_020719.pdf.
- 258 Gobierno de los Estados Unidos Mexicanos, Cámara de Diputados del H. Congreso de la Unión, *Ley General para Prevenir, Sancionar y Erradicar los Delitos de Materia de Trata de Personas y para la Protección y Asistencia a la Víctimas de estos Delitos*, 2014, http://www.diputados.gob.mx/LeyesBiblio/pdf/LGPSEDMTP_190118.pdf.
- 259 UNODC, *The Role of Recruitment Fees and Abusive and Fraudulent Recruitment Practices of Recruitment Agencies in Trafficking in Persons*, 2015, https://www.unodc.org/documents/human-trafficking/2015/Recruitment_Fees_Report-Final-22_June_2015_AG_Final.pdf.
- 260 Gobierno de los Estados Unidos Mexicanos, Cámara de Diputados, *Ley General de Desarrollo Forestal Sustentable 2018*, http://www.diputados.gob.mx/LeyesBiblio/pdf/LGDFS_050618.pdf.
- 261 Ibid.
- 262 Ibid.
- 263 Ibid.
- 264 US Department of State, Bureau of Democracy, Human Rights and Labor, 2016 Country Reports on Human Rights Practices: Mexico, 2017, <http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm?year=2016&dliid=265600>.
- 265 Commission for Labor Cooperation, *Guide to Laws Prohibiting Forced Labor in Mexico*, 2014, <http://chalahomesales.com/wp-content/uploads/2014/10/Guide-to-Prohibiting-Forced-Labor-in-Mexico.pdf>.
- 266 Gobierno de los Estados Unidos Mexicanos, Cámara de Diputados, *Ley para prevenir y sancionar la trata de personas*, 27 November 2007, <http://www.inegi.org.mx/est/contenidos/proyectos/aspectosmetodologicos/clasificadoresycatalogos/doc/federal/LPPYSLTDP.pdf>.
- 267 Ibid.
- 268 US Department of State, Office to Monitor and Combat Trafficking in Persons, *Trafficking in Persons Report 2016*, <https://www.state.gov/j/tip/rls/tiprpt/countries/2016/258821.htm>.

- 269 Ibid.
- 270 Mesa Social contra la explotación de niñas, niños y adolescentes, *Los rostros del trabajo infantil en México: Memoria del primer foro*, 11 March 2015, https://programainfancia.uam.mx/pdf/publicaciones/memorias_mesa.pdf.
- 271 Gobierno de los Estados Unidos Mexicanos, Cámara de Diputados del H. Congreso de la Unión, *Ley General para Prevenir, Sancionar y Erradicar los Delitos de Materia de Trata de Personas y para la Protección y Asistencia a la Víctimas de estos Delitos*, 2014, http://www.diputados.gob.mx/LeyesBiblio/pdf/LGPSEDMTP_190118.pdf.
- 272 US Department of State, Bureau of Democracy, Human Rights and Labor, 2016 Country Reports on Human Rights Practices: Mexico, 2017, <http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm?year=2016&dliid=265600>.
- 273 US Department of State, Office to Monitor and Combat Trafficking in Persons, Trafficking in Persons Report 2014, <http://www.state.gov/j/tip/rls/tiprpt/countries/2014/226777.htm>.
- 274 US Department of State, Office to Monitor and Combat Trafficking in Persons, Trafficking in Persons Report 2017, 2017, <https://www.state.gov/j/tip/rls/tiprpt/countries/2017/271242.htm>.
- 275 Gobierno de los Estados Unidos Mexicanos, Cámara de Diputados, *Ley General de Desarrollo Forestal Sustentable 2018*, http://www.diputados.gob.mx/LeyesBiblio/pdf/LGDFS_050618.pdf.
- 276 Ibid.
- 277 Gobierno de los Estados Unidos Mexicanos, *Constitución Política de los Estados Unidos Mexicanos, Última Reforma DOF 15-09-2017*, <http://pdba.georgetown.edu/Constitutions/Mexico/mexico2004.html>.
- 278 Gobierno de los Estados Unidos Mexicanos, Cámara de Diputados del H. Congreso de la Unión, *Ley Federal del Trabajo*, 2019, http://www.diputados.gob.mx/LeyesBiblio/pdf/125_020719.pdf.
- 279 Cronica, *Senado avala prohibir trabajo infantil a menores de 15 años*, 21 April 2014, <http://www.cronica.com.mx/notas/2014/829129.html>.
- 280 US Department of State, Bureau of Democracy, Human Rights and Labor, Country Reports on Human Rights Practices: Mexico, 2016, <http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm?year=2016&dliid=265600>.
- 281 ILO, Committee of Experts on the Application of Conventions and Recommendations, Worst Forms of Child Labour Convention: Observation, 2015, http://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID,P11110_COUNTRY_ID,P11110_COUNTRY_NAME,P11110_COMMENT_YEAR:3254462,102764,Mexico,2015.
- 282 Ibid.
- 283 Ibid.
- 284 Gobierno de los Estados Unidos Mexicanos, *La educación medio superior ya es obligatoria*, February 2012, <http://www.presidencia.gob.mx/2012/02/la-educacion-media-superior-ya-es-obligatoria/>.
- 285 Cruz, María, *Educación Media Superior ya es obligatoria en México*, *International Business Times*, 8 February 2012, <http://mx.ibtimes.com/articles/21694/20120208/educacion-media-superior-bachillerato-obligatorio-mexico-ley-calderon.html>.
- 286 Magaziner, J., and Monroy, C., Education in Mexico, *World Education News & Reviews*, 2016, <http://wenr.wes.org/2016/08/education-in-mexico>.
- 287 Gobierno de los Estados Unidos Mexicanos, *Constitución Política de los Estados Unidos Mexicanos, Última Reforma DOF 15-09-2017*, <http://pdba.georgetown.edu/Constitutions/Mexico/mexico2004.html>.
- 288 Nehro, Diana J., Mexico Labor Reforms Increase Protection for Employees and Clarity for Employers, Society for Human Resource Management, 12 February 2013, <http://www.shrm.org/hrdisciplines/global/articles/pages/mexico-labor-reforms.aspx#sthash.bnRR9BZ6.dpuf>.
- 289 Gobierno de los Estados Unidos Mexicanos, Secretaría Cámara de Diputados del H. Congreso de la Unión, *Ley Federal del Trabajo*, 2019, http://www.diputados.gob.mx/LeyesBiblio/pdf/125_020719.pdf. See also Capital Mexico, *Acoso laboral, enemigo silencioso*, <http://www.capitalmexico.com.mx/index.php/reportajes-detalle/70970-acoso-laboral-enemigo-silencioso>.
- 290 Mullin, Sheppard, Mexican Federal Labor Law Reform: What Companies Doing Business in Mexico Need to Know, Labor and Employment Law Blog, 15 May 2013, <http://www.laboremploymentlawblog.com/2013/05/articles/international-employment-and-mobility-law/mexican-federal-labor-law-reform-what-companies-doing-business-in-mexico-need-to-know/>.
- 291 CONAPRED, *Modelo de Ley para Prevenir y Eliminar la Discriminación en Las Entidades Federativas*, 2019, https://www.conapred.org.mx/index.php?contenido=pagina&id=504&id_opcion=650&op=650.
- 292 CONAPRED, *Estados en los que se cuenta con cláusula antidiscriminatoria constitucional, ley antidiscriminatoria y conducta tipificada en relación a la discriminación*, 2019, https://www.conapred.org.mx/index.php?contenido=pagina&id=504&id_opcion=650&op=650.
- 293 US Department of State, Bureau of Democracy, Human Rights and Labor, Country Reports on Human Rights Practices: Mexico, 2016, <http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm?year=2016&dliid=265600>.
- 294 US Department of State, Bureau of Democracy, Human Rights and Labor, Country Reports on Human Rights Practices: Mexico, 2015, <http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm?year=2015&dliid=253027>.
- 295 ILO, Committee of Experts on the Application of Conventions and Recommendations, Individual Observation: Convention No. 100. 2008, <https://www.ilo.org/global/standards/applying-and-promoting-international-labour-standards/committee-of-experts-on-the-application-of-conventions-and-recommendations/lang--en/index.htm>.
- 296 US Department of State, Bureau of Democracy, Human Rights and Labor, Country Reports on Human Rights Practices: Mexico, 2015, <http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm?year=2015&dliid=253027>.
- 297 CONAPRED, *Guía sobre las leyes contra la discriminación en el trabajo en México*, http://www.CONAPRED.org.mx/documentos_cedoc/Guia_sobre_las_leyes_contra_la_discriminacion_en_el_trabajo.pdf.
- 298 Mi Salario, *Derechos laborales básicos en México*, 11 August 2012, <http://www.misalario.org/main/conocetusderechos/derechos-mexico>.
- 299 AFL-CIO, Mexico Labor Rights Concerns, 2012, <http://www.aflcio.org/content/download/114991/3280941/Mexico+background.pdf>.
- 300 CONAPRED, *Norma Mexicana NMX-R-025-SCFI-2015: En Igualdad Laboral Y No Discriminación*, 2015, https://www.conapred.org.mx/userfiles/files/NMX-R-025-SCFI-2015_2015_DGN.pdf.

- 301 Gobierno de los Estados Unidos Mexicanos, Cámara de Diputados, *Ley General de Desarrollo Forestal Sustentable 2018*, http://www.diputados.gob.mx/LeyesBiblio/pdf/LGDFS_050618.pdf.
- 302 ILO, Committee of Experts on the Application of Conventions and Recommendations, Freedom of Association and Protection of the Right to Organise Convention: Observation, Mexico, 2015, http://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID,P11110_COUNTRY_ID,P11110_COUNTRY_NAME,P11110_COMMENT_YEAR:3254999,102764.
- 303 Gobierno de los Estados Unidos Mexicanos, *Constitución Política de los Estados Unidos Mexicanos, Última Reforma DOF 15-09-2017*, <http://pdba.georgetown.edu/Constitutions/Mexico/mexico2004.html>.
- 304 Ibid.
- 305 Ibid.
- 306 US Department of State, Bureau of Democracy, Human Rights and Labor, Country Reports on Human Rights Practices: Mexico, 2016, <http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm?year=2016&dliid=265600>.
- 307 US Department of Labor, Minimum Employment Standards in Mexico, <http://www.dol.gov/ilab/media/reports/nao/minimum-employment.htm#xxii>.
- 308 Gobierno de los Estados Unidos Mexicanos, *Constitución Política de los Estados Unidos Mexicanos, Última Reforma DOF 15-09-2017*, <http://pdba.georgetown.edu/Constitutions/Mexico/mexico2004.html>.
- 309 US Department of Labor, Minimum Employment Standards in Mexico, <http://www.dol.gov/ilab/media/reports/nao/minimum-employment.htm#xxii>.
- 310 US Department of State, Bureau of Democracy, Human Rights and Labor, Country Reports on Human Rights Practices: Mexico, 2016, <http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm?year=2016&dliid=265600>.
- 311 Ibid.
- 312 Ibid.
- 313 Ibid.
- 314 Ibid.
- 315 ILO, LEGOSH Occupational Safety and Health (OSH): Mexico – 2013, http://www.ilo.org/dyn/legosh/en/f?p=14100:1100:0::NO:1100:P1100_ISO_CODE3,P1100_YEAR:MEX,2013:NO.
- 316 Ibid.
- 317 US Department of State, Bureau of Democracy, Human Rights and Labor, Country Reports on Human Rights Practices: Mexico, 2016, <http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm?year=2016&dliid=265600>.
- 318 Ibid.
- 319 Prevención Integral, *México: publicado el nuevo reglamento de salud y seguridad en el trabajo*, 7 March 2015, <http://www.prevencionintegral.com/actualidad/noticias/2015/03/01/mexico-publicado-nuevo-reglamento-salud-seguridad-en-trabajo>.
- 320 US Department of State, Bureau of Democracy, Human Rights and Labor, Country Reports on Human Rights Practices: Mexico, 2016, <http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm?year=2016&dliid=265600>.
- 321 ILO, Committee of Experts on the Application of Conventions and Recommendations, Occupational Safety and Health Convention: Direct Request, Mexico, 2015, http://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID,P11110_COUNTRY_ID,P11110_COUNTRY_NAME,P11110_COMMENT_YEAR:3255299,102764.
- 322 Gobierno de los Estados Unidos Mexicanos, Secretaría de Trabajo y Previsión Social, Subsecretaría del Trabajo, Dirección General de Degradación y Salud en el Trabajo, *Resumen de los Cambios de la Normatividad*, <http://www.stps.gob.mx/bp/secciones/dgsst/normatividad/resumen.html>.
- 323 Nemecio Nemesio, Isabel Margarita, *Migrar O Morir: El Dilema de Los Jornaleros Agrícolas de La Montaña de Guerrero*, Centro de Derechos Humanos de la Montaña Tlachinollan A.C., December 2005, <http://www.tlachinollan.org/wp-content/uploads/2015/02/Migrar-o-morir.pdf>.
- 324 Campos Garza, Luciano, *Estados en México, sin políticas efectivas contra la trata de personas: investigador de la UANL*, Proceso, 2 January 2018, <https://www.proceso.com.mx/516956/estados-en-mexico-sin-politicas-efectivas-contra-la-trata-de-personas-investigador-de-la-uanl>.
- 325 CIA, North America: Mexico, *The World Factbook*, <https://www.cia.gov/library/publications/the-world-factbook/geos/mx.html>.
- 326 Gobierno de los Estados Unidos Mexicanos, Comisión Nacional para el Desarrollo de los Pueblos Indígenas, *Indicadores socioeconómicos de los Pueblos Indígenas de México*, 2015, <https://www.gob.mx/cms/uploads/attachment/file/239921/01-presentacion-indicadores-socioeconomicos-2015.pdf>.
- 327 Navarrete Linares, Federico, *Los Pueblos Indígenas de México*, Gobierno de los Estados Unidos Mexicanos, CDI, 2008, http://www.cdi.gob.mx/dmdocuments/monografia_nacional_pueblos_indigenas_mexico.pdf.
- 328 Gobierno de los Estados Unidos Mexicanos, Comisión Nacional para el Desarrollo de los Pueblos Indígenas, *Indicadores socioeconómicos de los Pueblos Indígenas de México*, 2015, <https://www.gob.mx/cms/uploads/attachment/file/239921/01-presentacion-indicadores-socioeconomicos-2015.pdf>.
- 329 Ibid.
- 330 International Fund for Agricultural Development, Investing in Rural People in Mexico, October 2017, <https://www.ifad.org/documents/10180/09501028-a4ec-4bc4-9d70-a2465de6f4e6>.
- 331 Nikolau, Lisa, Census highlights 'extreme poverty' among southern Mexico's indigenous, Humanosphere, April 2017, <http://www.humanosphere.org/human-rights/2017/04/census-highlights-extreme-poverty-among-southern-mexicos-indigenous/>.
- 332 Villagómez Ornelas, Paloma, Rural poverty in Mexico: prevalence and challenges, CONEVAL, <https://www.un.org/development/dspd/wp-content/uploads/sites/22/2019/03/RURAL-POVERTY-IN-MEXICO.-CONEVAL.-Expert-Meeting.-15022019.pdf>.
- 333 Navarrete Linares, Federico, *Los Pueblos Indígenas de México*, Gobierno de los Estados Unidos Mexicanos, CDI, 2008, http://www.cdi.gob.mx/dmdocuments/monografia_nacional_pueblos_indigenas_mexico.pdf.
- 334 Ibid.
- 335 Comisión Nacional de los Derechos Humanos, *El Derecho Humano al Trabajo de las Personas Indígenas*, July 2015, <https://www.cndh.org.mx/sites/all/doc/cartillas/2015-2016/01-DH-trabajo-indigenas.pdf>.

- 336 Camargo Martínez, Abdel, *Migración Indígena y la Construcción de un Territorio de Circulación Transnacional en México*, Centro de Estudios Mexicanos y Centroamericanos, 2011, <https://journals.openedition.org/trace/1751>.
- 337 Gobierno de los Estados Unidos Mexicanos, Comisión Nacional para el Desarrollo de los Pueblos Indígenas, *Indicadores socioeconómicos de los Pueblos Indígenas de México*, 2015, <https://www.gob.mx/cms/uploads/attachment/file/239921/01-presentacion-indicadores-socioeconomicos-2015.pdf>.
- 338 Comisión Nacional de los Derechos Humanos, *El Derecho Humano al Trabajo de las Personas Indígenas*, July 2015, <https://www.cndh.org.mx/sites/all/doc/cartillas/2015-2016/01-DH-trabajo-indigenas.pdf>.
- 339 Marosi, Richard, Hardship on Mexico's farms, a bounty for US tables, *Los Angeles Times*, 9 December 2014, <http://www.latimes.com/la-app-mexico-part-1-story.html#page=1>.
- 340 Organization for Economic Cooperation and Development (OECD), *Economic Surveys: Mexico*, January 2017, <https://www.oecd.org/eco/surveys/Mexico-2017-OECD-economic-survey-overview.pdf>.
- 341 International Fund for Agricultural Development, *Investing in Rural People in Mexico*, October 2017, <https://www.ifad.org/documents/10180/09501028-a4ec-4bc4-9d70-a2465de6f4e6>.
- 342 OECD, *Global and Mexico Economic Outlook*, 2018, <https://www.oecd.org/fr/mexique/global-and-mexico-economic-outlook-2018.htm>.
- 343 International Monetary Fund, *Mexico's Economic Outlook in Five Charts*, November 2018, <https://www.imf.org/en/News/Articles/2018/11/07/NA110818-Mexico-Economic-Outlook-in-5-Charts>.
- 344 International Fund for Agricultural Development, *Investing in Rural People in Mexico*, October 2017, <https://www.ifad.org/documents/10180/09501028-a4ec-4bc4-9d70-a2465de6f4e6>.
- 345 Consejo Nacional de Evaluación de la Política de Desarrollo Social (CONEVAL), *10 Años de Medición de la Pobreza en México*, August 2019, https://www.coneval.org.mx/SalaPrensa/Comunicadosprensa/Documents/2019/COMUNICADO_10_MEDICION_POBREZA_2008_2018.pdf.
- 346 Ibid.
- 347 OECD, *Economic Surveys: Mexico*, January 2017, <https://www.oecd.org/eco/surveys/Mexico-2017-OECD-economic-survey-overview.pdf>.
- 348 Ibid.
- 349 International Tropical Timber Organization, *Mexico Country Profile*, 2015, <https://www.itto.int/sfm/2005/details/id=12540000>.
- 350 International Fund for Agricultural Development, *Investing in Rural People in Mexico*, October 2017, <https://www.ifad.org/documents/10180/09501028-a4ec-4bc4-9d70-a2465de6f4e6>.
- 351 Ibid.
- 352 Aguilar, Rojas Grethel, *Bosques en Mesoamérica: un enfoque jurídico*, *Legalidad Forestal en Mesoamérica*, IUCN, 2015, <https://portals.iucn.org/library/efiles/documents/EPLP-082.pdf>.
- 353 Cancino, Karla, *La necesidad los induce a la tala clandestina: todos los días se afecta fauna y flora*, *El Sol de Córdoba*, 29 December 2018, <https://www.elsoldecordoba.com.mx/local/la-necesidad-los-induce-a-la-tala-clandestina-todos-los-dias-se-afecta-fauna-y-flora-2857485.html>.
- 354 Gallegos, Zorayda, *El Despojo de los Tarahumaras: Los Rarámuris que Colectan en las Tierras de otros*, *El País*, 2018, <https://elpais.com/especiales/2018/campo-mexicano/chi-huahua/despojo-tarahumaras.html>.
- 355 UN Food and Agricultural Organisation, *The Present Situation of Mexican Forestry*, <http://www.fao.org/3/Y4829E/y4829e09.htm>.
- 356 Torres-Rojo, J. M., Moreno-Sánchez, R., and Mendoza-Briseño, M. A., *Sustainable Forest Management in Mexico*, *Current Forestry Reports*, vol. 1. 2016.
- 357 Business Sweden, *Business Opportunities in the Mexican Forestry Sector*, 2017, <https://www.business-sweden.se/contentassets/02cd808546c34e5ba50c8d120ff2ed7e/forestry-sector---sector-study.pdf>.
- 358 Torres-Rojo, J. M., Moreno-Sánchez, R., and Mendoza-Briseño, M. A., *Sustainable Forest Management in Mexico*, *Current Forestry Reports*, vol. 1. 2016.
- 359 Alanis Ortega, Gustavo, México, *Legalidad Forestal en Mesoamérica*, IUCN, 63, 2015, <https://portals.iucn.org/library/efiles/documents/EPLP-082.pdf>.
- 360 Torres-Rojo, J. M., Moreno-Sánchez, R., and Mendoza-Briseño, M. A., *Sustainable Forest Management in Mexico*, *Current Forestry Reports*, vol. 1. 2016.
- 361 Moreno-Sanchez, R., and Torres-Rojo, J. M., Moreno-Sanchez, F., Hawkins, S., Little, J., and McPartland, S., *National assessment of the fragmentation, accessibility and anthropogenic pressure on the forests in Mexico*, *Journal of Forestry Research*, vol. 23, no. 4, 531, 2012.
- 362 NEPCon, *Timber Legality Risk Assessment: Mexico*, 2017, <https://www.nepcon.org/sites/default/files/library/2017-11/NEPCon-TIMBER-Mexico-Risk-Assessment-EN-V1.2.pdf>.
- 363 Gobierno de los Estados Unidos Mexicanos, *Plan Nacional de Desarrollo 2013-2018: Programa Nacional Forestal 2014-2018*, 2013, <http://www.conafor.gob.mx:8080/documentos/docs/4/5382Programa%20Nacional%20Forestal%202014-2018.pdf>.
- 364 México Sostenible, *Ejidotes y comunidades, conservadores rurales de la biodiversidad*, 13 November 2016, <https://ecoosfera.com/2016/11/ejidotes-y-comunidades-conservadores-rurales-de-la-biodiversidad/>.
- 365 Bray, D. B., and Merino-Pérez L., *The rise of community forestry in Mexico: History, concepts, and lessons learned from twenty-five years of community forestry timber production*, Secretaría de Medio Ambiente y Recursos Naturales; Instituto Nacional de Ecología, 2002. See also Merino-Pérez, L., and Segura, G., *El manejo de los recursos forestales en México (1992-2002) procesos, tendencias y políticas públicas, La transición hacia el desarrollo sustentable*, Chapter 10, *Forest resource management in Mexico (1992-2002) processes, trends and public policies, The transition to sustainable development*, Instituto Nacional de Ecología, 2002, and Madrid L., Núñez J.M., Quiroz, G., Rodríguez, Y., *La propiedad forestal social en México, Investigaciones Ambientales*, 200, https://www.ccms.org.mx/wp-content/uploads/2014/09/the_rise_of_community_forestry_in_mexico.pdf.
- 366 Bray, D. B., Merino-Pérez, L., Negreros-Castillo, P., Segura-Warnholtz, G., Torres-Rojo J. M., and Vester, H. F. M., *Mexico's Community-Managed Forests as a Global Model for Sustainable Landscapes*, *Conservation Biology*, vol. 17, no. 3, June 200, https://www.academia.edu/1417909/Bray_D.B._Merino_Pérez_L._Negreros_Castillo_P._Segura_Warnholtz_G._Torres_Rojo_J.M._y

- Vester_H.F.M., 2003. *Mexico's community-managed forests as a global model for sustainable landscapes.* *Conservation Biology* 17_3_672-677.
- 367 Torres-Rojo, J. M., Moreno-Sánchez, R., and Mendoza-Briseño, M. A., Sustainable Forest Management in Mexico, *Current Forestry Reports*, vol. 1. 2016, <https://link.springer.com/article/10.1007/s40725-016-0033-0>.
- 368 NEPCon, Timber Legality Risk Assessment: Mexico, 2017, <https://www.nepcon.org/sites/default/files/library/2017-11/NEPCon-TIMBER-Mexico-Risk-Assessment-EN-V1.2.pdf>.
- 369 Programa Regional de Investigación sobre Desarrollo y Medio Ambiente, *Conservation and Community Rights: Lessons from Mesoamerica*, 2016, http://rightsandresources.org/wp-content/uploads/2017/02/Prisma_Conservation-and-Community-Rights_Lessons-from-Mesoamerica_December-2016.pdf.
- 370 Torres-Rojo, J. M., Moreno-Sánchez, R., and Mendoza-Briseño, M. A., Sustainable Forest Management in Mexico, *Current Forestry Reports*, vol. 1. 2016.
- 371 Ibid.
- 372 Gobierno de los Estados Unidos Mexicanos, CONAFOR, *Situación Actual y Perspectivas de las Plantaciones Forestales Comerciales en México*, <http://www.conafor.gob.mx:8080/documentos/docs/5/3149Situaci%C3%B3n%20Actual%20y%20Perspectivas%20de%20las%20Plantaciones%20Forestales%20Comerciales%20en%20M%C3%A9xico.pdf>.
- 373 Ibid.
- 374 Torres-Rojo, J. M., Moreno-Sánchez, R., and Mendoza-Briseño, M. A., Sustainable Forest Management in Mexico, *Current Forestry Reports*, vol. 1. 2016.
- 375 Aguilar, Rojas Grethel, *Bosques en Mesoamérica: un enfoque jurídico, Legalidad Forestal en Mesoamérica*. UICN, 2015, <https://portals.iucn.org/library/efiles/documents/EPLP-082.pdf>.
- 376 Global Conservation Standard, 2011, <http://www.global-conservationstandard.org/wp-content/uploads/2016/03/GCS-Standard-1-2.pdf>.
- 377 Torres-Rojo, J. M., Moreno-Sánchez, R., and Mendoza-Briseño, M. A., Sustainable Forest Management in Mexico, *Current Forestry Reports*, vol. 1. 2016.
- 378 Food and Agriculture Organisation, Global Forest Resources Assessment 2015: How are the world's forests changing?, Second edition, 2015, www.fao.org/3/a-i4793e.pdf.
- 379 Torres-Rojo, Juan Manuel, and Rafael Moreno-Sánchez, Martín Alfonso Mendoza-Briseño. "Sustainable Forest Management in Mexico." *Current Forestry Reports* vol. 1. 2016.
- 380 Business Sweden, Business Opportunities in the Mexican Forestry Sector, 2017, <https://www.business-sweden.se/contentassets/02cd808546c34e5ba50c8d120ff2ed7e/forestry-sector---sector-study.pdf>.
- 381 Gobierno de los Estados Unidos Mexicanos, Dirección General de Gestión Forestal y de Suelos, *Anuario Estadístico de la producción forestal 2016*, <https://www.gob.mx/cms/uploads/attachment/file/282951/2016.pdf>.
- 382 NEPCon, Timber Legality Risk Assessment: Mexico, 2017, <https://www.nepcon.org/sites/default/files/library/2017-11/NEPCon-TIMBER-Mexico-Risk-Assessment-EN-V1.2.pdf>.
- 383 Secretaría de Desarrollo Rural del Estado de Chihuahua, *Programa Sectorial de Desarrollo Rural 2019-2016*, http://sdr.chihuahua.gob.mx/Archivos_portal/FOMENTO_AGRICOLA/2019/CONVOCATORIA_EXTENSIONISTAS_LOCALES.PDF.
- 384 Anta, S. A., Arreola A. M., *Diagnóstico de las políticas y programas*, Proyecto Tarahumara Sustentable, Campo de Acción Manejo Forestal, 2018, IDESMAC-DCAAC-ALLINFO.
- 385 Gobierno del Estado de Chihuahua, Secretaría del Trabajo y Previsión Social, *Hacen visibles a jornaleros agrícolas*, <https://www.stpschihuahua.com/projam>.
- 386 Anta, S. A., Arreola A. M., *Diagnóstico de las políticas y programas*, Proyecto Tarahumara Sustentable, Campo de Acción Manejo Forestal, 2018, IDESMAC-DCAAC-ALLINFO.
- 387 Gobierno de los Estados Unidos Mexicanos. Dirección General de Gestión Forestal y de Suelos, *Anuario Estadístico de la producción forestal 2016*, <https://www.gob.mx/cms/uploads/attachment/file/282951/2016.pdf>.
- 388 Zeltzin Sanchez, Lorelei, *México se Coloca como Mayor Exportador de Muebles de Madera de Latinoamérica*, *El Universal*, 12 October 2018, <https://www.eluniversal.com.mx/cartera/negocios/mexico-se-coloca-como-mayor-exportador-de-muebles-de-madera-en-latinoamerica>.
- 389 Gobierno de los Estados Unidos Mexicanos, SEMARNAT, *Anuario Estadístico de la Producción Forestal 2016*, www.gob.mx/cms/uploads/attachment/file/282951/2016.pdf.
- 390 Business Sweden, Business Opportunities in the Mexican Forestry Sector, 2017, <https://www.business-sweden.se/contentassets/02cd808546c34e5ba50c8d120ff2ed7e/forestry-sector---sector-study.pdf>.
- 391 Gobierno de los Estados Unidos Mexicanos, SEMARNAT, *Anuario Estadístico de la Producción Forestal 2016*, www.gob.mx/cms/uploads/attachment/file/282951/2016.pdf.
- 392 Ibid.
- 393 Ibid.
- 394 Ibid.
- 395 Ibid.
- 396 International Tropical Timber Organisation, Mexico Country Profile, 2005, <https://www.itto.int/sfm/2005/details/id=12540000>.
- 397 Gobierno de los Estados Unidos Mexicanos, SEMARNAT, *Programas Específicos de Intervención Institucional*, 2014, https://www.gob.mx/cms/uploads/attachment/file/251747/Programa_especifico_de_intervencion_institucional_Plantaciones_Forestales_Comerciales_2014-2018.pdf.
- 398 NEPCon, Timber Legality Risk Assessment: Mexico, 2017, <https://www.nepcon.org/sites/default/files/library/2017-11/NEPCon-TIMBER-Mexico-Risk-Assessment-EN-V1.2.pdf>.
- 399 Gobierno de los Estados Unidos Mexicanos, SEMARNAT, *Anuario Estadístico de la Producción Forestal 2016*, www.gob.mx/cms/uploads/attachment/file/282951/2016.pdf.
- 400 Ibid.
- 401 NEPCon, Timber Legality Risk Assessment: Mexico, 2017, <https://www.nepcon.org/sites/default/files/library/2017-11/NEPCon-TIMBER-Mexico-Risk-Assessment-EN-V1.2.pdf>.
- 402 Gobierno de los Estados Unidos Mexicanos, *Plan Nacional de Desarrollo 2013-2018: Programa Nacional Forestal 2014-2018*, 2013, <http://www.conafor.gob.mx:8080/documentos/docs/4/5382Programa%20Nacional%20Forestal%202014-2018.pdf>.
- 403 Business Sweden, Business Opportunities in the Mexican Forestry Sector, 2017, <https://www.business-sweden.se/contentassets/02cd808546c34e5ba50c8d120ff2ed7e/forestry-sector---sector-study.pdf>.
- 404 Profor, Community Forestry Enterprise Competitiveness and Access to Markets in Mexico, 2017, <https://www.profor.info/node/1901>.

- 405 Mexico – Forestry, Nations Encyclopedia, 2020, <https://www.nationsencyclopedia.com/Americas/Mexico-FORESTRY.html>.
- 406 Manuel Torres-Rojo, Juan, et al., Sustainable Forest Management in Mexico., *Current Forestry Reports*, 2016, 101, <https://link.springer.com/article/10.1007/s40725-016-0033-0>.
- 407 Ibid.
- 408 NEPCon, Mexico Timber Risk Profile, 2017, <https://www.nepcon.org/sourcinghub/timber/timber-mexico>.
- 409 Business Sweden, Business Opportunities in the Mexican Forestry Sector, 2017, <https://www.business-sweden.se/contentassets/02cd808546c34e5ba50c8d120ff2ed7e/forestry-sector---sector-study.pdf>.
- 410 Ibid.
- 411 Gobierno de los Estados Unidos Mexicanos, Cámara de Diputados, *Ley General de Desarrollo Forestal Sustentable 2018*, http://www.diputados.gob.mx/LeyesBiblio/pdf/LGDFS_050618.pdf.
- 412 Business Sweden, Business Opportunities in the Mexican Forestry Sector, 2017, <https://www.business-sweden.se/contentassets/02cd808546c34e5ba50c8d120ff2ed7e/forestry-sector---sector-study.pdf>.
- 413 Wallace, Jessica, et al, Present forest management structures and policies in temperate forests of Mexico: Challenges and prospects for unique tree species assemblages, *The Forestry Chronicle*, 2015, <http://pubs.cif-ifc.org/doi/pdf/10.5558/tfc2015-052>.
- 414 The United States International Trade Commission, *Forest Products*, https://www.usitc.gov/research_and_analysis/trade_shifts_2017/forestry.htm.
- 415 Ibid.
- 416 Zeltzin Sanchez, Lorelei, *México se Coloca como Mayor Exportador de Muebles de Madera de Latinoamérica*, *El Universal*, 12 October 2018, <https://www.eluniversal.com.mx/cartera/negocios/mexico-se-coloca-como-mayor-exportador-de-muebles-de-madera-en-latinoamerica>.
- 417 Ortiz Tapia, Elizabeth, The black hole in Mexico's Forestry Law, *Ojo Público*, 22 October 2018, <https://ojo-publico.com/902/black-hole-mexicos-forestry-law>.
- 418 Zeltzin Sanchez, Lorelei, *México se Coloca como Mayor Exportador de Muebles de Madera de Latinoamérica*, *El Universal*, 12 October 2018, <https://www.eluniversal.com.mx/cartera/negocios/mexico-se-coloca-como-mayor-exportador-de-muebles-de-madera-en-latinoamerica>.
- 419 Urrunaga, J., Johnson, A., and Orbegoza Sánchez I. D., Moment of Truth: Promise or peril for the amazon as Peru confronts its illegal timber trade, Environmental Investigation Agency (EIA), January 2018, <https://content.eia-global.org/posts/documents/000/000/694/original/MomentofTruth.pdf?1520443534>.
- 420 Ibid.
- 421 Gaworecki, Mike, Critics say proposed changes to Mexico's Forestry Law threaten sustainable forest management by local communities, Mongabay, 9 April 2018, <https://news.mongabay.com/2018/04/critics-say-proposed-changes-to-mexicos-forestry-law-threaten-sustainable-forest-management-by-local-communities/>.
- 422 Center for International Environmental Law (CIEL), "Continuous Improvement" in Illegal Practices in the Peruvian Forest Sector, 2017, <https://www.ciel.org/wp-content/uploads/2017/11/EnglishVersionFinal.pdf>.
- 423 Gaworecki, Mike, Critics say proposed changes to Mexico's Forestry Law threaten sustainable forest management by local communities, Mongabay, 9 April 2018, <https://news.mongabay.com/2018/04/critics-say-proposed-changes-to-mexicos-forestry-law-threaten-sustainable-forest-management-by-local-communities/>.
- 424 Urrunaga, J., Johnson, A., and Orbegoza Sánchez I. D., Moment of Truth: Promise or peril for the amazon as Peru confronts its illegal timber trade, EIA, January 2018, <https://content.eia-global.org/posts/documents/000/000/694/original/MomentofTruth.pdf?1520443534>.
- 425 US Department of State Bureau of Democracy, Human Rights, and Labor, Country Reports on Human Rights Practices Peru, 2017, <https://www.state.gov/documents/organization/265820.pdf>.
- 426 US Department of Labor, List of Goods Produced by Child Labor and Forced Labor, 2018, <https://www.dol.gov/agencies/ilab/reports/child-labor/list-of-goods>.
- 427 Gobierno de la República del Perú, *Alianza contra el trabajo forzoso*, Ministerio de Trabajo y Fomento del Empleo, http://www.trabajo.gob.pe/trabajo_forzoso/TF_peru.html.
- 428 ILO, *Precariedad y trabajo forzoso en la extracción de madera*, 2015, http://www.ilo.org/wcmsp5/groups/public/---americas/---ro-lima/documents/publication/wcms_427032.pdf.
- 429 Ortiz, Elizabeth, *Las 10 empresas que compraron la madera amazónica de origen ilegal*, Connectas, 2018. <https://www.connectas.org/las-10-empresas-que-compraron-la-madera-amazonica-de-origen-ilegal/>.
- 430 Urrunaga, J., Johnson, A., and Orbegoza Sánchez I. D., Moment of Truth: Promise or peril for the amazon as Peru confronts its illegal timber trade, EIA, January 2018, <https://content.eia-global.org/posts/documents/000/000/694/original/MomentofTruth.pdf?1520443534>.
- 431 Ortiz, Elizabeth, *Las 10 empresas que compraron la madera amazónica de origen ilegal*, Connectas, 2018. <https://www.connectas.org/las-10-empresas-que-compraron-la-madera-amazonica-de-origen-ilegal/>.
- 432 CIEL, "Continuous Improvement" in Illegal Practices in the Peruvian Forest Sector, 2017, <https://www.ciel.org/wp-content/uploads/2017/11/EnglishVersionFinal.pdf>.
- 433 Urrunaga, J., Johnson, A., and Orbegoza Sánchez I. D., Moment of Truth: Promise or peril for the amazon as Peru confronts its illegal timber trade, EIA, January 2018, <https://content.eia-global.org/posts/documents/000/000/694/original/MomentofTruth.pdf?1520443534>.
- 434 Ibid.
- 435 Ortiz, Elizabeth, *Las 10 empresas que compraron la madera amazónica de origen ilegal*, Connectas, 2018. <https://www.connectas.org/las-10-empresas-que-compraron-la-madera-amazonica-de-origen-ilegal/>.
- 436 Ibid.
- 437 Ibid.
- 438 Ibid.
- 439 Langarica Arreola, Luis, *La Revolución Mexicana y la Lucha por el Reparto Agrario*, Agencia Latinoamericana de Información, 14 April 2016, <https://www.alainet.org/es/articulo/176753>.
- 440 Gobierno de Estados Unidos Mexicanos. Cámara de Diputados H. Congreso de la Unión, *Ley Agraria, Última reforma DOF 25-06-2018*. 2018, http://www.diputados.gob.mx/LeyesBiblio/pdf/13_250618.pdf.
- 441 Anta Fonseca, Salvador, *Manejo forestal comunitario en la Tarahumara: dos caras de una moneda*, *La Jornada: Ecológica*, 2019, <http://ecologica.jornada.com.mx/2019/02/23/manejo-forestal-comunitario-en-la-tarahumara-dos-caras-de-una-moneda-6577.html>.
- 442 Carillo Anzures, Fernando, *Caracterización de productores forestales en 12 estados de la República Mexicana*,

- Revista Mexicana de Ciencias Agrícolas*, vol. 8, no.7, September/November 2017, http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S2007-09342017000701561&lng=es&nrm=iso.
- 443 Congreso del Estado de Chihuahua, *Ley de Derechos de los Pueblos Indígenas del Estado de Chihuahua, Última reforma 30-08-2017*, 8 August 2017, https://www.cndh.org.mx/sites/default/files/doc/Programas/Indigenas/OtrasNormas/Estatal/Chihuahua/Ley_DPICih.pdf.
- 444 Comisión de Solidaridad y Defensa de los Derechos Humanos A.C. & Texas Center for Policy Studies, *La Industria y los Recursos Naturales en la Sierra Madre de Chihuahua: Impactos sociales, económicos y ecológicos*, 2000, <http://www.texascenter.org/publications/forestal.pdf>.
- 445 Barsimantova, J., and Navia Antezana, J., Forest cover change and land tenure change in Mexico's avocado region: Is community forestry related to reduced deforestation for high value crops?, *Applied Geography*, 2011, <https://www.sciencedirect.com/science/article/abs/pii/S0143622811001706>.
- 446 Thomas, Christopher, The Inadequacy of Article 27 Reforms in Shaping Sustainable Ejidos, University of Michigan, <http://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/1095/thomsc041400.pdf?sequence=1>
- 447 https://www.conafor.gob.mx/innovacion_forestal/?p=3762.
- 448 Antinori, C., and Bray, D. B., Community forest enterprises as entrepreneurial firms: economic and institutional perspectives from Mexico, *World Development*, vol. 33, no. 9, 2005, <https://are.berkeley.edu/~cmantinori/prclass/AntinoriBray-WD2.pdf>.
- 449 Bray, D. B., and Merino-Pérez, L., The rise of community forestry in Mexico: History, concepts, and lessons learned from twenty-five years of community forestry timber production, Secretaría de Medio Ambiente y Recursos Naturales; Instituto Nacional de Ecología, 2002, https://www.ccmss.org.mx/wp-content/uploads/2014/09/the_rise_of_community_forestry_in_mexico.pdf.
- 450 Torres-Rojo, J. M., and Amador-Callejas, J., *Características de los núcleos agrarios forestales en México, El desarrollo forestal comunitario: La política pública*, Centro de Investigación y Docencia Económicas-Coyuntura y Ensayo, 2015, https://www.researchgate.net/publication/308139738_Características_de_los_nucleos_agrarios_forestales_en_Mexico_In_Desarrollo_Forestal_Comunitario. See also Torres-Rojo, J. M., et al., Sustainable Forest Management in Mexico, *Current Forestry Reports*, 2016, <https://link.springer.com/article/10.1007/s40725-016-0033-0>.
- 451 Barsimantova, J., and Navia Antezana, J., Forest cover change and land tenure change in Mexico's avocado region: Is community forestry related to reduced deforestation for high value crops?, *Applied Geography*, 2011, <https://www.sciencedirect.com/science/article/abs/pii/S0143622811001706>.
- 452 Ibid.
- 453 Shrivastava, Kumar Sambhav, Forestry, the Mexican Way, Down to Earth, 18 September 2015, <https://www.downtoearth.org.in/coverage/forests/forestry-the-mexican-way-48227>.
- 454 Shrivastava, Kumar Sambhav, Forestry, the Mexican Way, Down to Earth, 18 September 2015, <https://www.downtoearth.org.in/coverage/forests/forestry-the-mexican-way-48227>.
- 455 Cabbage, Frederick et al., Community Forestry Enterprises in Mexico: Sustainability and Competitiveness, *Journal of Sustainable Forestry*, 2015, <https://pdfs.semanticscholar.org/f9ff/ac226fc527fa4130a6bc2788411b66e5e4c5.pdf>.
- 456 Torres-Rojo, J. M., and Amador-Callejas, J., *Características de los núcleos agrarios forestales en México, El desarrollo forestal comunitario: La política pública*, Centro de Investigación y Docencia Económicas-Coyuntura y Ensayo, 2015, https://www.researchgate.net/publication/308139738_Características_de_los_nucleos_agrarios_forestales_en_Mexico_In_Desarrollo_Forestal_Comunitario. See also Torres-Rojo, J. M., et al., Sustainable Forest Management in Mexico, *Current Forestry Reports*, 2016, <https://link.springer.com/article/10.1007/s40725-016-0033-0>.
- 457 Torres-Rojo, J. M., et al., Sustainable Forest Management in Mexico, *Current Forestry Reports*, 2016, <https://link.springer.com/article/10.1007/s40725-016-0033-0>.
- 458 Cabbage, Frederick et al., Community Forestry Enterprises in Mexico: Sustainability and Competitiveness, *Journal of Sustainable Forestry*, 2015, <https://pdfs.semanticscholar.org/f9ff/ac226fc527fa4130a6bc2788411b66e5e4c5.pdf>.
- 459 Barsimantova, J., and Navia Antezana, J., Forest cover change and land tenure change in Mexico's avocado region: Is community forestry related to reduced deforestation for high value crops?, *Applied Geography*, 2011, <https://www.sciencedirect.com/science/article/abs/pii/S0143622811001706>.
- 460 Gobierno de Estados Unidos Mexicanos, SEMARNAT, *Programas Específicos de Intervención Institucional*, 2014, https://www.gob.mx/cms/uploads/attachmet/file/251747/Programa_especifico_de_intervencion_institucional_Plantaciones_Forestales_Comerciales_2014-2018.pdf.
- 461 Ibid.
- 462 Ibid.
- 463 Ibid.
- 464 Holguín, Ricardo, *Tala ilegal, negocio familiar en Chihuahua, El Sol de Mexico*, 30 August 2018, <https://www.elsoldemexico.com.mx/republica/sociedad/tala-ilegal-negocio-familiar-en-chihuahua-1954457.html>, Agosto 2018.
- 465 Gobierno de Estados Unidos Mexicanos, Cámara de Diputados H. Congreso de la Unión, *Ley Agraria, Última reforma DOF 25-06-2018*, 2018, http://www.diputados.gob.mx/LeyesBiblio/pdf/13_250618.pdf.
- 466 Omnia, Policías emboscados en Bocoyna fueron amenazados y se les ofreció dinero, 8 September 2018, <http://www.omnia.com.mx/noticia/80135>.
- 467 Holguín, Ricardo, *Tala ilegal, negocio familiar en Chihuahua, El Sol de Mexico*, 30 August 2018, <https://www.elsoldemexico.com.mx/republica/sociedad/tala-ilegal-negocio-familiar-en-chihuahua-1954457.html>, Agosto 2018.
- 468 Ibid.
- 469 Topete, Ernesto, *Cárteles disputan control de la tala ilegal en la sierra de Chihuahua, El Sol de Parral*, 29 August 2018, <https://www.elsoldeparral.com.mx/republica/sociedad/carteles-disputan-control-de-la-tala-ilegal-en-la-sierra-de-chihuahua-1951631.html>.
- 470 La Opción de Chihuahua, *Dan 2 años a uno por transporte de madera ilegal*, 3 May 2019, <http://laopcion.com.mx/noticia/237338>.
- 471 Fiscalía General del Estado Chihuahua, *Vinculan a dos hombres por transporte ilegal de madera*, 22 August 2018, <http://fiscalia.chihuahua.gob.mx/inicio/?p=29461>.



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