

# Poverty and Agricultural Labor in the Culiacán Valley 2010-2020

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CIESAS Bulletin No.4.  
May 27th, 2022

The Culiacán Valley, at the center of the state of Sinaloa, is one of Mexico’s key agricultural regions.<sup>1</sup> Its importance to commercial and export agriculture dates back to the late nineteenth century.<sup>2 3 4</sup> Since that time, the region has produced grain corn, sugar cane, tomatoes, and eggplant. The development of agriculture has been characterized by different stages of economic policy, investment in technology, means of transportation, development of infrastructure, and

availability of labor.<sup>5 6</sup> New forms of transportation, such as the railroad and highways, allowed for the sale of agricultural production outside the country. Large water infrastructure projects expanded its reach. New cultivation and packing technologies intensified production and improved the appearance of crops to meet the demands of international markets. These factors enabled the move from an extensive to an intensive agricultural model, in which the availability of labor is fundamental.

The valley is currently the country’s major producer of tomatoes for export. Its municipalities, Navolato and Culiacán, are among the five major agricultural producers in the state of Sinaloa, accounting for 33% of the value of the state’s agricultural production: 10.7 billion pesos in Culiacán and 8.1 billion pesos in

Navolato.<sup>7</sup> The major crops in the region are tomatoes, eggplant, green chiles, grain corn, and cucumbers. In recent years, the value of export produce has increased exponentially,<sup>8</sup> a demonstration of its growing importance. It has been accompanied by an increase in the value of crops, and in the number of workers.

Since the mid-1950s, the growth of a model of intensive agriculture in the region has generated a greater demand for labor. Data on the number of workers from 2010 to 2020 (Table 1) leads us to believe that with the growth of export agriculture in the past decade,<sup>9</sup> labor demand has intensified. Working in industrial agriculture has become an employment option for people in

1 In 2019, the state of Sinaloa was the third-largest agricultural producer in Mexico, with a participation of 9.03%. According to the Agriculture and Fishery Information Service, the state’s agricultural sector finished the year with production valued at 58.9 billion pesos (real value calculated based on the National Consumer Price Index, base year 2018).

2 Lara Flores, Sara María. 2012. “Los territorios migratorios como espacio de articulación de migraciones nacionales e internacionales. Cuatro casos del contexto mexicano,” *Política y sociedad*, 49, 1: 89-102.

3 Maya Ambía, Carlos J. 2011. “Sinaloa: ¿cluster agroindustrial o territorio desincrustado?,” *Análisis*, 14, 41: 127-160.

4 Sandoval Cabrera, Seyka Verónica. 2012. “Condiciones histórico-estructurales de los productores de hortalizas sinaloenses en la cadena de valor, 1900-2010.” *Región y sociedad*, 24, 54: 231-261.

5 Lara Flores, Sara María. 1998. *Nuevas experiencias productivas y nuevas formas de organización flexible del trabajo en la agricultura*. México: Juan Pablos Editores/ Procuraduría Agraria.

6 Rodríguez Pérez, Beatriz Eugenia. 2005. *Alianza Matrimonial y conyugalidad en jornaleras migrantes. Las y los triquis en la horticultura sinaloense*. México: Instituto Nacional de las Mujeres.

7 Constant pesos, base year 2018.

8 According to the SIACON, in 2019 the municipality of Culiacán alone exported produce worth 877.34 million pesos, 1140% more than in 2015 (in real value based on the National Consumer Price Index for 2018).

9 In 2009, the National Survey of Agricultural Workers found that 21% of those who migrated from their home state worked primarily in crops located in the north and west of the country, mainly in tomatoes, chiles, apples, and melons. These crops employed 51.7% of migrant workers (Sedesol 2011; ENOE 2009).

\* Project “Farmworkers in Mexico’s Export Agriculture”.

the region, but also for workers from other states. The need for labor is such that it has intensified migration flows. The crops in this microregion are a source of employment and part of the survival strategies of the agricultural workers who travel the migratory route from the Pacific to the northwest.<sup>10</sup> According to data from INEGI's 2020 Census, 6.82% of the population of Culiacán (which includes a large city) is employed in the primary sector,<sup>11</sup> as is 35.39% of the population of Navolato. These figures reflect the importance of agricultural labor in both municipalities.

The importance in the region of these developments and the increase in the value of production in recent years call our attention to the lives and working conditions of agricultural laborers. In recent years, the idea of social responsibility has taken on great importance in export agriculture. This concept includes a set of practices that seek to provide decent working conditions and respect for the human rights of workers: formal hiring, enrollment in social security, elimination of child labor, higher wages, and decent housing. These practices translate into greater well-being for workers and their families. The implementation of these practices in communities like the Culiacán

10 Secretaría de Desarrollo Social. 2006. *Tendencias recientes de la migración interna de los jornaleros agrícolas, México, Sedesol / Programa de Atención a Grupos Vulnerables*.

11 Culiacán is one of the main producers in the state, but it has a greater occupational diversity because it includes the state capital. For this reason the proportion of the population employed in the primary sector is much less than in the municipality of Navolato.

**Table 1.**  
Changes in Agriculture in Culiacán and Navolato, Sinaloa, 2010 and 2020.

		Area harvested (hectares)	Production (1000s of metric tons)	Value (millions of pesos*)	Value/hectare	Field workers**
<b>Culiacán 2010-2020</b>	2010	181,120.42	2,191.73	6,297.17	34.77	11,104
	2020	153,518.53	2,371.48	10,696.04	69.67	20,010
	% change	-15.2	+8.2	+69.9	+100.4	+80.20
<b>Navolato 2010-2020</b>	2010	92,114.00	1,578.22	5,325.22	57.81	4,087
	2020	94,147.88	1,338.39	8,069.19	85.71	18,329
	% change	+2.2	-6.1	+51.5	+48.3	+348.47

Source: Authors' calculations based on data from SIAP-SADER.

\* Constant pesos, base year 2018.

\*\* The census category for 2010 corresponds to the first grouping in the Occupational Classification (CUO; Clasificación Única de Ocupaciones, 2010) and for 2020 to the grouping in the National System for Occupational Classification (SINCO; Sistema Nacional de Clasificación de Ocupaciones, 2019).

Valley, where industrial agriculture is dominant, is significant enough to have affected the levels of poverty and well-being. In this bulletin we analyze the CONEVAL poverty indexes for 2010 and 2020<sup>12</sup> to determine whether agricultural activity in this period may have reduced poverty, or if precarity and vulnerability predominated.

## Poverty and Agricultural Labor

With the structural economic reforms of the 1980s that sought to liberalize Mexico's markets, agriculture in the Culiacán Valley was reorganized. The adjustments were characterized by technological changes to increase productivity,<sup>13</sup>

12 For more on the methodology for measuring poverty in Mexico, see Escobar, Martínez, and Judd, 2020. "Agricultura de exportación y pobreza en el Valle de Ciudad Guzmán," *Jornaleros en la agricultura de exportación CIESAS Boletín n° 2*. México: CIESAS.

13 Marañón notes that the farmers of Sinaloa used five strategies to maintain competitiveness in this process of restructuring: "a) specialization in production; b) continual technological and

and a restructuring of labor. A number of studies describe how this period marked the beginning of flexibilization and segmentation of work in the fields:<sup>14 15</sup> the imposition of precarious working conditions including casual hiring, piecework, and activities assigned according to workers' age, sex, and ethnicity. These studies document the living and working conditions of the Valley's agricultural workers: the lack of formal employment with registration in social security, their overcrowded housing, and their low wages. Posadas<sup>16</sup> notes that from 2000 to 2010 the development of export agriculture increased the

organizational innovation; c) food safety; d) development of efficient marketing channels; and e) social policy" (2011, 155).

14 Becerra Pedraza, Itzel, Vázquez García, et. al. 2008. "Infancia y flexibilidad laboral en la agricultura de exportación mexicana." *Revista latinoamericana en ciencias sociales niñez y juventud*, 6, 1: 191-215.

15 Lara Flores, Sara María. 1998. *Nuevas experiencias productivas y nuevas formas de organización flexible del trabajo en la agricultura*. México: Juan Pablos Editores/ Procuraduría Agraria.

16 Posadas. 2017. "La situación de los trabajadores rurales en Sinaloa," *Estudios sociales*, 27,49: 245-271.

value of agricultural production, but paradoxically, workers' poverty and living conditions worsened. Our study analyzes data from the CONEVAL multidimensional poverty measurement for the period 2010 to 2020 to determine whether the situation has changed. These data allow us to examine the impact of agriculture on communities and the well-being of workers. CONEVAL data are important, given the economic importance of agriculture in both municipalities and the number of workers it employs.

Figure 1 shows changes in the indicators of multidimensional poverty from 2010 to 2020.<sup>17</sup> In Culiacán overall trends in multidimensional poverty are positive: poverty, extreme poverty, the population with three deprivations or more, lack of access to education, and lack of access to health and social security all fall, indicating improvements. Only basic housing services and access to food remained flat.

In Navolato, on the contrary, the overall picture is negative. There are improvements in extreme poverty, housing services and access to food. But poverty, the population with three or more deprivations, lack of access to education, lack of access to health services, and social security all increase, signaling an overall worsening of the situation in this municipality. At the same time, agricultural production increased by 51.5%, and the number of workers in the fields increased by 348.47%. The

increase in the number of workers and of those with gaps in social resources demonstrate that in spite of the availability of work, the living conditions of these workers have not improved. In Culiacán, the greatest worsening was a small rise in lack of access to food; in Navolato, it was access to health services. Although both gaps increased, the population with income below the poverty line decreased, indicating an improvement in income. (See Appendix One for the full multidimensional poverty measurement). One shows the full multidimensional poverty measurement.

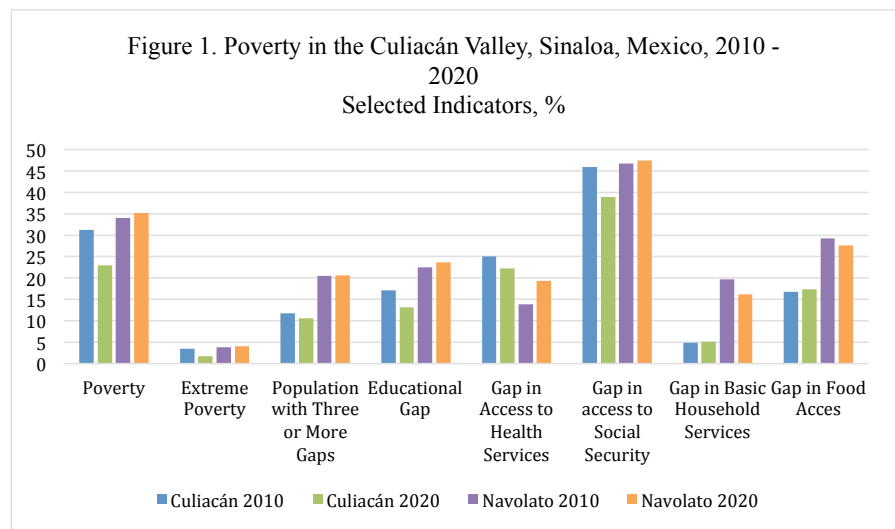
## Living and Working Conditions

We took a closer look at working and living conditions in the Valley. The relationship between the increase in

social vulnerability and agricultural labor in the Culiacán Valley can be seen in the living conditions of the workers. During fieldwork in Sinaloa<sup>18</sup>, in which workers were interviewed for the Survey of Workers in Export Agriculture (Encuesta de Jornaleros de la Agricultura de Exportación)<sup>19</sup> and an ethnographic analysis, we observed their living and working conditions. In the Culiacán Valley we found a segmented and divided labor market. One group includes workers employed by companies that are part of the Asociación de Agricultores del Río Culiacán (AARC), which are

18 Fieldwork was cut short by the COVID-19 pandemic.

19 Survey carried out for workers in the five major export crops in the states of Baja California, Guanajuato, Sinaloa, San Luis Potosí, Jalisco, and Michoacán for the project "Farm Labor and Mexico's Produce Industry," Centro de Investigaciones y Estudios Superiores en Antropología Social (CIESAS), Unidad Occidente and the Wilson Center.



Source: Authors' elaboration based on dynamic results of public data regarding the municipal-level measurement of poverty carried out by CONEVAL in 2010, and 2020 (Consejo Nacional para la Evaluación de la Política de Desarrollo Social, 2021).

17 More detailed figures can be found in Appendixes 1 and 2.

registered exporters. The other includes informal, casual workers who are hired for one or a few days. The difference between the two is significant: the average monthly wage in the first group is 7086 pesos for men and 5593 pesos for women. The average monthly wage for casual workers in the Culiacán Valley is 6004 pesos for men and 5179 pesos for women, but the contrast is even greater in employment benefits: while 94% of workers in AARC-affiliated companies are registered with the IMSS and 84% had received an end-of-year bonus, the corresponding figures for casual workers were 13% and 14%. Casual workers also live in settlements they themselves construct. One of these is the *sindicatura* Villa Benito Juárez, located in the municipality of Navolato, which includes mainly the housing for field workers referred to as *cuarterías* or tenements: structures of brick or cinderblock, with rooms measuring approximately six by six meters that house entire families. These families cook and sleep in the same room; there are also bathrooms and laundry rooms shared by all the residents. The *cuarterías* have private owners; the municipal government administers only one. The cost of the rooms ranges from 100 to 250 pesos a week. This housing is clearly overcrowded, and in some cases there are problems of hygiene and access to basic services. In one of the *cuarterías* we visited, for example, there were piles of scrap wood and junk in the common patio, and food wrappers on the ground (Photo 1).

Companies also have *cuarterías* or *galeras* in the fields. The latter are large single-level structures with dividers that define rooms in which entire families live. Originally these buildings were constructed mainly with sheet metal, but the companies' human resources personnel say that now they are more often built out of cinderblock. As in the *cuarterías*, all the residents share bathrooms and

laundry rooms. The lack of space and privacy in these tenements means workers living in them will be deprived of some aspects of housing quality, as defined by CONEVAL.

Another problem is the persistence of informal hiring. In the *cuarterías* we visited in Villa Juárez, some of the people said they worked under

Photo 1.



*Cuartería* in the *Sindicatura* Villa Benito Juárez, in the Municipality of Navolato  
Photo: Elisa Martínez Rubio

the “pay and go” system, meaning that they had no formal contract, but were recruited and paid by different companies every day. Every day at 5 a.m., yellow buses waited at the entrance to the community, where contractors and drivers recruited workers for the day. These practices explain the decrease in access to social security. Workers in this situation also report lower wages than those who work with a contract: some of those interviewed said they earned between 400 and 1400 pesos a week. These low wages, in comparison with other agricultural export regions, explains the decrease in access to food. Some of the workers interviewed in fieldwork said they were given no time off to eat during their workday, which begins at 7 a.m. and ends at 4 p.m. A clear example of the precarious working conditions was observed in the municipally-administered *cuartería*, where a 27-year-old woman was interviewed who worked with her husband in the tomato fields. The family was from Veracruz, but had lived in Sinaloa for nine years. She, her husband, and their four children ranging in age from one to ten years live in a single room for a weekly rent of 150 pesos. The couple is not employed by a company; they work under the “pay and go” system, without any formal contract or employment benefits. The previous week she had earned 800 pesos, working from 7 a.m. to 4 p.m. without a lunch break. During the interview the family prepared a meal. Wood stoves are prohibited in the rooms, and every family must buy its own gas stove and tank of gas. They did not have one, so

they had made a small fire in front of their room to cook black beans. Their case reflects the conditions of precarity, poverty, and vulnerability in which many of the agricultural workers in the Culiacán Valley still find themselves.

## Conclusion

The Culiacán Valley is a region of major importance for export agriculture, and it has experienced a marked increase in the value of its production. Although there has been some progress, its workers remain in conditions of poverty and precarity. The municipality of Culiacán shows improvements in most indicators of multidimensional poverty. The opposite is the case for Navolato. Although there is an emphasis on social responsibility

in the companies affiliated with the AARC, the large numbers of workers who live in Villa Juárez and who work informally are evidence of its absence in other companies. The situation highlights the urgency of improving living and working conditions in this microregion. It is not only necessary to improve wages, but also living conditions and the system of informal hiring. To do so, a dialogue between companies and government is urgently needed, to create public policy that can bring about substantive change.

Photo 2.



Agricultural Workers' Housing in Sinaloa  
Photo: Agustín Escobar Latapí

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More information: [jornamex.com](http://jornamex.com)

## APPENDIX

<b>Appendix 1. Indicators of Multidimensional Poverty in Culiacán, Sinaloa: 2010-2020</b>						
<b>Indicator</b>	<b>Percent</b>		<b>Persons, N</b>		<b>Average Social Resource Gaps</b>	
	<b>2010</b>	<b>2020</b>	<b>2010</b>	<b>2020</b>	<b>2010</b>	<b>2020</b>
<b>Multidimensional Poverty</b>						
<b>Population in Situation of Multidimensional Poverty</b>	31.2	23	272,524	244,846	2	1.9
<b>Population in Situation of Moderate Multidimensional Poverty</b>	27.8	21.3	242,296	226,818	1.8	1.8
<b>Population in Situation of Extreme Multidimensional Poverty</b>	3.5	1.7	30,228	18,028	3.5	3.4
<b>Population With Social Vulnerability</b>	29.9	33.6	260,784	357,233	1.7	1.7
<b>Population With Income Vulnerability</b>	9.1	7.8	79,049	82,707	-	-
<b>Population Not Poor or Vulnerable</b>	29.8	35.7	259,870	379,543	-	-
<b>Social Deprivation</b>						
<b>Population With at Least One Gap in Social Resources</b>	61.1	56.6	533,309	602,078	1.9	1.8
<b>Population With at Least Three Gaps in Social Resources</b>	11.7	10.6	101,798	112,287	3.4	3.3
<b>Indicators of Gaps in Social Resources</b>						
<b>Educational Gap</b>	17.1	13.1	149,348	139,792	2.2	2.1
<b>Access to Health Services</b>	25	22.3	218,184	237,574	2.4	2.4
<b>Access to Social Security</b>	45.9	38.9	399,975	414,240	2.1	2.1
<b>Housing Space and Quality</b>	5.1	5.1	44,508	54,638	3.2	2.6
<b>Access to Basic Household Services</b>	4.9	5.1	42,454	54,556	3.3	2.6
<b>Access to Food</b>	16.8	17.3	146,936	183,715	2.6	2.1
<b>Well-Being</b>						
<b>Population With Income Below The Poverty Line</b>	40.3	30.8	351,573	327,552	1.6	1.5
<b>Population With Income Below The Extreme Poverty Line</b>	12	6.1	104,957	64746	1.9	1.9

Source: Authors' elaboration based on dynamic results of public data regarding the municipal measurement of poverty carried out by CONEVAL in 2010 and 2020. Consejo Nacional para la Evaluación de la Política de Desarrollo Social, 2021.

**Appendix 2. Indicators of Multidimensional Poverty in Navolato, Sinaloa: 2010-2020**

Indicator	Percent		Persons, N		Average Social Resource Gaps	
	2010	2020	2010	2020	2010	2020
<b>Multidimensional Poverty</b>						
<b>Population in Situation of Multidimensional Poverty</b>	34	35.2	47,697	53,496	2.1	2.2
<b>Population in Situation of Moderate Multidimensional Poverty</b>	30.2	31.1	42,307	47,315	1.9	2
<b>Population in Situation of Extreme Multidimensional Poverty</b>	3.8	4.1	5,390	6,181	3.6	3.6
<b>Population With Social Vulnerability</b>	38.2	36.9	53,645	56,071	1.8	1.8
<b>Population With Income Vulnerability</b>	7.2	7.8	10,146	11,776	-	-
<b>Population Not Poor or Vulnerable</b>	20.5	20.1	28,778	30,563	-	-
<b>Social Deprivation</b>						
<b>Population with at least one gap in social resources</b>	72.3	72.1	101,342	109,567	2	2
<b>Population with at least three gaps in social resources</b>	20.5	20.6	28,753	31,352	3.5	3.5
<b>Indicators of Gaps in Social Resources</b>						
<b>Educational gap</b>	22.5	23.7	31,537	35,986	2.4	2.6
<b>Access to health services</b>	13.8	19.3	19,331	29,383	3.1	3
<b>Access to social security</b>	46.7	47.4	65,486	72,008	2.2	2.4
<b>Housing space and quality</b>	11.3	11.1	15,780	16,888	3.3	3.3
<b>Access to basic household services</b>	19.7	16.2	27,648	24,545	2.8	2.9
<b>Access to food</b>	29.2	27.6	40,976	41,958	2.7	2.4
<b>Well-Being</b>						
<b>Population with income below the poverty line</b>	41.2	43	57,843	65,272	1.8	1.8
<b>Population with income below the extreme poverty line</b>	10.8	10.3	15,148	15,677	2	2.2

Source: Authors' elaboration based on dynamic results of public data regarding the municipal measurement of poverty carried out by CONEVAL in 2010 and 2020. Consejo Nacional para la Evaluación de la Política de Desarrollo Social, 2021.