



SUNÚ



STUDY GUIDE

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SUNÚ Study Guide

Seen through the eyes of small, midsize and large Mexican maize producers, SUNÚ knits together different stories from a threatened rural world. This film documents how people realize their determination to stay free, to work the land and cultivate their seeds, to be true to their cultures and forms of spirituality, all in a modern world where corn is being threatened at the center of its origin: Mexico.

Mexico

Mexico, which shares a border with Guatemala and Belize to the south and the United States to the north, is the most populous Spanish-speaking nation in the world. Prior to Spanish colonization, many advanced civilizations inhabited the territories of present-day Mexico. The Aztec city-state of Tenochtitlan, founded in 1325, was the capital of the expanding Mexica Empire, until its capture by the Spanish in 1521. With a population of approximately 200,000-300,000, Tenochtitlan was one of the largest cities in the world when the Spanish first arrived in 1519. Tenochtitlan today is Mexico City, which is one of thirty-two states and the nation's capital. With a population of approximately 21.2 million people, the Mexico City Metropolitan Area is the largest metropolitan area in the Western Hemisphere.

Mexico is noteworthy not only for its rich history and extensive population, past and present, it is also one of the largest economies in Latin America. Its GDP (gross domestic product) was the second highest in the region, following Brazil, in 2015. It is also one of only two Latin American nations currently in the Organization of Economic Cooperation and Development (OECD), a group of the world's highest-income market economies. The other is Chile. In addition, Mexico is among the nations in the world with the greatest number of billionaires. However, alongside such tremendous prosperity, is great poverty. Mexico has the highest rate of income inequality of all 34 OECD countries. The assets of four of Mexico's billionaires make up 9 percent of the GDP, according to a June 2015 Oxfam report. While the top 1 percent own 43 percent of the nation's wealth, 46 percent of Mexicans are under the poverty line.

Poverty is most concentrated in the nation's southern states of Chiapas, Guerrero, Puebla, Oaxaca and Tlaxcala, and least concentrated in northern Mexico, including the states of Sonora, Coahuila and Nuevo Leon. Over the past three decades, neoliberal economic and political restructuring, including The North American Free Trade Agreement (NAFTA), has deepened longstanding inequalities in Mexico. NAFTA, an international trade agreement between Mexico, the US and Canada, has had different effects on Mexico's diverse regions and economic sectors. In northern cities, for example, NAFTA brought some economic expansion. For rural Mexico, however, NAFTA has generally resulted in decline.

Neoliberal structuring has marked a reverse in Mexico's history of agrarian reform and policies intended to protect Mexico's rural sector. In 1991, for example, President Salinas de Gortari amended Article 27 of the Mexican Constitution, to allow for the privatization of communal lands, called *ejidos*. In addition, agricultural programs intended to support national producers through

measures such as price guarantees, were reworked in anticipation of NAFTA. As a result of NAFTA, small subsistence farmers in particular have struggled. Many have been pushed deeper into poverty. In addition, climate change and increased occurrences of droughts have put “dry farmers” at increased financial risk due to increase in crop failures. While some midsize and large farms have managed to adjust to NAFTA tariff reductions, many Mexican farmers were unable to compete with the low price of US-produced, government-subsidized crops. The decline in agriculture has created new and intensified migration streams from various regions to Mexican cities and the US. This continuing trend of rural to urban migration, has resulted in increased poverty in Mexico’s urban areas, which was at 41.7 percent by late 2014. In Chiapas, Mexico’s poorest state, peasants anticipating the deleterious effects of neoliberal restructuring of the agricultural sector, responded with armed protest—known as the Zapatista uprising—on the day of NAFTA’s inauguration on January 1, 1994

Maize in Mexico and the Americas

Mexico is the center of the origin of maize and diversity of varieties. Commonly called corn in the United States, maize is a grain plant that was domesticated in Mexico’s Tehuacan Valley approximately 10,000 years ago. Prior to domestication, corn cobs were only an inch long and grew one per plant. Over many centuries, indigenous peoples using artificial selection developed maize plants capable of producing several large corn cobs each. Throughout Mesoamerica, people cultivated numerous varieties of maize, which they processed for consumption through cooking, grinding and an indigenous method called nixtamalization. From the Tehuacan Valley, located in the present-day states of Puebla and Oaxaca, maize spread throughout much of the Americas and was traded via regional networks for thousands of years prior to the arrival of Europeans in the Americas. In the late 1400s and early 1500s, European explorers and traders brought maize to Europe and other countries, where it was able to grow in diverse climates.

Today maize is grown throughout the world. With 40% of the world’s harvest, the United States is the largest producer, followed by China with approximately 20% of the total world yield. Mexico, where corn is produced primarily for consumption, is still one of the top ten maize producers in the world. However, its national yield falls far below that of the United States, where corn is produced largely for cattle feed, ethanol and sugar. In 2014, the United States produced over ten times more maize than Mexico. However, most of the maize grown in the United States are hybrid varieties, the majority of which are genetically modified to withstand the herbicide glyphosate. Glyphosate kills all plants except those with genetic tolerance, which is very rarely found in nature.

In Mexico, maize continues to be a central part of culture, identity, economy, community, spirituality as well as cuisine. However, many corn products today are industrially produced and the Mexican state has been working to support Monsanto’s efforts to bring GMO seeds into Mexico. In addition, the government has helped to contaminate native corn, adding to the difficulty of maintaining the variety of Mexico’s native maize. While contributing to the decline in consumption of local corn varieties, the industrialization of corn has been a source of enormous wealth for some businessmen. Roberto González Barrera, known as “Don Maseco” or the “King of Tortillas” for his prominent role in the expansion of Gruma, the Mexican

multinational manufacturing company that sells industrially produced corn flour was a billionaire at the time of his death in 2012. Nevertheless, some women, particularly in rural communities, continue to process locally grown corn into *nixtamal* and make tortillas using traditional methods. Corn is essential to daily and ritual life in such communities, where, as an elder in rural Oaxaca explains in this film, “people still use tortillas for spoons when they eat, not spoons made of metal.”



Glossary

- **Sunú** – Sunú is a Rarámuri word for maize.
- **Maíz** – Spanish for Maize.
- **Elote** – In Mexico, elote refers to corn on the cob and is a popular street food. Mexican elote is topped with condiments such as salt, chili powder, lime juice, mayonnaise and grated cheese. In some areas of southern and central Mexico, elote is also served as *esquites*, which is cooked corn kernels served in a bowl, topped with condiments and eaten with a spoon.
- **Teocintle** – Teocintle is a grass native to Mesoamerica and the wild ancestor of maize.
- **Nixtamalization** – Nixtamalization is an ancient process of preparing maize for human consumption. The grain is soaked and cooked in an alkaline solution, commonly limewater. Once processed, the maize is more easily ground and its nutritional value and flavor are enhanced. Corn dough, called *masa* in Spanish, is produced through this process for a variety of foods, including tortillas and tamales. Nixtamalization of maize in Mexico has declined with industrialization of agriculture and food products.
- **Maseca** – Maseca is the brand name of industrially produced corn flour sold in Mexico and internationally by the Mexican multinational manufacturing company Gruma, S.A.B. de C.V. The Mexican subsidiary GIMSA “Grupo Industrial Maseca, S.A.” has production facilities in fifteen Mexican states.
- **CONASUPO** – Created in 1962, the Compañía Nacional de Subsistencias Populares (CONASUPO) was a Mexican parastatal company created with the aim of guaranteeing the purchase and regulation of basic food products, particularly corn. The government established CONASUPO warehouses and community shops and a system of subsidies aimed increasing food consumption among the nation’s poor.
- **NAFTA** – The North American Free Trade Agreement is a trade agreement among Mexico, Canada and the United States that was implemented on January 1, 1994.
- **SAGARPA** – Mexico’s agriculture ministry is SAGARPA, which is the Spanish acronym for Secretariat of Agriculture, Livestock, Rural Development, Fisheries and Food.
- **PROCAMPO** – The Mexican agriculture ministry created PROCAMPO (Programa de Apoyos Directos al Campo) in 1993 to provide subsidiary support to Mexican agriculturists in anticipation of the implementation of NAFTA. PROCAMPO, which replaced prior systems based on price guarantees, was intended to support national producers who would be at a competitive disadvantage to highly subsidized US and Canadian agriculturists.

- **GMO** – GMO is the acronym for “genetically modified organism.” A GMO is produced when scientists directly modify the genetic material of an organism by mutating, inserting or deleting genes, thus artificially altering an organism’s DNA.
- **GM Food** – Genetically modified foods or genetically engineered foods are foods created by changing the organism’s DNA through genetic engineering. There is ongoing public concern and debate about the health safety and environmental impact of GM foods and GM crops.
- **Glyphosate** – Glyphosate is the most commonly used herbicide in corn production in Mexico and the US.
- **Monsanto** – The Monsanto corporation discovered glyphosate for use as a herbicide in 1970. It later created and marketed genetically engineered corn seeds that produce glyphosate-resistant crop, which allows farmers to eliminate weeds without killing corn plants.
- **Asgrow** – Asgrow is one of Monsanto’s various seed brands. It features glyphosate resistant technology.
- **Dry Farmers** – Dry farmers produce crops through a set of agricultural techniques, called “dry farming,” for non-irrigated cultivation of drylands. Dry farmers calculate planting around timing of predominant rainfall and must constantly assess and plan around the amount of moisture available in a crop cycle. Climate change and increased occurrences of droughts have put dry farmers at increased financial risk due to increase in crop failures.
- **Ejido** - An ejido is communal land set aside for agriculture. Registered with Mexico’s National Agrarian Registry (Registro Agrario Nacional), ejidos are collectively maintained by community members who individually farm designated parcels. The ejido system, based on Aztec and Spanish land allocation systems, was a central part of Mexican agricultural policy intended to protect peasants against landlessness, indebtedness and poverty.
- **Porfirio Diaz** – (1830-1915) José de la Cruz Porfirio Díaz Mori was President of Mexico for 35 years (1876-1911), as a result of the 1876 military coup. During the period of his regime, known as the Porfiriato, he pushed forward economic modernization and expansion of foreign investment. While wealthy hacienda owners acquired vast areas of land, Mexico’s rural populations became increasingly poor. The Porfiriato ended with the Mexican Revolution in 1910.

- **The Mexican Revolution** – (1910-1920) The Mexican Revolution was a pivotal sociopolitical event in Mexican history spurred by opposition to the Porfiriato. The resulting Constitution of 1917 included articles for land, labor and education reform, economic nationalism and restrictions on the Roman Catholic Church. Although the Constitution outlined terms for universal suffrage, it did not explicitly include women. The Revolution's armed struggle lasted approximately ten years, followed by a twenty-year period of social reform based on the revolutionary Constitution.
- **Lázaro Cárdenas del Río** – (May 21, 1895-October 19, 1970) A general during the Mexican Revolution, Cárdenas served as Mexico's president from 1934 to 1940. Cárdenas pushed forward agrarian reform in which 45 million acres of land were redistributed, including 4 million agricultural acres expropriated from American owners. His administration also nationalized the oil industry in 1938 and created Pemex (Mexican Petroleums), the Mexican state-owned petroleum company.
- **Luis Echeverría Álvarez** – (January 17, 1922-) Echeverría served as Mexico's president from 1970 to 1976. At the beginning of his term, he declares land reform dead, and undertakes extensive land reform by which vast foreign-owned private farms seized and turned into collective ejidos.
- **Carlos Salinas de Gortari** – (April 3, 1948-) Salinas is a Mexican economist who served as Mexico's president from 1988 to 1994. He negotiated the NAFTA agreement with Canada and the United States, and renegotiated Mexico's foreign debt. As part of the NAFTA agreement, Salinas modified article 27 of the Mexican constitution to allow for the privatization and sale of ejido land.



Timeline

- 8000 BC: Approximately 9,000 to 10,000 years ago, people of Mexico's Tehuacan Valley domesticate maize. Subsequently, over several thousand years, the Olmec and Mayan peoples cultivate many varieties throughout Mesoamerica
- 2500 BC: Maiz begins to spread via regional trade networks throughout much of the Americas.
- Late 1400s/early 1500s: Europeans explorers and traders bring maize to Europe and other countries.
- 1521: Tenochtitlan, the Aztec city-state and capital of the Mexica Empire, is captured by the Spanish.
- 1821: Mexican War of Independence from Spain.
- 1846-48: The Mexican-American War resulted in the Mexico losing one-third of its territory, including portions of the states of Chihuahua, Coahuila and Tamaulipas, to the United States.
- 1876-1911: Following a military coup in 1876, Porfirio Díaz assumes power as the President of Mexico for the next 35 years. During this period, known as the Porfiriato, wealthy hacienda owners acquire vast areas of land, while Mexico's peasants became increasingly poor and indebted.
- 1910-1920: The Mexican Revolution begins a process to reverse the trend of land concentration of the Porfiriato.
- 1917: The Constitution of Mexico is drafted and approved by the Constitutional Congress on February 5, 1917. The Constitution of 1917 was the first in the world to set out social rights.
- 1920-1924: Alvaro Obregón serves as President of Mexico. His administration focuses on the revolutionary goal of land reform as part of a process of nationalization and "Mexicanization".
- 1934-1940: President Cárdenas serves as president and passes the 1934 Agrarian Code. His administration carries out extensive agrarian reform, including the redistribution of 45 million acres of land, 4 million of which are expropriated from American owners.
- 1946-1952: Miguel Alemán serves as President of Mexico. During his administration, land reforms are rolled back, allowing businessmen to rent ejido land thereby creating large

scale private farms on the lands that are supposed to be farmed by the peasant to whom it is assigned.

- 1962: The Mexican government creates the parastatal company CONASUPO with the aim of guaranteeing the purchase and regulation of basic food products, particularly corn.
- 1970: The Monsanto Corporation discovers glyphosate for use as a herbicide.
- 1970-1976: Luís Echeverría serves as President of Mexico. At the beginning of his term, he declares land reform dead, and undertakes extensive land reform by which vast foreign-owned private farms seized and turned into collective ejidos.
- 1974: Monsanto brings glyphosate to market under the brand name Roundup.
- 1983: Monsanto is one of four groups to announce the introduction of genes into plants.
- 1988-1994: President Carlos Salinas de Gortari serves as President of Mexico. During his administration he negotiates the NAFTA agreement with Canada and the United States.
- 1987: Monsanto begins to conduct field trials of genetically modified crops.
- 1991: President Salinas de Gortari amends Article 27 of the Mexican Constitution, making it legal to sell ejido land and for peasants to use their land as collateral for a loan.
- 1993: The Mexican agricultural ministry creates PROCAMPO program in order to provide subsidiary support for Mexican agriculturists in anticipation of the implementation of NAFTA. PROCAMPO, which replaced prior systems based on price guarantees, was intended to support national producers who would be at a competitive disadvantage to highly subsidized US and Canadian agriculturists.
- January 1, 1994: NAFTA goes into effect. Zapatista uprising begins in the state of Chiapas.
- 2015: Top 1 percent own 43 percent of Mexico's wealth.

Books

- Fitting, Elizabeth. 2011. *The Struggle for Maize: Campesinos, Workers, and Transgenic Corn in the Mexican Countryside*. Duke University Press.
- Blake, Michael. 2015. *Maize for the Gods: Unearthing the 9,000-Year History of Corn*. University of California Press.
- Fowler, Cary. 2016. *Seeds on Ice: Svalbard and the Global Seed Vault*. Prospecta Press

On-line Resources

- <http://learn.genetics.utah.edu/content/selection/corn/> – A brief overview of the genetic differences between maize and its wild ancestor Teosinte.
- <https://www.culturalsurvival.org/publications/cultural-survival-quarterly/mexico/people-corn> – Since 1972 Cultural Survival has been advocating for Indigenous Peoples' rights and supporting Indigenous communities' self-determination, cultures and political resilience.
- <http://www.thenation.com/article/retreat-subsistence> – From The Nation Magazine. Could the introduction of genetically modified genes into Mexico's landrace corns lead to their extinction?
- <http://zesterdaily.com/world/free-trade-threatens-corn-mexican-culture> – From The Zester Daily. “Corn, Mexican Culture and Why Free Trade Threatens Both”

Activism and Coalitions:

- <http://www.sinmaiznohaypais.org> – The website in Spanish of “Sin Maiz, No Hay Pais” (“Without Corn, There is No Country”), which is a national campaign in Mexico that supports food sovereignty, with a focus on non-GMO foods, and the sustainable revitalization of rural Mexico. The campaign, which began in 2007, was started by over 300 organizations, including activists, farmers, scientists and others, across the nation to demand public policies that support food sovereignty. Activists established September 29th as Día Nacional del Maiz (National Corn Day), to help draw attention to this campaign.
- <http://www.centerforfoodsafety.org/#> – The Center for Food Safety focuses on issues such as seeds and how to use agriculture to help solve the problem of climate change.
- <http://biosafetyalliance.org> – Brings together strategic coalitions of diverse stakeholders to advocate for a GMO free food supply and push for a shift from an industrial food model to one of local resilience.
- <http://soilnotoilcoalition.org> – The Soil Not Oil Coalition promotes research and further understanding to optimize soil carbon sequestration and sustainability, to aid in the development of adequate food production for future generations and to help reverse the effects of global warming.
- <http://www.semillasdevida.org.mx> – Seeds of Life Foundation focuses on the quality of seeds, agriculture's foundation, especially on the knowledge and conservation of the different Mexican corn varieties and the species associated with the cornfields.



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