

## **Socioeconomic and Environmental Impacts of the Liberalization of Basic Grains under NAFTA: The Case of Sinaloa**

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### **The Trade Context**

Structural reform of Mexico's agricultural sector has been underway since the late 1980s and started in earnest with the country's entrance into the GATT. This resulted in the tariffication of import licenses for most agricultural products, followed by reforms to the *Compañía Nacional de Subsistencias Populares* (Conasupo). These reforms involved, among other measures, the elimination of price supports for wheat, sorghum, rice, soybeans and other oilseeds (although not for maize or beans). As well, the need for import licenses for sorghum, soy and other oilseeds was lifted, but not for the importation of beans or maize. In 1989, Conasupo also ceded its former role as the principal importer of these goods. Another important measure was the change in Article 27 of the Mexican Constitution, which cancelled land redistribution and established the basis for the renting and sale of ejidal property. Due to the many measures taken towards liberalization in the agricultural sector, separating the effects of NAFTA itself is practically impossible.

### **Results Attributed to the Reform of Conasupo at the National Level**

The main results attributed to the reform of Conasupo at the national level were: lower domestic agricultural prices, increased imports of agricultural products from the US, difficulties with the marketing of agricultural products, and a move towards the production of maize and beans, which continued to receive guaranteed prices, and away from the production of other basic grains. New maize production took place mostly on irrigated lands, whereas the area of rainfed maize production remained constant. Overall, the production of maize and beans increased because of an increase of land in these crops, but also due to increases in productivity of land, particularly irrigated land. Overall, between 1989 and 1993, maize production went from 11 million to 18.3 million tonnes, and beans from 593 thousand to 1.3 million tonnes.

### **Production in the State of Sinaloa**

Since the period of Mexican history known as "el porfiriato" (1876–1911), Sinaloa, along with other northern Mexican states, was considered to be key to the development of agriculture and agricultural exports. As a result, large sums were invested in infrastructure and, in particular, in irrigation infrastructure. It was not, however, until the post-WWII era that exports began to take on the importance that they have today.

Until the 1950s, the major crops grown in Sinaloa were sesame, cotton, chickpeas and maize. Forty-four percent of agricultural land in 1950 was planted in maize. From 1950 to 1990, irrigated production moved away from basic foodstuffs toward fruits and vegetables for export and crops for animal feed (due to the expansion of intensive livestock rearing). This pattern was reversed after the reforms of the late 1980s. Indeed, between 1990 and 1993, the area planted in maize nearly tripled. Eighty-five percent of that increase was on irrigated land. Land planted in beans also increased (nearly doubling) over this same period. Most other crops saw drastic reductions in the amount of land dedicated to them.

### **The Effects of NAFTA and Policies for the Production and Commercialization of Basic Grains**

Under NAFTA, maize and beans were considered to be particularly sensitive crops and were thus protected by Tariff Rate Quotas that were to be gradually reduced to zero over fifteen years. The starting overquota tariffs for maize and beans respectively were 215 and 139 percent. Wheat and

soybeans were also protected, but by much lower overquota tariffs beginning with 15 and 10 percent respectively to be completely removed by 2003.

Nationally, since the implementation of NAFTA, maize has remained Mexico's most important crop, producing on average 18 million tonnes per year and planted on a relatively constant 8.7 million hectares. This represents more than 50 percent of the seeded area despite Mexico's lack of competitive advantage vis-à-vis the US in maize production. The area of irrigated land planted in maize nationally decreased by 40 percent, returning close to its level pre-GATT (while total production did not change due to increase in dry land area). After 1993, maize also became the most important crop in Sinaloa, planted on more than 472,000 hectares and yielding 2.4 million tonnes, as well as employing the largest number of farmers. These 472,000 hectares, though, represent a 20 percent reduction since 1993. Due to water shortages, the area of irrigated land planted to maize decreased by 25 percent. However, because of productivity increases, total production has increased 4 percent.

Nationally, over the period of 1994–2001, the area of irrigated land planted to beans decreased by 34 percent, returning close to its pre-GATT level. In 1994, beans were the second most-planted crop—covering 15 percent of state agricultural land (124,000 hectares) and yielding 1.4 million tonnes. By 2001, bean production fell nationally by 22 percent, and precipitously in Sinaloa by 47 percent. The area of irrigated land planted to beans in Sinaloa decreased by 40 percent.

On the other hand, the area of land planted to wheat in Sinaloa increased by 20 percent and sorghum increased as well. This pattern is different from the national picture, where land planted to maize, beans, wheat, soybean and rice all decreased.

With NAFTA, price supports for maize and beans were eliminated. As a result, the real price of maize dropped by 44 percent and the real price for beans by 26 percent between 1993 and 2001. This fall in prices for maize and beans is explained, not by the signing of NAFTA, but rather because of two other factors. One factor contributing to the downward pressure on prices is market power on the consuming side. The second is the fact that the Mexican government, since NAFTA, has rarely applied overquota tariffs to imported maize and beans. The explanation given for this decision was the need to provide cheaper food for the country's urban population and to satisfy the needs of its growing livestock and starch industries. When they have been applied, the tariffs have been a small fraction of the maximum allowable (1–3 percent), thus allowing the entrance into Mexico of large quantities of US maize and beans. The non-enforcement of these overquota tariffs on maize resulted in a revenue loss of US\$2.54 billion for the Mexican government. Mexico did not apply overquota tariffs on beans, forfeiting US\$135.5 million. Up to 80,000 tonnes of beans are reported to have been imported illegally after Mexico had limited imports to 20,000 tonnes because of the "bean crisis."

The effect on US maize imports has been impressive. They increased from 152,000 tonnes in 1993 to 6.1 million tonnes in 2001, and this despite record Mexican maize harvests in 2001. The history of enforcement of overquota tariffs is considered to be due to the fact that the deciding body is composed primarily of representatives from the consuming side of the economy and not of the producing side. The result, the author argues, has been to benefit importing companies, and nine transnational companies in particular, who together make up 46 percent of Mexican maize imports. At the same time that importing companies have benefited from these policies, producers have suffered from the change in subsidization policies.

With the removal of price supports, other forms of subsidization were put in place, such as Procampo, which have tended to benefit larger farms, and these have been applied unevenly

across geographical regions for political expediency. Also, compared to the amount of money that farmers received before the Conasupo reforms, current subsidies through the various programs amount to less than 60 percent of previous levels. During this period, and attributed to the reform of Article 27 of the Mexican Constitution, there has been an increase in production on land that does not belong to the farmers producing the crop, due to an increase in the renting of land. This has resulted from the concentration of production into the hands of fewer farmers, who have been able to obtain returns from larger-scale production. In Sinaloa, more than 80 percent of the ejidal land is rented by larger producers because revenues from the rent are higher than the revenue from cultivation.

Farmers of larger tracts (like those in Sinaloa and Sonora) have also fared better than those farming smaller lands because they have better access to capital and irrigation systems and this has allowed them to adapt to market changes with greater agility, for instance by changing the composition of their crops. This has been observed on farms in Sinaloa, for example, where they have adapted quickly to new demand from the livestock sector and increased the amount of land in sorghum (even in irrigated areas, despite the unsuitability of this crop to dry conditions). Farmers without access to capital or irrigation cannot adapt so easily to these rapid changes while continuing to produce maize.

Due to the state's location, it is costly for farmers in Sinaloa to get their products to market. As a result, since 1996 the government has implemented a program to support the "commercialization" of their crops. This has taken the form of production-related payments that have benefited Sinaloa in particular as well as large Sinaloan producers that rely on irrigation. These payments, however, did not initially support bean production, but in 2001 a government-funded trust to support bean commercialization was established and provided to producer organizations.

The program allows producers to sell their crops at a state-specific, pre-harvest agreed price and to sell to industry at international prices, with the government paying industry the difference between the agreed price and international price. Bean farmers are still unable to compete with international competition, however. Sinaloa received 90 percent of the national commercialization subsidies in 1999. The situation is not helped by the monopsonistic nature of the market in the state, with five major grain buyers that benefit from the commercialization subsidies. Producer organizations do not have the liquidity and access to credit to compete with the multinationals to buy the maize from their producers. However, this program has not been able to overcome commercialization problems. This failure is attributed to volatile bean prices and bean imports from the US.

In sum, the author maintains that overall, large producers have benefited from liberalization as they have been able to concentrate production by renting land from farmers of smaller tracts who no longer find it profitable to farm their land. As well, the author concludes that Mexico's basic grains and oleaginous crops are the net losers of the various reforms to the agricultural sector (GATT and NAFTA) that occupy 70 percent of total crop area, provide 40 percent of the agricultural value, and employ 3.2 million producers, while fruit and horticulture crops, on 3–5.4 percent of the agricultural area, are the net winners.

Due to lack of data it was considered impossible to establish environmental impacts of these transformations since the liberalization of the market. However, 60 percent of the state area presents a serious level of desertification, with 30 percent presenting very serious level. Erosion is moderate on 64 percent of the area and severe on 26 percent of the area.

Several recommendations are provided by the author to support farmers and, in particular, farmers of small to medium-size tracts of land. The author recommends, among other things—the full application of overquota tariff rates, further protection for maize and beans after 2007, the commencement of an anti-dumping case against the US, the increase of subsidies and their reorganization so that they benefit small and medium-size farms, and that prices be set not on the basis of international markets but on the basis of production costs.