How much have U.S. ethanol policies pushed up corn prices? And how much have these higher prices cost developing countries dependent on imports for their staple foods? And if one of those countries is the chair of the G20, will it use its considerable influence over the agenda to demand policy changes?

The answers to the first two questions are clear from my new study, “The Cost to Mexico of U.S. Corn Ethanol Expansion” U.S. ethanol expansion has pushed prices up 20% or more in recent years, and that cost Mexico, which imports one-third of its corn, an extra $1.5-$3.2 billion from 2006-11.

The answer to the last question is less clear. Mexico is indeed the chair of the G20, whose vice ministers of agriculture meet tomorrow in Mexico City to set the G20’s food-security agenda in advance of the June 18-19 G20 summit. The Mexican government issued a report that suggests little ambition on food security, but hopefully our biofuels report will bring home why Mexico should lead and not follow on biofuels in the G20.

Today in Mexico City we’re releasing my working paper and a more extensive policy report from ActionAid: “Biofueling Hunger: How US Corn Ethanol Policy Drives Up Food Prices in Mexico.” The story is compelling if the Mexican government is willing to listen, to us or its own citizens.

NAFTA turned Mexico into a large net food importer, with corn leading the way. By 2011, Mexico was importing more than $18 billion worth of agricultural goods, $2.6 billion worth of corn. The country runs a perennial agricultural trade deficit that surpassed $4 billion in 2008 and was still around $2.5 billion last year. Meanwhile government policies had undercut many of Mexico’s own maize farmers, adding to its import dependence.

That became an expensive approach with the food crisis, and biofuels are a significant piece of the problem. Supported by lavish U.S. government policies over the last decade and by high oil prices, corn ethanol production has expanded to the point that it consumes 40% of U.S. corn. This is a certifiable “demand shock” from the world’s largest corn producer and exporter, a diversion of 15% of global supply in a tight and volatile market.

Corn ethanol pushes up prices by making a direct claim on a staple food and feed crop, by creating incentives to switch land into corn for ethanol and out of other food or feed crops, by raising demand for crops like wheat that can substitute in diets, and by squeezing inventories already thinned by weather events (possibly climate-related) and yield-growth that lags population growth.
A recent National Academy of Sciences study reviewed the evidence and suggested that biofuels expansion accounted for somewhere between 20% and 40% of the price rises seen in 2007-9. U.S. ethanol is considered one of the more price-distorting biofuels. A new study from the New England Complex Systems Institute (NECSI) found much larger price impacts: 27% attributable to U.S. ethanol expansion from 2006-11, and another 13% attributable to financial speculation.

In my paper, I used more conservative estimates from a study by Bruce Babcock, which estimated that the ethanol impact on prices rose from just 2% in 2006 to 21% in 2010. Even using these conservative numbers, and extrapolating them through 2011, we found that Mexico paid an extra $1.5 billion for its corn imports from 2006-11, about $250 million per year. This is undoubtedly an underestimate.

NECSI used its model to estimate the ethanol impact on Mexico’s corn import costs at $3.2 billion from 2006-11, with another $1.4 billion in extra costs attributable to financial speculation on commodities markets.

Take that as a range and you have U.S. ethanol expansion adding an average of $250-500 million per year to Mexico’s corn import bill. More important, that is a large hit on the food budgets of Mexico’s poor. Corn tortillas are the staple of the Mexican diet, accounting for 40% of calories consumed in the country. Tortilla prices rose 60% over the last six years while the cost of the basic food basket jumped 53%. Last year, 56% of Mexicans suffered some period of food insecurity, and five million children went hungry.

The implications are even more dire for other food-import-dependent countries. Mexico, after all, still grows a lot of corn, so at least some of its farmers benefit from higher prices. For countries that grow little of their own staple foods, biofuel-related price increases are simply a growing drain on limited resources and a significant threat to the food security of their citizens.

As Jennifer Clapp pointed out in a recent Spotlight G20 post and as Sophia Murphy and I documented in our report, “Resolving the Food Crisis,” the G20 has consistently undermined global efforts to address the food crisis, ignoring even its own commissioned studies on food security.

Will Mexico – as chair of the G20, as a food-import-dependent country, as a nation whose people are victims of the food crisis – demand that the G20 address the underlying causes of the food crisis? Curbing the expansion of biofuels is crucial to that effort. Mexico bans the use of its own corn for ethanol to protect food security. It should demand the same of its trading partners.