Subsidizing Inequality:

Mexican Corn Policy Since NAFTA

Edited by:
Jonathan Fox and Libby Haight

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First edition, 2010

ISBN 1-933549-86-6

Editors: Jonathan Fox and Libby Haight
Publishers:
Woodrow Wilson International Center for Scholars
Centro de Investigación y Docencia Económicas
University of California, Santa Cruz

This book was made possible thanks to support from the William and Flora Hewlett Foundation.

The work is bilingual and fully accessible online at:
www.wilsoncenter.org/MexicanRuralDevelopment
www.wilsoncenter.org/DesarrolloRuralMexicano
www.subsidiosparaladesigualdad.org

Editorial coordination: Alicia Athié
Design: Deikon estudio gráfico, S.A. de C.V.
Design –interior and printing: Genio y Figura
Printing: Uribe Impresos
Cover photograph: Enrique Pérez S., ANEC

Printed in Mexico.

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Preface

NAFTA's trade opening was widely expected to lead Mexico to increase its corn imports, which would shift agriculture away from corn and displace many hundreds of thousands of small-scale corn producers. This prediction framed Mexico's agricultural subsidy programs for the next 15 years; trade compensation and adjustment programs spent at least $20 billion dollars on direct transfer payments to farmers between 1994 and 2009. As expected, corn imports increased substantially, but corn is still Mexico's most important crop - in terms of the volume of production, the numbers of producers and the area harvested. Yet at the same time, many farmers have left agriculture. What happened? This report focuses on how Mexico's post-NAFTA agricultural trade compensation policies actually worked in practice, with a focus on corn.

To understand these policies, this report brings together economic, institutional and political analyses of these compensatory farm policies, over the long term. The diverse studies that follow address three main sets of questions: how were farm subsidies distributed? How did agricultural policies and institutions actually work in practice? To what degree were the subsidy programs transparent and accountable? To focus on these questions in detail, this report does not do justice to key related issues, such as the extraordinary diversity of Mexico's corn producers and markets, corn's cultural and nutritional significance, the specific implications of the recent spike in international corn prices, changes in patterns of peasant organization, or the environmental challenges involved in protecting the biodiversity of Mexican maize. Because of this study's focus on corn and compensatory subsidy policies, analysis of agricultural trade patterns in general or government policies toward agro-exports are also beyond its scope. Yet interested readers will find many references to diverse studies that do address these issues.

Now that NAFTA's implementation phase is over, the future direction of Mexican agricultural policy is the subject of increasing public debate. The goal of this report is to inform this discussion – including the role of US farm policy. The studies that follow reflect the individual view of each independent analyst, and they draw on official data, program evaluations, interviews with policy-makers, relevant scholarly work, and field research with producers. The authors have diverse policy perspectives, and therefore we did not seek consensus regarding specific policy recommendations to draw from the analyses. The report begins with a short synthesis of the main findings, followed by in-depth reports on the policy research – some of which are available in more extensive versions on-line at the project's bilingual website: www.wilsoncenter.org/MexicanRuralDevelopment.

This study was made possible thanks to a grant from the Global Development Program of the William and Flora Hewlett Foundation, and reflects collaboration between the Woodrow Wilson International Center for Scholars' Mexico Institute, the University of California, Santa Cruz and researchers from CIDE, the Centro de Investigación y Docencia Económicas.

Jonathan Fox
Libby Haight
Mexico City and Santa Cruz

Synthesis of research findings:

Farm subsidy policy trends

Jonathan Fox and Libby Haight

This study of Mexico's farm subsidy programs finds four main sets of conclusions, regarding farm employment, transparency and accountability, Procampo, and other ASERCA subsidy programs.

First, Mexican agricultural spending increased substantially since 2001, almost doubling in real terms by 2008. Yet farm employment fell significantly. Even in the 1990s, the share of Mexico's budget that went to agriculture was the highest in Latin America. Direct cash payments to farmers alone totaled US$20 billion since 1994 (in 2009 dollars). Yet Mexico still lost 20% of its farm jobs between 1991 and 2007, with the total number falling from 10.7 million in 1991 to 8.6 million in 2007. A comparison of the 1991 and 2007 agricultural censuses shows that the total jobs lost in family farming far outnumbered those created in export agriculture. Agriculture's *share* of Mexico's jobs overall also fell substantially, from 23% in 1990 to 13% in 2008. At the same time, the *rural* share of Mexico's population was still at 23.5% in 2008, having declined much more slowly. If one applies the OECD's broader criteria for "rurality," as much as one third of the population remains rural. This growing gap between Mexico's shrinking agricultural employment and a persistently large rural population reveals the growing degree to which millions of families are separated, with the corresponding unquantifiable social and cultural costs. **The sharp contrast between Mexico's increased public spending in the countryside and the fall in agricultural employment shows that the rural job crisis is not due to a lack of public spending, but rather that rural employment has not been a priority.**

Second, Mexico's open government and accountability reforms have been unevenly applied in the agricultural sector. Farm programs' vast reach and complexity pose major challenges to state capacity, but transparency and accountability reforms have the potential to improve public sector performance. Yet Mexico's farm subsidy programs' long lists of sometimes inconsistent goals maximize the discretion of policymakers and the influence of vested interests. In compliance with Mexico's minimum official standards for open government, the two largest direct payment programs at first appear to be very transparent, with detailed recipient lists that are now accessible on-line. This data is sufficiently public to reveal that many public servants are also farm subsidy recipients. On balance, however, the lists remain opaque. Insufficiently precise official data leads to substantial confusion regarding how many actual producers receive payments. Meanwhile, Mexico's many *other* subsidy programs fall short of even the appearance of transparency, including the payments to large firms and the major agricultural investment programs that are decentralized to (and discretionally carried out by) state governments. Moreover, the lack of consistent producer registration or unified lists of subsidy recipients across the different programs prevents analysts from knowing the *total* amount of funding that any specific producer or private firm actually receives. In addition, agricultural agencies lack effective public accountability mechanisms. Only the Procampo program has a nominal system of local smallholder advocates, but in practice they represent the agency to the producers rather than vice versa. More generally, neither state nor federal agricultural agencies have chosen to form balanced partnerships with representative low-income producer organizations to bolster public sector accountability and performance. **The second conclusion is that while Mexico's largest farm subsidy programs *appear* to be quite transparent, in practice they lack both transparency and accountability.**

Third, the Procampo program, designed to compensate losers from free trade and extended until 2012, is by far the agricultural program that reaches the most low-income producers. Procampo is still Mexico's largest single agricultural program, and it disburses annual payments to approximately 2.5 million recipients, primarily non-irrigated corn growers with fewer than 5 hectares. Procampo is clearly the most pro-poor of Mexico's national farm programs. Smaller farmers receive modestly larger amounts per-hectare, following a sliding scale. Yet this does not mean that the distribution of Procampo payments is progressive, because it is designed to pay more to those who have more land. There has been no effective

cap on the amount of annual payments that one individual or company can receive. In addition, in practice, according to two different national surveys, most of the very poorest producers (those with less than 5 hectares) are in practice completely *excluded* from Procampo, in spite of having been among the intended beneficiaries. At the same time, Procampo privileges better-off irrigated producers with double annual payments, even though the program was designed to be based on land-holdings rather than production. In addition, Procampo's share of the agricultural budget has been shrinking over time, as has the purchasing power of its per-hectare payments – in favor of less pro-poor farm programs. In addition, the costs to Mexican producers of domestic corn prices driven down by below-cost imports from the United States were larger than the average per-hectare payment under Procampo. Finally, while Procampo payments have a modest impact on reducing migration, almost half of Procampo families have sent members to the US. **In summary, even Mexico's most inclusionary, pro-poor farm program for corn growers excludes much of its target population and benefits better-off growers disproportionately.**

Fourth, almost all of Mexico's many other, less well-known farm subsidy programs are even more sharply biased to favor medium and large-scale producers. Mexico's second and third-largest agricultural programs subsidize "marketing support" and farm productivity investments. Both privilege northern states and are designed to grant discretionary access to well-off producers. Notably, the third largest program, Ingreso Objetivo, subsidizes grain production directly – in spite of the government's official free market discourse. This program offers payments to a small number of larger growers that cover the difference between international and domestic prices for grain sold. This drives down the crop price received by *other* producers, thereby reinforcing the downward pressure of subsidized imports on producer prices in general. In addition, substantial marketing subsidy payments go directly to large trading and processing firms, including transnational corporations, like Cargill and Maseca. Overall, according to a recent World Bank economic analysis, "agricultural spending is so regressive that it cancels out about half the redistributive impact of rural development spending.... with more than half of spending concentrated in the richest decile." **The extreme concentration of non-Procampo agricultural programs among the already-privileged few *produces* increased inequality.**

Mexican agricultural policy:

Multiple goals and conflicting interests

Jonathan Fox[1]
University of California, Santa Cruz

Libby Haight
University of California, Santa Cruz
International Budget Partnership

1 Thanks very much to Alejandro Ortiz for his able assistance with data analysis and maps, and to John Scott and Andrew Selee for comments on earlier versions. Translations from Spanish are the responsibility of the authors.

1

The Mexican government's farm policy is sharply biased against low-income producers. Senior agricultural policymakers are very explicit about giving large growers priority. They relegate peasant farmers to social welfare programs, rather than considering them to be appropriate targets for economic development. Indeed, Mexico's Agriculture Secretary recommended to congress that his ministry should cut funding for its only program that ostensibly targets investment support to low-income producers because other producers suggest "that we separate those who are economically viable from those who should be addressed with more of a social welfare approach." [2]

The idea that agricultural policy should give up on investing in low-income producers is reinforced by economists' view that Mexican agriculture sector has too much employment, considering its share of the economy. In the early 1990s, NAFTA advocates recognized that opening to imports of subsidized US grain would displace hundreds of thousands of small farmers, who were expected to find jobs in industry or urban services. As it turned out, Mexico's cities generated much less employment than was predicted (Uchitelle 2007). Instead, much of the rural population that economists considered to be surplus ended up working in the US. Mexico's rate of outmigration increased sharply between 1991 and 2000, from an estimated 337,000 to 530,000 annually (Passell and Suro 2005). Not coincidentally, Mexico's total number of agricultural jobs fell 20% between 1991 and 2007, according to the agricultural census (Scott, this volume).

Nevertheless, the government spent substantially on the grain and oilseed sector during this period, including *at least US$20 billion* (in 2009 dollars) in direct farm subsidy payments since 1994.[3] In addition, the agricultural share of Mexico's budget was the highest in Latin America during the 1990s, the most recent period for which comparative data are available (Gómez Oliver 2007). This report asks: where did these subsidies go? The government's public information access reforms make it possible to see the broad patterns. Yet it remains difficult to determine "who gets what" with precision because of the government's presentation of the official farm subsidy data, which understates the degree to which public resources are concentrated in few hands (Haight and Fox, this volume). Moreover, official data sources all ignore one of the main problems with Procampo, the farm subsidy program that is supposed to reach smallholders - the majority of low-income producers turn out to be excluded from its modest benefits (see Tables 2 and 3, below). At least one pattern is very clear, however: the principal criteria for allocating farm subsidies have not included the promotion of agricultural employment.

1. AGRICULTURAL AND RURAL DEVELOPMENT POLICY CONTEXT

The displacement of Mexico's peasant farmers is far from new. Public spending in agriculture has long favored medium and large producers, and the policy reforms of the 1990s appear to have accentuated this underlying trend. Mexico's most sustained period of pro-peasant rural economic policy was during the Cárdenas presidency of the 1930s, when the agrarian reform redistributed a substantial share of commercial farmlands and invested in the productive capacity of the new social sector. After the balance of power within the ruling party shifted, however, agrarian reform was put on the back burner. Beginning in the 1940s, government agricultural spending was concentrated in large investments in irrigation infrastructure as well as subsidized credit and inputs, which primarily benefited commercial farms in northern Mexico (Barkin and Suárez 1982). Public investment in agricultural research and technology was also biased against smallholders – as in the well-known case of Mexico's Green Revolution, which prioritized irrigated wheat over rainfed corn (Hewitt de Alcántara 1976). Meanwhile, Mexico's rainfed agriculture is widely seen to have subsidized Mexico's rapid mid-century urbanization and industrialization through unfavorable terms of trade. During what was once called the "Mexican Miracle," the decades-long growth of the industrial labor force did indeed encourage workers to migrate to the cities, but this process was reinforced by a push factor as well – the exclusion of rainfed smallholders from the benefits of public investment.

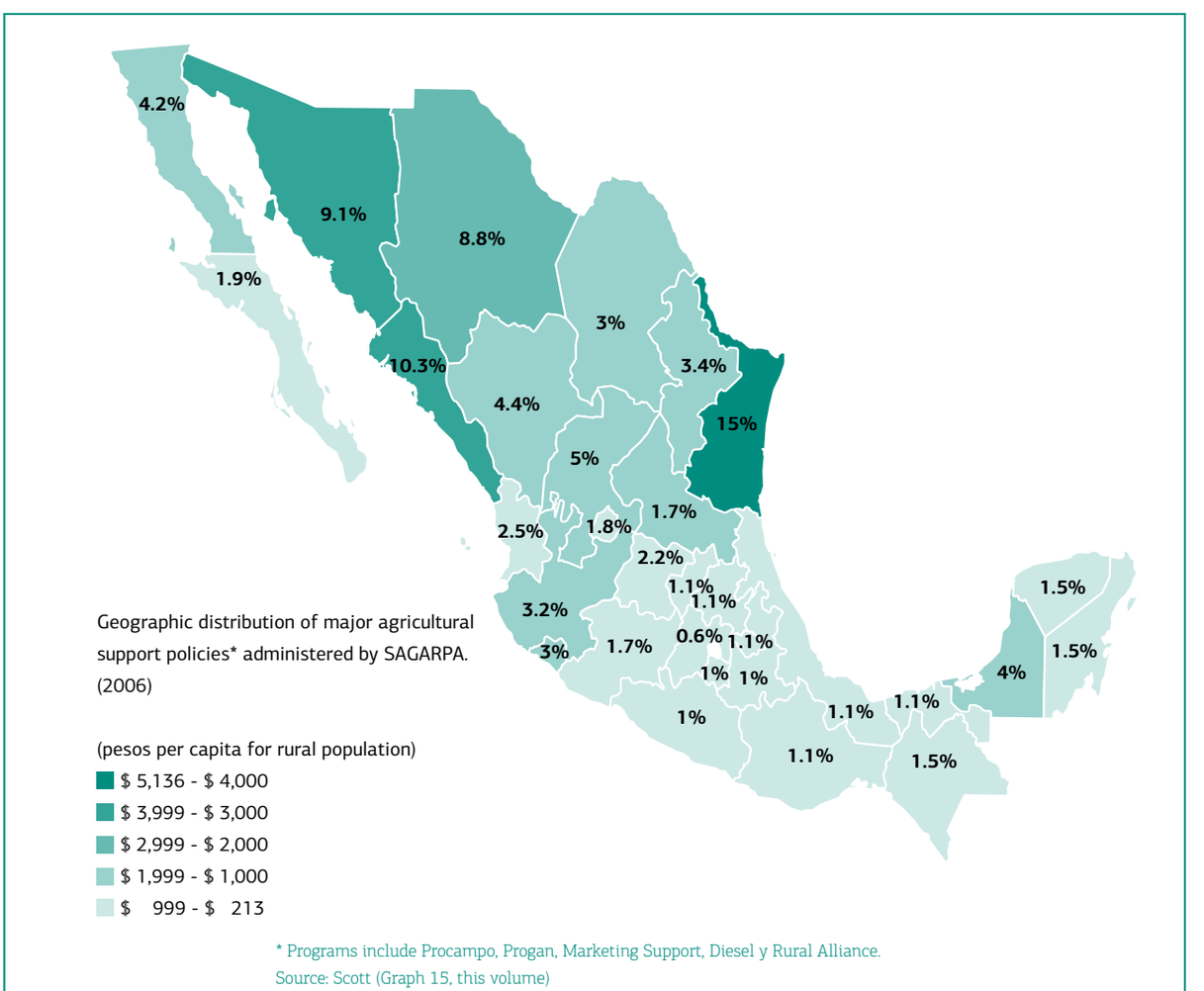
2 Secretary Francisco Mayorga: "Looking at rural development, there we have a Subsecretariat and I would say that today it's a bit superfluous given that there are so many other agencies have social programs such as the Ministry of Social Development, the National Indigenous Development Commission, Popular Health [insurance], etc. In addition, the producers keep proposing that we separate those who are economically viable from those who should be addressed with more of a social welfare approach. So my proposal, respectfully, and here obviously you the legislators, the Treasury Ministry and the President have the last word, is to shrink the Rural Development Subsecretariat to shift resources to the areas that we see as weaker." Comunicación Social - Cámara de Senadores (2009)

3 This total is limited to the two largest direct farm payment programs, Procampo and Ingreso Objetivo. To calculate total spending, individual annual payments over the history of Procampo and Ingreso Objetivo were deflated to their 2009 peso value. Their 2009 value was then converted to dollars using the average exchange rate to Mexican peso to US dollar over the year 2009. See Graph 1 below for more general agricultural budget trends.

By the early 1970s, the Mexican government's political legitimacy was widely questioned in the countryside. Policy reforms began to extend access to subsidized credit, inputs, support prices and rural infrastructural investments to more peasant producers (Grindle 1977, Gordillo 1988a, 1988b). This approach was pursued most strategically during the oil boom, with the Mexican Food System (1980-1982). During most of this 1971-1982 period of increased government rural development spending, subsidies for farm credit outweighed input and price subsidies (Gordillo 1990). But these pro-peasant reform initiatives only attempted, with limited success, to incorporate more small farmers into the existing system, which remained biased in favor of well-off growers. [4]

By the 1980s and 1990s, Mexico's agricultural structure was composed of four main groups – 1) a small number of well-endowed commercial growers, who control most of the irrigated cropland; 2) a larger segment of small commercial farmers, 3) a large majority of subsistence and sub-subsistence producers who must rely on off-farm family wage labor to complement their tiny rainfed landholdings; as well as 4) a large group of fully landless wage laborers. [5] Most small-scale agricultural producers lack sufficient access to credit, inputs, markets and agro-ecologically appropriate technology to be able to increase their productivity and generate more employment. Nevertheless, 63% of Mexico's agricultural employment is still on farms of less than 5 hectares, according to the 2007 agricultural census. Yet the large commercial producers, especially those in the northern states, receive a vastly disproportionate share of government farm subsidies, as shown in Map 1 (see also Scott, this volume).

Map 1:
GEOGRAPHIC CONCENTRATION OF AGRICULTURAL SPENDING BY SAGARPA, BY STATE, 2006
(M$ RURAL PER CAPITA)



* Programs include Procampo, Progan, Marketing Support, Diesel y Rural Alliance.
Source: Scott (Graph 15, this volume)

4 For more detail, see Fox (1992). For a retrospective of the past 40 years of Mexican rural development policies, see Hewitt de Alcántara (2007).
5 Estimates of Mexico's farmworker population range from 3.2 to 3.6 million (data from 1999-2001, in Salinas Álvarez 2006: 48). In part because so many farm-workers are also smallholders, few analysts attempt to estimate how the agricultural population is divided, but Puyana and Romero suggest that in 1993, 45% were producers and 55% were farm-workers (2008: 25).

The polarization of Mexican agriculture between those with and without irrigation is a direct result of a long history of state intervention. Government infrastructure policy determined which producers received irrigation in the first place, and continued massive subsidies for water use reproduced the inequality between those with and without irrigation. Among all of Mexico's farm subsidies, water and electricity are among the most concentrated in a few northern states, as shown in Map 2. (World Bank 2004: 83-84 and Scott, this volume). Pumping for irrigation is the most heavily subsidized use of electricity in Mexico, encouraging highly unsustainable use patterns.[6] In public debate over farm policy, these massive irrigation subsidies are rarely mentioned -- in part because they do not appear explicitly in the budget as cash transfers, which are the main focus in this report.

Map 2:
GEOGRAPHIC CONCENTRATION OF IRRIGATION SPENDING, BY STATE, 2006
(M$ RURAL PER CAPITA)

Source: Scott (Graph 16, this volume)

This is the context for Mexico's essentially two track approach to rural development, in which economic policies target agricultural spending mainly to larger, irrigated growers. The vast majority of low income producers, in contrast, are addressed instead with social policies, including low quality basic education and erratic health care, as well as welfare payments such as the well-known Oportunidades program (originally launched as Progresa in 1997). Mexico's pioneering conditional cash transfer (CCT) social program substantially raises the incomes of 5 million low-income families in relative terms (Levy and Rodríguez 2005). Widely-emulated around the world, Mexico's largely rural CCT program is designed to invest in human capital by conditioning regular cash payments to beneficiary families on their increased use of public education and health services. These transfer payments increase family income by an average of 30%. One of Oportunidades' major innovations is that family access to the program is de-

6 See Avila et al (2005). The World Bank finds that farmers pay on average 29% of the cost of electricity for irrigation, adding up to MX$ 8.0 billion in 2006 alone (2009: 27). The report adds that "poor farmers typically do not pump groundwater..." These negative environmental impacts are magnified by the government's large-scale subsidy of agricultural use of diesel fuel.

termined by technical criteria, through a means test rather than being subject to political discretion -- though this approach was threatened in the fall of 2009 by congressional efforts to turn program management over to governors (e.g., Díaz Cayeros 2009)

The CCT strategy does not attempt to encourage job creation. Instead, its goal is to lift families out of poverty by direct cash transfers in the short term and by improving their children's *future* job prospects in the longer term. However, this approach has not turned into the "magic bullet" for poverty alleviation that some have claimed. Recent reviews of the evidence by both the International Food Policy Research Institute and the World Bank find that while CCT social programs increase the demand for public services, the persistent under-supply of quality, accessible health care and education remains a major constraint on the strategy's potential human capital impact.[7]

Mexico's primary anti-poverty strategy is clearly progressive in terms of who benefits, especially when compared to most other social programs – Oportunidades payments are channeled primarily to the poorest. Yet Oportunidades' impact on inequality is undermined by farm subsidy policy, which both accentuates inequality through its bias towards larger growers and excludes most of the poorest smallholder grain producers, as Scott's chapter shows.[8] Indeed, a recent World Bank public expenditure review found "agricultural spending is so regressive that it cancels out about half the redistributive impact of rural development spending" (2009b: x).

While Mexico's anti-poverty strategy has relied primarily on income transfer programs since the late 1990s, the recent global economic downturn has revealed the limited reach of the national safety net. Between 2006 and 2008, the share of the rural population considered in acute poverty – those who earn less than enough to buy a minimal diet – increased from 24.5% to 31.2% - and this was *before* the worst of the current economic crisis was felt. The share of the urban population in acute poverty also grew from 7.5% to 10.6%. In other words, acute poverty is three times as extensive in rural as in urban areas, in relative terms. After several years of improvement in the official indicators of acute poverty, as of 2008 it was almost as widespread as it was in 1992.[9]

The federal government's social policy evaluation agency (Coneval) estimated the size of the additional share of the population that would have fallen below the acute poverty line, had it not been for its safety net programs (mainly in rural areas). While a total of 19.5 million Mexicans were found to be in acute poverty in 2008, Coneval found that an additional 2.2 million would have joined them in the absence of federal social programs. This estimate indicates that Mexico's safety net programs kept only ten percent of the poorest population above the acute poverty line.[10]

2. FROM SUPPORT PRICES TO DIRECT FARM PAYMENTS

In the context of persistent rural poverty, Mexico's post-NAFTA farm subsidy programs faced the challenge of attempting to meet a long list of goals – some related to compensating commercial producers' expected losses due to the trade opening, while other goals involved creating subsidized alternatives to the government's longstanding policy of offering to buy grain directly from producers. The new farm subsidy programs followed the logic often proposed by free trade advocates. According to mainstream economic theory, while trade liberalization produces more winners than losers, trade adjustment can be made fair by programs that compensate the losers. This principle is more often advocated in theory than actually carried out in practice. In the case of Mexican farm subsidies, however, the government *did* make a substantial, sustained investment in compensatory payments during the 15 years following NAFTA. This report will address who got compensated, and how. Other studies in this report "follow the money" from different perspectives, but first, additional policy context is necessary.

7 See Adato and Hoddinott (forthcoming) and Fiszbein and Schady (2009). For the vast official evaluation literature, see www.oportunidades.gob.mx.

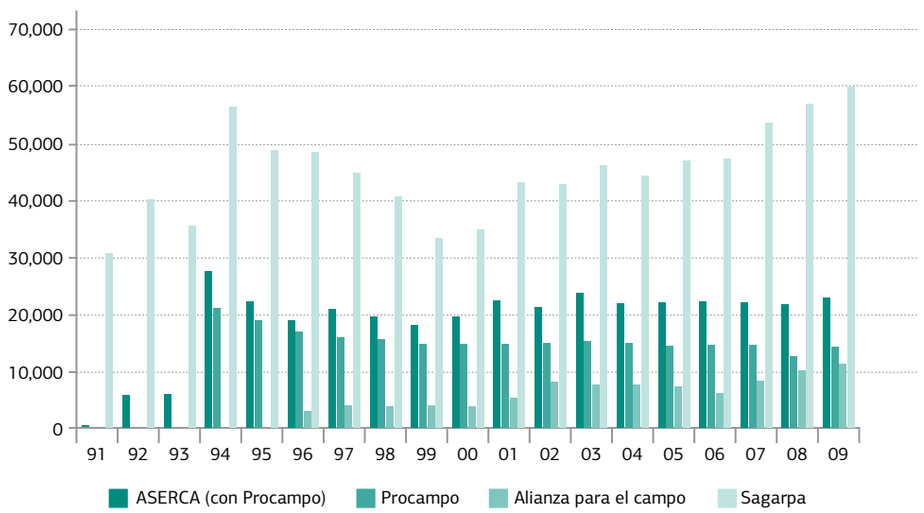
8 For an analysis of lessons from Oportunidades for Procampo, see Winters and Davis (2009). Note the striking gender differences between the two programs, with Oportunidades targeting mothers and Procampo reaching primarily male landholders.

9 If one considers higher poverty lines, then the composition of the population considered to be in poverty becomes considerably more urban (Coneval 2009, Boltvinik and Damian 2003). Consider, however, that the urban-rural comparisons are based on official poverty lines that are considerably higher for urban than for rural areas, which may understate rural poverty levels.

10 See Coneval (2009). Note that this official assessment is limited to income, and does not take into account Oportunidades' intended longer-term impacts on poverty through health and educational improvements, which in turn depend on access to adequate public services. So far, Oportunidades evaluations indicate significant health improvements and increased schooling, but limited educational impact (Adato and Hoddinott, forthcoming).

Though Mexico's agricultural spending has had its ebbs and flows over the years (see Graph 1, below), the government has spent vast sums on subsidy payments to farmers -- including at least US$20 billion in direct payments to farmers since 1994, as noted above. But where did they go? The World Bank's recent review of Mexican agricultural spending concludes that more than half goes to the richest 10% of producers (2009b: x, 62, see also Scott, this volume). Indeed, the World Bank even found that farm subsidies have been tilted upwards so sharply that they actually make rural inequality *worse* (2009b: 62).

Graph 1
ANNUAL AGRICULTURE MINISTRY SPENDING 1991-2009
(REPORTED PROGRAMMATIC BUDGET, IN MILLIONS OF 2008 PESOS)



Source: Agriculture Ministry *Informes de Labores*, 1989-2000, consulted at the Sistema de Información Agroalimentaria y Pesquera (SIAP) of the Secretaría de Agricultura and the *Informe de la Cuenta Pública Federal* (www.apartados.hacienda.gob.mx, consulted August-December, 2009).

The restructuring of state intervention in agriculture had begun well before NAFTA. The 1982 debt crisis was followed by a wave of deregulation and privatization, including the dismantling of the Mexican government's grain trading agency, Conasupo. This state enterprise had long played an important political role in managing potential conflict between different interests, intervening throughout the production-consumption chain for staple foods.[11] From the production side, the agency both offered an official purchase price for basic grains and was the intermediary between domestic and international markets, ostensibly offering protection from the vagaries of international market swings, subsidized competition and the potential risk that exporting countries might use food as a weapon in international relations. Yet the benefits from support prices went primarily to those with enough farmland to produce marketable surpluses, while a majority of Mexico's landholders are actually subsistence or subsubsistence producers – as has long been the case.[12] Indeed, few recognized at the time that even many market-oriented smallholders lacked access to the support prices, in practice.[13] Moreover, support prices also treated unequally endowed producers equally, by offering them the same price per ton, regardless of widely varying production and marketing costs. This meant higher profits per ton for producers with better access to transportation, credit and marketing facilities.[14] Nevertheless, in spite of these constraints on support prices' social impact, they had become a high-profile symbol of the government's commitment to the peasant economy.

In 1989, the government withdrew from offering support prices and opened up international trade in most grains and oilseeds, with encouragement from the World Bank and well before NAFTA.[15] Corn and beans were the exception. They were sufficiently sensitive for the govern-

11 On the role of Conasupo, see Appendini (1992), Barkin and Suárez (1982), Mitchell (2001), Ochoa (2000) and Yúnez-Naude (2003), among others. On the history of food policy in Mexico, see also Austin and Esteva (1987), Fox (1992) and Hewitt de Alcántara (1994).
12 For typologies of producers derived from agricultural census data, see Paré (1977) and CEPAL (1982). The more recent farm censuses have not been subjected to comparably comprehensive analysis. For the most recent data, see Robles Berlanga (this volume) and Scott (this volume).
13 One of the few large-scale surveys that addressed the question of producer access to official support prices was carried out by the Central Bank's Agricultural Investment Fund, FIRA. Among FIRA borrowers – already relatively privileged farmers, by definition – only 46% reported that they received the government's ostensibly "guaranteed" producer price or its equivalent for their corn and bean crops (Patron Guerra and Fuentes Navarro 1982, cited in Fox 1992: 118).
14 The support price's inherent bias in favor of larger producers was slightly offset by a complementary program that subsidized smallholders' cost of bringing their crops to government purchasing centers, known as PACE (Fox 1992).
15 The World Bank role included a $300 million agricultural structural adjustment loan in 1988, followed by a $400 million

ment to continue to offer support prices -- though purchasing policy for corn then favored large irrigated growers in northern Mexico (De Ita 2003). Yet the government's abrupt withdrawal from regulating most grain and oilseed markets left a large gap that the private sector was not ready to fill. Influential producers found themselves unable to find buyers for their crops. Under this pressure, the government stepped in again to provide "order" to national grain markets. The Marketing Support and Services Agency (ASERCA in Spanish) was created in 1991, first to help commercial producers who had difficulty marketing their crops, and then to distribute compensatory payments to grain producers in general, including the low-income subsistence producers who had not been reached by the previous support price policy.

ASERCA was tasked with addressing two very different target populations: a relatively small number of geographically concentrated middle and larger producers whose grain feeds Mexico's urban population, and a much larger number of highly dispersed peasant producers. ASERCA pursued two main parallel policies to deal with these two groups. The most well-known program is the Program of Direct Payments to the Countryside. Procampo, as it is known in Spanish, offered a direct transfer payment that was officially open to all producers who had been growing grain during the period immediately preceding the 1993-1994 registration process. Procampo payments are allocated on a per hectare basis. In 2001, the per-hectare payments were made slightly highly for producers with less than 5 hectares.

A long-term overview of federal agricultural spending on grain, including both Conasupo's last several years of federal budget and ASERCA, shows that while the form of state intervention changed, the overall amount spent annually since 2000 was comparable to 1988 levels (see Graph 3, below). ASERCA replaced Conasupo as the Mexican state's principal grain policy instrument. In the context of the dismantling of Conasupo, Procampo's initial official rationale involved an equity argument, insofar as it promised to reach the most low-income producers to a much larger degree than the crop support price: "A fundamental aspect of the program is the inclusion of more than 2 million subsistence producers who were at the margin of previous support systems" (SARH 1993: 5). Procampo's many other goals included: increasing competitiveness, increasing rural incomes, modernizing marketing systems, encouraging shifts to higher value crops, encouraging economic certainty, delivering subsidies to smallholders previously excluded by the previous crop support price system, and promoting conservation of soil, water and forests. Yet Procampo's combination of multiple goals made it difficult to achieve any of them consistently, as detailed in Merino's study in this report. [16] These multiple goals reflected a political compromise at the program's founding, as discussed below.

At the same time, both larger and smaller-scale producers were also being affected by a wide range of other major changes in the pattern of state intervention in the grain economy, including a sharp reduction in the provision of subsidized farm credit and other inputs, as well as the 1992 constitutional reform that encouraged the individual titling and the possible sale of agrarian reform lands (which accounted for half of Mexico's farmland). [17] Since both this major agrarian policy change and the registration of producers for Procampo were carried out at the same time, those smallholders who feared that the new individual land titling campaign threatened their holdings were also wary of registering their lands for Procampo. This skepticism contributed to a long-term problem of under-coverage of smallholder access to the Procampo program. Indeed, farm subsidy policy was designed to encourage *ejidatarios* to title their lands, and Procampo officials gradually increased their insistence that enrolled producers present their individual land titles as a condition for continuing to receive Procampo payments.[18]

During Procampo's design phase, policymakers overcame efforts by agribusiness interests to base payments on the past volume of production, and instead based them on land in cultivation - both for equity reasons and in order to present the program as "decoupled" from production decisions.[19] This decision promised to benefit smallholders, though at the same time, the program design would still benefit larger growers much more than smaller farmers, simply because those with more land would receive higher overall payments. According to Gustavo Gordillo, under-secretary of agriculture when Procampo was designed:

> "The original proposal for decoupled subsidies for Mexico included a cap of 20 hectares, thinking that in this range the support would reach approximately 90% of corn producers... This proposal

loan in 1991. Soon thereafter, in 1994, the World Bank provided an additional $85 million loan to invest in small-scale, rainfed grain producers, who faced the possibility of "extensive unemployment and sharply falling wages," according to the official loan document (World Bank 1994: 6). Soon afterwards, however, the Agriculture Ministry decided instead to fold the project into its conventional investment program, which focused on better-off producers (Fox 2007a: 156).

16 On the tensions between multiple goals, see also CEDRSSA (2007) and Shwentesius Rindermann (et al 2007). For example, Sadoulet, De Janvry and Davis argue that if Procampo were primarily intended to compensate for trade liberalization, then it should have made payments to producers based on amounts of previous sales, whereas if it were primarily an anti-poverty program, it should have been targeted to the poor (2001: 1054).

17 On the 1990s changes in land reform policy, see, among others, Cornelius and Myhre (1998), Fox (1994), Randall (1996) and De Janvry, Sadoulet and Gordillo (1997).

18 As Maldonado's study finds, at least in the Sierra Norte de Puebla, this administrative tightening led to a steady elimination of indigenous smallholders from the program (this volume).

19 On early policy debates over per volume vs. per land payments, see López Presa (2002) and Merino (this volume).

> was strongly rejected in 1989-90 by all those who were benefiting most from the support prices... The program's lack of a cap on the size of landholdings that could be covered, or any conditionalities in terms of sustainable development, was enough to maintain the inequality in access to public resources that the support price system had produced." (Gordillo 2009).

Procampo's extra double payment for irrigated producers reflected a similar change from the original policy proposal.[20] By the time the actual program made its way through the policy process, Procampo lacked an effective cap on the amount of funds that an individual could receive. Its initial operating rules, published in 1996, stated that payments had to be limited to 100 hectares of irrigated land, or up to 200 hectares of rainfed land (referring also to constitutional limits on landholdings following the agrarian reform), leaving open the possibility of payments exceeding these limits in the case of land rental (Sagarpa 1996). After autonomous peasant organizations gained some representation in Congress, the 2002 Budget Decree reiterated the original payment caps. In practice, however, these payment ceilings were rarely enforced. In 2009, a new policy debate began to consider the possibility of actually beginning to cap Procampo payments, and new rules of operation established that payments were to now be limited to M$100,000 per farmer per harvest cycle (therefore twice as high annually for irrigated producers, or approximately US$16,600). In spite of this history of ineffectual caps, if the program had managed to actually reach all eligible smallholders, and if the amounts of per hectare payments were large enough, Procampo still promised to be more equitable than the previous support price strategy. The degree to which Procampo was able to meet these goals turned out to depend on its institutional design and capacity, as well as a clear political bias in the initial registration process, as will be seen below. [Editor's note: by August, 2010, a review of the spring-summer payment lists indicated that the Procampo payments caps were being respected, though the public data does not reveal how much some producers may have been receiving from other programs].

3. PROCAMPO POLITICS: COMPROMISES AND CONSTITUENCIES

Procampo met its *political* goals. Its broad coverage of Mexico's diverse array of grain producers gave the program a large constituency. As former policymaker Gordillo recalled, "what was needed was a flexible instrument to adapt to the diversity of rural producers" (2009). Insofar as the program was designed in 1993 to buffer the expected social and political costs of NAFTA, it is remarkable that Mexican farmers did not launch a large-scale national protest against the trade opening until early 2003. Peasant organizations linked to the ruling party, notably the National Peasant Confederation (CNC), became stakeholders in the government's combined trade opening/compensation payment strategy because they were able to influence the decisions regarding which producers were included in the Procampo at its founding, as Merino's study shows (this volume). In other words, in 1993-1994 the government was able to use clientelist distribution of farm payments to offset potential opposition to the restructuring of agricultural policy.

Many years later, Procampo retains substantial support from producer organizations and policymakers, outlasting its original mandate to cover the 15 year period of NAFTA implementation. In 2007, Mexico's president announced that Procampo would continue for 5 years (through 2012), essentially postponing the policy debate over the program's future until the next administration. The governors' association also strongly backed the status quo in farm subsidy policy (CONAGO 2008). Both associations of large growers and some of the largest political party-affiliated organizations of small producers, like the CNC, closed ranks against changes in subsidy policy and in favor of increasing the resources under governors' discretional control (Pérez 2009a, 2009b). In contrast, the autonomous, non-partisan wing of the peasant movement called for farm subsidy policy reforms that would favor lower-income producers, including full coverage of smallholders, more of a sliding scale of payments to favor smallholders, and incentives for environmentally sustainable agricultural practices (CONOC 2009a, 2009b).

Procampo has also long received significant support from multilateral funders, whose loans combine economic support with political backing. [21] The Inter-American Development Bank weighed in first, loaning US$500 million for Procampo in 2001 (IDB 2006). In 2009, the IDB renewed its support with the first US$750 million tranche of a US$2.5 billion credit line, and the World Bank joined in with preparations for a US$449 million loan planned for 2010. These recent loans were accompanied by a series of studies and recommendations that confiden-

20 Personal email communication, Gustavo Gordillo, Feb 21, 2010

21 Indeed, the World Bank's official rationale for its proposed 2010 loan to support Procampo makes explicit reference to the program's long-term political logic: "the Procampo program was very successful in meeting its primary objective, which was to give the Mexican government a politically sustainable way to accede to the NAFTA and undertake a far-reaching reform of agricultural support policy" (World Bank 2009b: 5).

tially proposed to the government a much more pro-poor orientation to agricultural spending (e.g., Taylor, Yúnez-Naude y González 2007). [22] Indeed, the IDB loan is explicitly limited to covering only Procampo payments up to ten hectares per producer, "recognizing that the program is intended to improve the conditions of low income producers" (IDB 2009: 7). Mexican agricultural policymakers accepted the loan, but not the implicit recommendation of a policy change in favor of a payment cap. The World Bank has taken a similarly subtle approach, proposing to support Procampo while noting equity concerns – though expressed differently. According to the public summary of the World Bank's proposed new loan for Procampo, there is "room for improvement" in Procampo's equity impacts, and the loan proposal recommends that the program's rules of operation "ensure indigenous peoples benefit to the maximum extent feasible from the proposed project" (World Bank 2009b: 7). [23] [Editor's note: This World Bank planned loan was cancelled in August, 2010].

While Procampo's original design reflected a compromise between technical and interest group logics, its launch in practice was also marked by electoral politicization. The initial registration of producers was carried out during the 1993-1994 presidential campaign, punctuated by the Jan. 1, 1994 Zapatista rebellion. As Merino's study in this volume documents, beginning in 1993, Procampo's founding director, José Octavio López Presa, experienced strong pressures from both peasant organizations linked to the ruling party and Sinaloa agribusiness to "negotiate" which producers would get to end up on the beneficiary rosters. The director reported that he attempted to redirect the negotiations away from Mexico City, to the local district level, while also holding elections for 45,000 local producer representatives, from 85,000 villages, who would participate in the design of the program lists and provide community-based oversight. Conflict over control over the subsidy registration process proved costly. López Presa recalled that at least 11 of those elected local leaders were killed during this period. As the 1994 presidential election campaign heated up, pressures to politicize access to the program increased. In response, in the final weeks of the campaign, López Presa officially reminded all of the program's field staff of their obligations as public servants, noting that any attempt at political manipulation of the program should be reported immediately. In response, the Secretary of Agriculture had him fired within 24 hours (see Merino, this volume).

Clearly, senior federal officials collaborated with ruling party producer organizations at Procampo's founding to influence which producers had access to the program. Moreover, this massive extension of politicized access to farm subsidies took place just before a presidential election in which the secret ballot was not guaranteed, especially for rural citizens (Fox 2007a: 112-137). Since access to the program was strictly closed to new participants soon after its founding, this politicization at Procampo's origins may have biased the substantial undercoverage of the eligible smallholder population documented below.

Subsequent elections involved less overt politicization of access, but electoral use of Procampo persisted nevertheless. In the 2000 elections, the most reliable national survey found that Procampo recipients were more exposed to vote-buying efforts than non-recipients (Aparicio and Corrochano 2005: 385). In the run-up to the 2006 presidential elections, voter surveys carried out by the Civic Alliance, the non-partisan public interest group, in regions considered vulnerable to electoral abuses found that 7.8% of those surveyed reported that access to Procampo payments was subject to political conditions ("coacción") – less than state government social programs but more than Oportunidades (Almada Mireles 2007, cited in Fox and Haight 2009: 82). This citizen perception of conditioned access was encouraged by Procampo's procedural requirement that registered producers must still verify their eligibility for their payment every year with government authorities. Remarkably, however, a large-scale United Nations-sponsored public opinion survey at the time of the 2006 elections found that 69.5% of Procampo recipients saw the payment as a right rather than as a favor, while only 1.8% reported having been pressured to vote for a specific party (PNUD 2007: 179, 189).[24]

22 The public interest group Fundar submitted an information request to the Treasury Ministry for this study. Treasury declared the document confidential and Fundar filed a complaint ("recurso") to the IFAI. The IFAI commissioners ruled in favor of the requester and directed the Treasury Ministry to release the document, which was sent in hard copy. See resolution 0000600045109 @ www.ifai.org.mx (zoom).

23 Because Procampo was not designed with any special provisions to target or assist indigenous farmers, the World Bank's public summary of its draft loan proposal goes on to specify that it will be designed to include a social assessment which "will have the following objectives: (i) to assess the extent to which the project can benefit indigenous population; (ii) to identify barriers that may be preventing indigenous peoples to receive benefits; and (iii) to propose an action plan to address identified barriers and propose alternatives to ensure their participation. A social assessment will be prepared using as much as possible recent studies and focusing on the states where the majority of the indigenous population live; consultation will be conducted at national level with participation of indigenous peoples' leaders and other key stakeholders." (World Bank 2009a: 7). This proposal follows the World Bank's indigenous peoples policy mandating informed participation, which has rarely been applied to its Mexico projects (Fox 2003, 2007a). As of July, 2010, it was not clear whether the Mexican government would accept the World Bank's proposed social assessment.

24 Even this small percentage still reflects an absolute number of voters that is not far from the margin of difference between the two leading presidential candidates in the 2006 elections (depending on the actual number of Procampo recipients and the survey's margin of error). More generally, conservative estimates of the share of the 2006 electorate subject to violations of the freedom to vote through manipulation of social programs, known as "coacción," confirmed that the size of the vulnerable population was larger than the margin of difference in the election (Fox and Haight 2009).

4. PROCAMPO'S COVERAGE: BOTH REACHING AND MISSING THE POOR

Procampo is the most progressive of Mexico's national grain support programs, reaching more low-income farmers than any other. The program reached at least 1.6 million low income producers in 2005, those with less than 5 hecatares (GEA 2006: 84), of a total of approximately 2.5 million annual payments (depending on the year and the source). As Table 1 shows, according to an analysis of 2001 Procampo data, 61.5% of participants had less than 2 hectares, and 86% of participants had less than 5 hectares (Rascón, Hernández and Salazar 2006: 122). Of the total amount of land covered by Procampo, 21.6% belonged to producers with less than 2 hectares and 47.5% was in holdings of less than 5 hectares. In addition, according to the most comprehensive official evaluation, a slight majority of participating producers interviewed did not produce harvests large enough to sell a surplus on the market (GEA 2006: 97). Procampo clearly reaches subsistence and sub-subsistence producers to a significant degree.

Table 1
DISTRIBUTION OF PROCAMPO PARTICIPANTS BY SIZE OF LANDHOLDINGS (2001)

Size of landholding	Number of registered plots by size of landholding	% of total registered plots	Total number of hectares registered	% of total hectares covered by Procampo	Average size of landholding
Less than 1 ha	714,366	17.43	379,594	2.78	0.53
1+ to 2 ha	1,805,191	44.04	2,561,416	18.79	1.42
2+ to 3 ha	499,047	12.17	1,391,436	10.21	2.79
3+ to 5 ha	510,889	12.46	2,142,026	15.71	4.19
5+ to 10 ha	395,771	9.65	3,006,214	22.05	7.60
10+ to 20 ha	122,545	2.99	1,850,997	13.58	15.10
20+ to 30 ha	23,550	0.57	599,254	4.40	25.45
30+ to 40 ha	9,767	0.24	354,964	2.60	36.34
40+ to 50 ha	7,046	0.17	331,971	2.44	47.11
More than 50 ha	11,069	0.27	1,015,061	7.45	91.70
TOTAL	4,099,241	100.0	13,632,933	100.0	3.33

Source: Rascón, Hernández and Salazar (2006: 122) using official Procampo data for 2001.

This data does not speak to the issue of how *comprehensive* the program's coverage is, however. Both government policy evaluations and independent analysts tend to assume that the Procampo program actually reaches the vast majority of Mexico's grain producers, since they were presumably eligible to sign up when the program began. Yet the program's official evaluations do not attempt to measure the degree to which Procampo reaches its target population: grain producers. Procampo continues to exclude a majority of Mexico's lowest-income farmers, those with less than 2 hectares of land – for reasons that are not clear. Scott's analysis of Oportunidades' 2004 household survey data finds that in low-income rural localities, Procampo only reaches 7% of those with less than 1 hectare, 19% of those with 1-2 hectares, and 39% of those with 2-5 hectares (see Table 2). These survey results also show that the Oportunidades program reaches a much larger – though still very incomplete – share of low-income, often indigenous farmers. To contextualize this finding, Table 3 shows the results of a different survey, based on a representative national sample of grain producers in general, which found that only 49.9% of them received Procampo payments in 2007. Independently, these two surveys show that Procampo excludes the poorest of the poor. This pattern is rendered invisible by the official program data.[25] This is a significant example of how the lack of official transparency in program implementation undermines informed public discussion of how to improve Procampo's social impact.

25 The 2007 agricultural census apparently did not address this issue, at least not in the results that had been publicly released as of the end of the 2009. For analysis of findings and some of the limitations of the census, see Robles Berlanga (this volume).

Table 2
PRODUCER ACCESS TO PROCAMPO IN RURAL LOCALITIES COVERED BY OPORTUNIDADES, BY SIZE OF LANDHOLDING (%)

	<1 HA	1-2 HA	2-5 HA	6-10 HA	11-20 HA	20+ HA
Households that receive Procampo payments	7	19	39	47	44	42
Households that receive Oportunidades payments	46	58	56	51	35	38
Households reported as indigenous	31	33	17	6	6	8

Source: Scott, this volume (Table 5), based on ENCASEH, 2004 (a household survey of localities covered by Oportunidades, n = 784,794). Of the households surveyed, 25% were landholders, and 28% of them were in Procampo.

Procampo's rules do include some measures that tilt benefits slightly to low-income producers. In 2001, Procampo revised its payments for producers with less than a single hectare, rounding them up to the equivalent of one full hectare. In 2003, Procampo also began to pay a modest per-hectare bonus for producers with less than 5 hectares. By 2006, 60% of the land covered by Procampo was reportedly in plots of under 5 hectares, and therefore received this "preferential rate." (GEA 2006:79).[26] Procampo also created a capitalization option, which created an alternative to interest-bearing credit by allowing smallholders – primarily those with less than five hectares - to receive five years of payments in advance, based on a government-approved proposal for a productive project. Following the 2009 modifications to the rules of operation, in addition to capping payments at M$100,000 per harvest cycle, smaller rainfed farmers with less than 5 hectares now receive M$1,300 (around US$100) per hectare – an amount that recovered the original 1994 value of Procampo payments for the first time since the program's launch. Overall, Procampo payments accounted for 32% of the income of those low income producers who had access to the program.[27]

Table 3
PROCAMPO COVERAGE OF GRAIN FARMERS, 2007

Farmers who received Procampo in 2007 (all crops)	44.8%
Grain farmers who received Procampo in 2007 *	49.9%
Lowest income tercile 2007	43.2%
Middle income tercile 2007	49.0%
Highest income tercile 2007	57.6%
Grain farmers in 2007 who reported receiving Procampo in 2002	52.7%
* Maize, wheat, barley, rye, or sorghum	

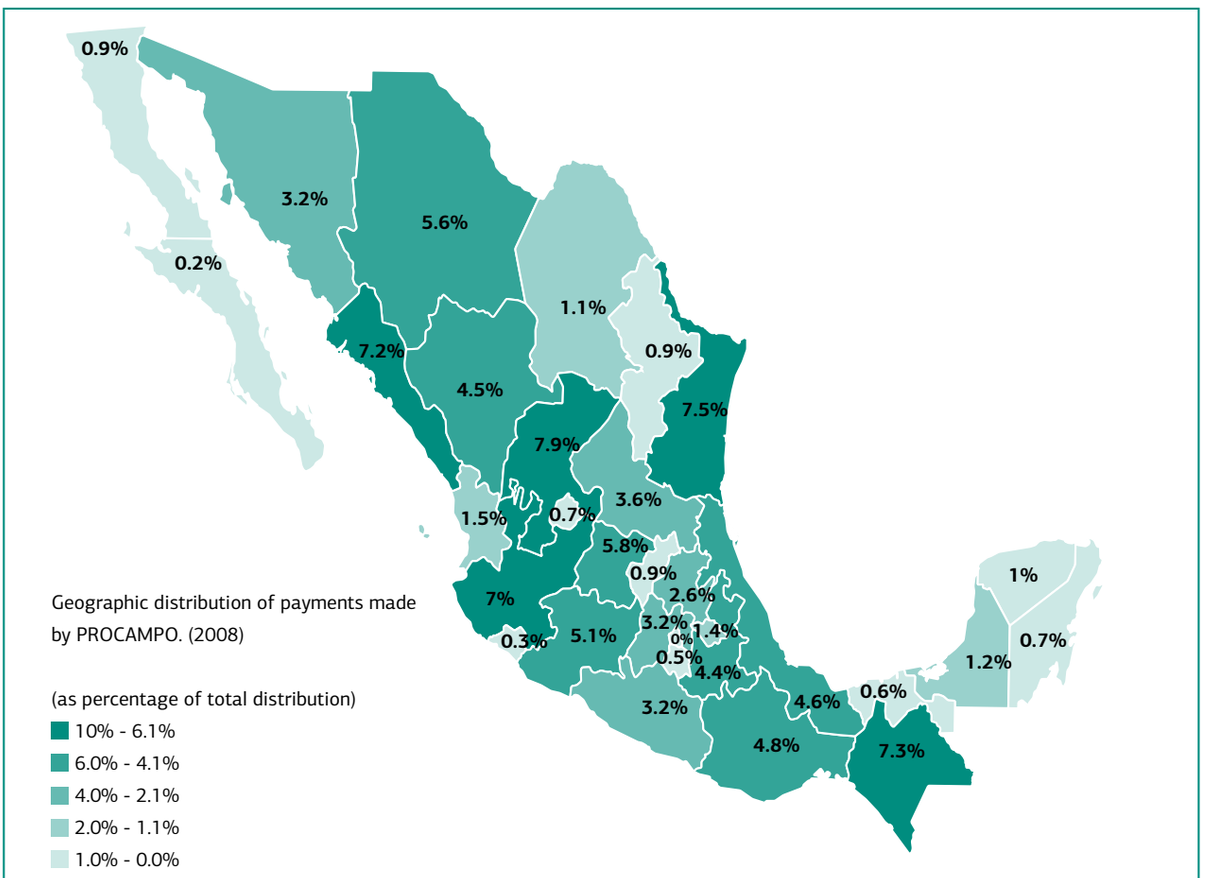
Source: Encuesta Nacional a Hogares Rurales de Mexico, or ENHRUM, 2008. N = 1,782 households in 14 Mexican states. The ENHRUM sample was designed by INEGI to be representative of localities with between 500 and 2,500 inhabitants, representing 80% of the population officially considered to be rural. Thanks very much to Prof. Ed Taylor of the University of California, Davis for sharing the data and to Justin Kagen for the data analysis

The most comprehensive official evaluation recognized that "Procampo was not designed to be, nor can it be, an instrument for redistributing resources in the agricultural sector" (GEA 2006: 76). However, this claim is based on the evaluators' implicit assumption that the program's parameters are fixed. Indeed, the evaluation does not address the issue of payment caps for large growers. Simple changes in the program's rules of operation could in fact permit the program to be significantly redistributive, if payments were limited to once per year (eliminating privileges for irrigated producers), if producers with less than five hectares received a substantially larger per-hectare payment (a sliding scale principle already established), and if payments were capped at a certain smaller number of hectares (as implied by the IDB's recent $2.5 billion credit line for Procampo). As of mid-2010, however, policymakers had still ruled out a more redistributive approach to Procampo because of what the World Bank's recent agricultural budget review calls " a crucial political-economy issue... the pressure of rent-seekers and interest groups to influence programs and their design" (2009b: 77). Merino's study refers to this same dynamic as the "capture and diversion of public resources" (this volume).

26 Note that this finding is significantly higher than Rascón, Hernández and Salazar's findings (2006), an issue that may be related to systematic problems with double-counting of producers in the Procampo roster, as detailed in Haight and Fox (this volume).
27 See GEA 2006: 202. This report also has a detailed history of changes in rules of operation.

Nevertheless, Procampo is still the most progressive of Mexico's large-scale farm subsidy programs, insofar as it reaches low income producers to the greatest degree (see Scott, this volume). Compared to Mexico's other agricultural programs, Procampo's geographic coverage is also less biased toward northern states. Robles Berlanga's data analysis in Box 1 shows that most production-oriented agricultural spending does not reach low-income municipalities. In Box 2 he shows what this bias means for "indigenous municipalities." Map 3 shows the geographic distribution of all Procampo program payments in 2008. Map 4 shows the geographic distribution of the "Traditional Procampo" program in 2008, while Map 5 shows the geographic distribution of the above-mentioned Procampo Capitalization program, whose greater southern focus is consistent with its established objective of targeting smaller farmers.

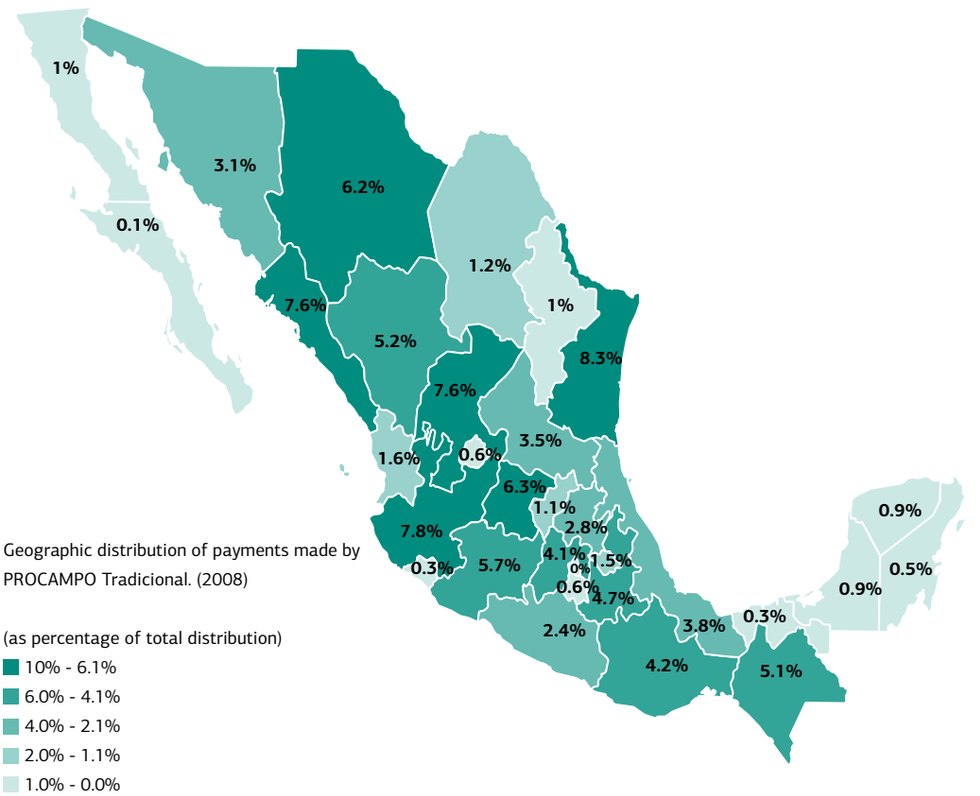
Map 3
GEOGRAPHIC DISTRIBUTION OF ALL PROCAMPO PROGRAM PAYMENTS
(PERCENTAGE BY STATE, 2008)



Source: Elaborated with data from www.subsidiosalcampo.org.mx based on the official data from the rolls of recipients of ASERCA.

Map 4

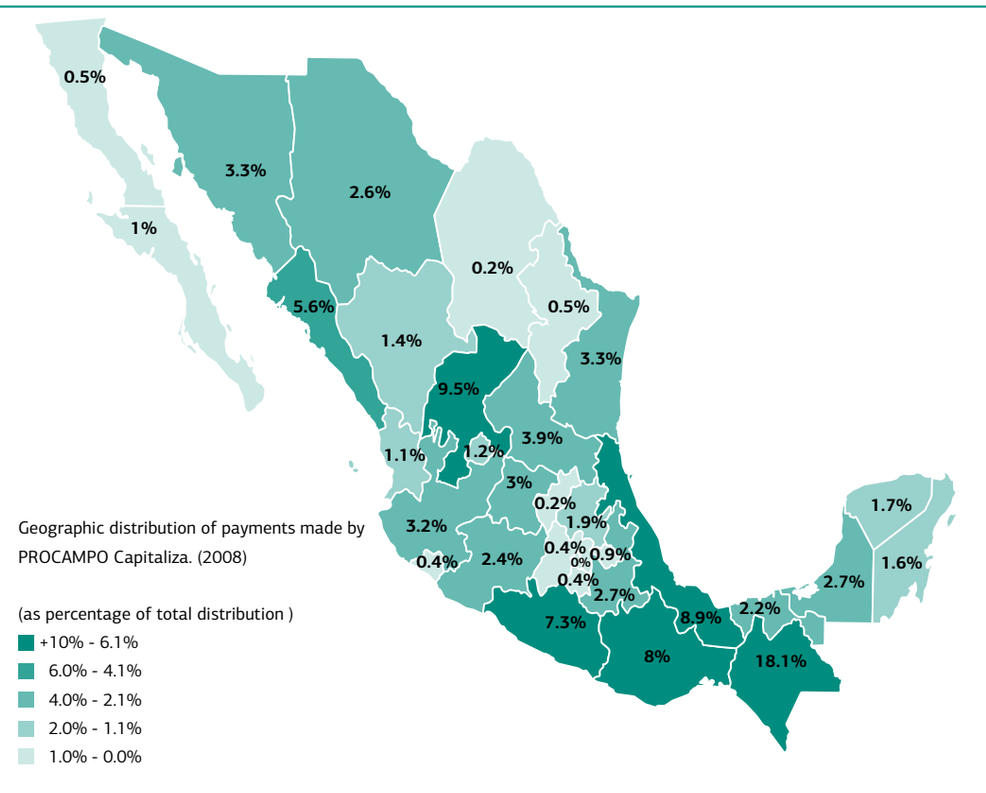
GEOGRAPHIC DISTRIBUTION OF "TRADITIONAL PROCAMPO" PROGRAM PAYMENTS, 2008
(PERCENTAGE BY STATE)



Source: Elaborated with data from www.subsidiosalcampo.org.mx based on the official data from the rolls of recipients of ASERCA.

Map 5

GEOGRAPHIC DISTRIBUTION OF "PROCAMPO CAPITALIZES" PROGRAM PAYMENTS, 2008
(PERCENTAGE BY STATE)



Source: Elaborated with data from www.subsidiosalcampo.org.mx based on the official data from the rolls of recipients of ASERCA.

BOX 1:
WHICH AGRICULTURAL PROGRAMS REACH LOW-INCOME COMMUNITIES?[28]

Héctor Robles Berlanga (UAM–Xochimilco)

Only some of Mexico's many rural development programs target low-income municipalities. The Mexican congress' rural development research center has developed an extensive database that offers a geographic and gender breakdown of the distribution of the 2007 rural budget, which includes social, infrastructural, financial, labor-related and environmental spending as well as economic investments (denominated "competitiveness"), though it does not include health and education. This effort was inspired both by the Sustainable Rural Development Law's effort to encourage coordination across programs and by the 61.5% growth in overall rural spending between 2000 and 2009.

This data clearly shows that Mexico's poorest municipalities receive only a modest share of public funds for agriculture – only 6.9% of 2007 spending was allocated to those with "very high" marginality levels, with another 30.6% going to those considered of "high" marginality, though together they accounted for 57.5% of the production units receiving support. In spite of Sagarpa's long list of programs, only Procampo, Progan (transfer payments for livestock owners) and Coffee Support have a significant presence in low-income municipalities. Moreover, the per capita amounts spent by these programs tend to be too small to permit the capitalization of production units. The agricultural programs that are considered to promote "competitiveness" tend to be limited to already-capitalized producers in northern Mexico.

When one takes into account the official definitions of their "target populations," agriculture programs also vary widely in terms of their degree of coverage of potentially eligible producers. Procampo has the highest degree of coverage, with a total of 67.1%, including 10.7% enrolled in the "Procampo Capitalizes" program, which allows advance payment of 5 years of cash transfers to support an investment project. The agricultural program with the next-highest degree of coverage of its potentially eligible population is the Coffee Support Program, at 60.4%, followed by the Progan livestock program with only 6.6% coverage. ASERCA's various marketing support programs, including Ingreso Objetivo, all reach well under 1% of producers.

28 This box summarizes the detailed findings presented in Robles Berlanga (2010a)

BOX 2:
AGRICULTURAL SPENDING IN INDIGENOUS MUNICIPALITIES[29]

Héctor Robles Berlanga (UAM–Xochimilco)

Approximately one in four of rural Mexicans are indigenous citizens who live in what are considered "indigenous municipalities." These rural municipalities are defined as those where more than 40% of the population lives in households in which one of Mexico's 62 officially recognized indigenous languages are spoken. Six million indigenous people lives in these municipalities, accounting for approximately 60% of Mexico's total indigenous population, according to the national statistics agency (INEGI). Indigenous agrarian reform communities control 21.9% of the land in the reform sector, and indigenous smallholders account for one quarter of the total number of Mexico's farms.

To what degree do Mexico's agricultural subsidies reach indigenous farmers? The Mexican congress' rural development research center's comprehensive database shows that most of what does reach indigenous municipalities is social welfare and local infrastructure spending, but not spending for agriculture. For example, Oportunidades and the Diconsa village food stores have widespread coverage of indigenous municipalities. Agricultural spending, in contrast, falls short. Even though Procampo was designed to reach the smallest landholders, only 12.4% of agricultural spending was reported as reaching "indigenous municipalities." Given that the populations of many municipalities in this official category are majority non-indigenous, and those farmers often have more land, this figure is a substantial over-estimate of what actually reaches indigenous farms. The Coffee Support Program is the main exception to this trend. Indigenous municipalities receive an even smaller share of rural development spending designated as environmental, only 6.2% of these federal resources. In turn, indigenous municipalities receive even less of the federal funding for credit for rural development activities - only 0.1% of that budget.

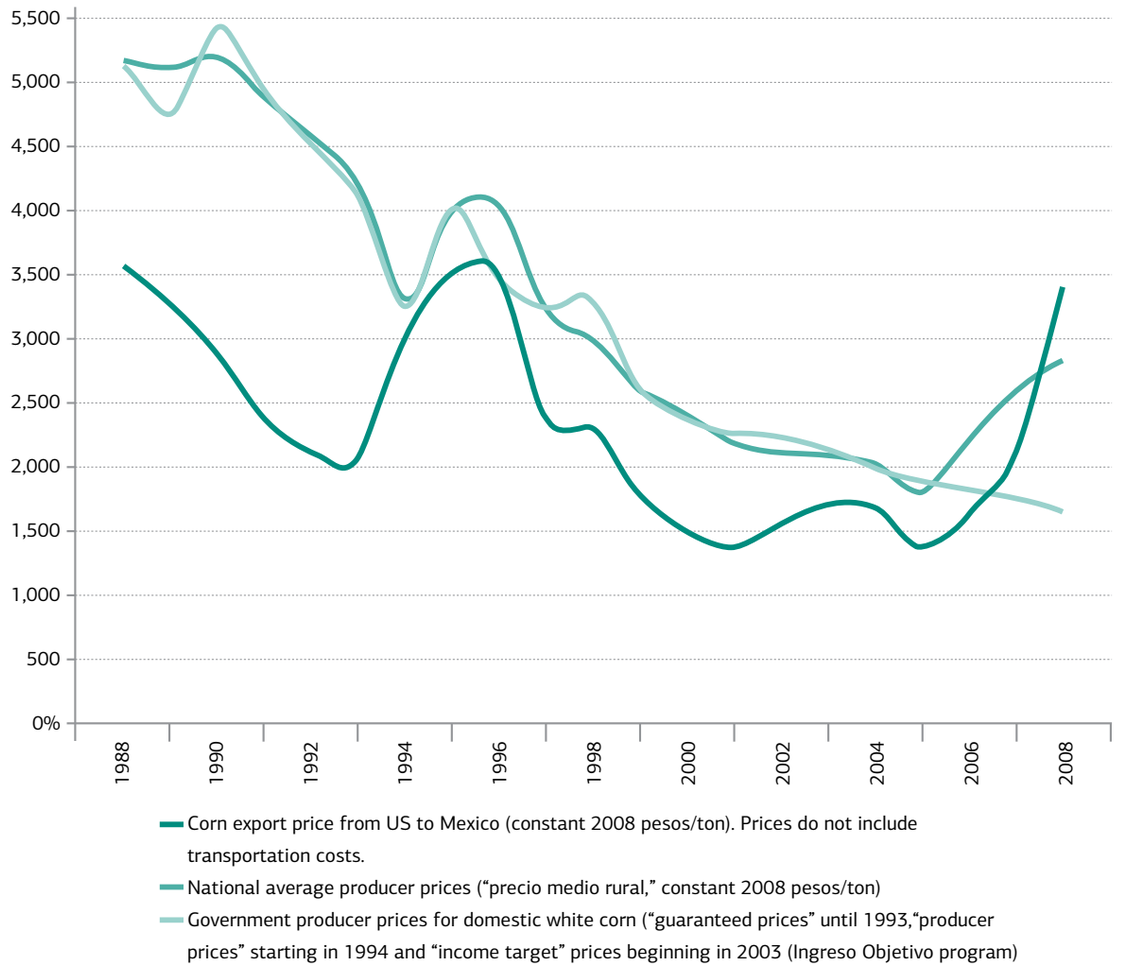
5. THE CONTEXT FOR COMPENSATORY PAYMENTS: CORN PRICE TRENDS

Before further analysis of the compensatory payment programs for corn farmers, it is important to recall the rationale for this official policy: the predicted drop in the price of corn. Graph 2 sums up three major price trends for corn, beginning several years before the trade opening, in 1988. The graph shows constant corn prices in terms of 2008 pesos. One line shows the price of imported corn, converted into pesos; prices fall before NAFTA, rise again in 1995 because of the late 1994 devaluation, then the downward trend continues until the 2007 spike in international prices. The trend for the "average rural corn price," an official indicator that reflects a national average of the diverse prices producers receive in the private market, shows that first, until the devaluation, trade protection kept the producer price well above the price of imported corn. At the same time, however, the two prices moved in tandem. After the devaluation, the fall in the international price pulled domestic producer prices down, a trend that continued until the international price spike in 2007.

The next line suggests the influence of state intervention in national corn markets, since the official support price tracks the domestic producer price very closely, apparently as the result of its regulatory effect on the private market. Subsquently, after the elimination of Conasupo and the support price, the state continued to intervene in the national corn market through the Ingreso Objetivo (Income Target) crop subsidies. While the state no longer purchases crops directly, this program's impact in the market is similar to that of a support price – though only for some commercial producers. For this reason, Graph 2 presents the support price, followed by the Ingreso Objetivo price, in a single line.

29 This box summarizes findings in Robles Berlanga (2010b)

Graph 2
INTERNATIONAL PRICES, PRODUCER PRICES, AND GOVERNMENT PRICES FOR CORN, 1988 TO 2008



Sources: Imported corn prices: Annual FATUS series for U.S. Corn Exports to Mexico. Exchange rate data from 1994 - 2009, Informes de Gobierno Federal, Mexico. Government support prices from Sistema de Información Agroalimentaria de Consulta (SIACON), modulo agrícola. Precio de Garantía de Granos Básicos. Government crop support prices: Informe de Gobierno Federal México, 1986-1994 and "Precio Pagado al Productor" Informe de Gobierno Federal, 1994-2009. Precio Ingreso Objetivo; http://www.aserca.gob.mx/sicsa/programas/programas.asp?seccion=ingreso, Diarios Oficiales 2003 - 2009.

6. THE RE-INTERVENTION OF THE STATE: FARM SUBSIDIES AS PRODUCTION INCENTIVES

Because Procampo's per-hectare approach "decoupled" subsidy payments from the volume of production, the program was widely hailed by free-market advocates. In practice, however, it turned out that Procampo payments remained linked to production in two major ways. First, producer access to the payments is directly conditioned on continued use of the land for crop production, hence the government's ongoing monitoring of land use and the requirement that producers reapply every year. In this sense, the logic of the program was not limited to the idea of compensating those who had been growing grain before NAFTA, but also mandated their *continued* production. The second way in which Procampo payments are still linked to production is through its seasonal payments. Procampo pays irrigated producers for *both* of their annual crop cycles (and therefore double what is received by rainfed producers with the equivalent amount of land). Because the minority of Mexican farmers who have irrigation can grow two harvests, they are at least twice as productive as the majority that depends on rainfall, for the same given amount of land. The double-payment approach therefore undermines the subsidy's ostensible goal of decoupling payments from production. This policy decision also sharply accentuates the social bias inherent in the program's uncapped per hectare payment approach.

ASERCA's other major strategy involves a complex package of marketing subsidy programs that turn out to have little to do with free markets.[30] Their share of the agricultural budget has increased steadily over the past decade (see Graph 1). Between 1991 and the early part of 2000 this approach was very ad hoc, as its coverage of different crops and states varied widely. The government first made subsidy payments directly to crop *buyers*, notably including large national and transnational agribusiness trading firms (discussed further below). Beginning in the early 2000s, a portion of this program was reoriented to pay the difference between domestic and imported prices directly to larger producers, under the name Ingreso-Objetivo. This subsidy instrument is known as a "deficiency payment" in the US. Each year, ASERCA predicts an international target price, chooses select producers with substantial marketable surpluses, and pays them the difference on a per-ton basis. This payment is, in effect, a support price, which is why Graph 2 depicts the history of state intervention in corn markets in terms of a continuous line that includes both Conasupo's floor price and ASERCA's target price. These commercial farmers' per-ton payments also serve as a bonus on top of their Procampo payments. According to official ASERCA recipient lists, between 2000 and the early part of 2009, only 4 northern states concentrated 72.6% of the total payments from Ingreso Objetivo (Sinaloa, Sonora, Tamaulipas and Chihuahua, in that order).[31] By protecting a few large growers from having to compete with cheaper imports, the Ingreso-Objetivo program encouraged increased domestic production, as discussed further below.[32]

Both Ingreso-Objetivo's quiet expansion of selective post-NAFTA protectionism and Procampo's production inducements are at odds with the widely held view that the Mexican state has withdrawn from the rural economy. While the state clearly both reduced and changed the nature of its intervention after the 1982 debt crisis, it did not withdraw by any definition – on the contrary, the ASERCA experience is an example of a broader trend in which new levers of public policy intervene even more "deeply" in the countryside than before (Fox 1995). For example, under the previous support price policy, Conasupo simply received crops at their network of warehouses. With Procampo, in contrast, the federal government needs to know exactly who grew what and how much land they have in production, down to their first and last names. In the case of marketing support payments, the state also needs to keep track of how much producers sell on the private market, at what price and to whom. In addition, the state also set itself the task of *continuing* to monitor behavior on more than two million Procampo plots, to ensure that producers on the rolls still comply with the requirement to keep planting each year in exchange for the per-hectare crop subsidies. Overall, this approach dramatically increases the challenges posed to state capacity. This study therefore pays special attention to the quality of the official roster of farm subsidy recipients, as an indicator of the state's institutional capacity to meet these new challenges. As documented in Haight and Fox (this volume), the ostensibly transparent official subsidy recipient lists turn out to have major limitations that prevent a clear accounting of total payments to individuals.

Limits to institutional capacity and complications in the official data were revealed in a series of investigative reports in one of Mexico's leading newspapers, *El Universal*. The issue of who gets what from Procampo was first covered in-depth in July, 2009, and again in February, 2010.[33] The coverage focused on who exactly has been receiving Procampo payments, revealing the family names of alleged drug traffickers and public servants working in the agricultural sector that appear in the official rosters. Public debate quickly turned to the legitimacy of these payments. Defensive officials often cited their limited institutional capacity to effectively monitor all of Procampo's recipients as an excuse for why some payments are made to people who might not qualify for the program. SAGARPA promised to place renewed emphasis on reviewing the recipient list, verifying that all recipients do indeed meet qualification requirements, and updating the information in the official recipient lists, though with few tangible results as of mid-2010. The ensuing public debate revealed another major limitation to the official data, which is the inability to know with accuracy exactly how many distinct farmers are receiving payments. The government chooses to organize its subsidy data by registered payment rather than by individual recipient, which allows for both over-counting and under-

30 The focus here is on just one of these marketing support programs, Ingreso Objetivo, both because it is the largest and because the others make much less data public (see Haight and Fox for details on opacity of other subsidy programs). With the exception of the work of CEDRSSA (2004, 2007), Echánove Huacuja (2009) and Steffen Riedemann (2007), ASERCA's marketing subsidies have received remarkably little independent research attention. Economic analysts at the multilateral development banks, however, consider them to contradict Mexico's commitment to market-friendly agricultural policies (World Bank 2009b). The IDB commissioned a detailed study that was extremely critical of the program on both economic and equity grounds (Sumner and Balagtas 2007). The Treasury Ministry denied a public information request for this document, but on appeal the IFAI Commissioners decided in favor of the requestor, the public interest group Fundar. The Treasury Ministry complied with the mandate to release the document. See IFAI Resolution 0000600044909, http://www.ifai.org.mx/resoluciones/2009/2160.pdf.

31 This figure is based on analysis of ASERCA official recipient lists for Ingreso Objetivo, 2000-2009 (through September, 2009, downloaded September 30th, 2009 from http://www.ASERCA.gob.mx/artman/publish/article_1424.asp). Data published on Subsidios al Campo en México www.subsidiosalcampo.org.mx, where concentration calculations are available.

32 After 2007 increases in international grain prices, the scope of the Ingreso Objetivo program narrowed, but other discretionary grain production subsidies then grew, notably the contract farming program for sorghum, wheat and yellow corn (Echánove Huacuja (2009).

33 The July, 2009 series of reports can be seen at http://www.eluniversal.com.mx/graficos/especial/EU_procampo/historico.html, and the February 2010 series is available at http://www.eluniversal.com.mx/graficos/especial/EU_procampo/.

counting the absolute number of actual farmers participating in the program (see further discussion in Haight and Fox, this volume). What is clear is that policymakers' often-cited number of 2.7 to 2.8 million participants in Procampo is a substantial over-estimate. However, despite the previous commitments to review and verify the official data on Procampo recipients, the Minister of Agriculture continued to use this inaccurate figure to describe the program. For example, he cited this figure while defending the fact that he, his family and his businesses have received over M$ 11 million in farm subsidies since 2005 (Arvizu 2010).

These increased challenges to state capacity have not been accompanied by institutional accountability reforms that would harness the potential of stakeholders and civil society organizations to contribute to public sector performance. The *Universal* investigation also revealed ASERCA's limited institutional commitment to respond to citizen demands that the program respect its own operating rules. One 2010 news report showed that the April, 2009 rules of operation not respected in the Spring-Summer 2009 payment cycle, nor were SAGARPA and ASERCA's commitments to "clean up" the payment rosters fulfilled (Hernández 2010).

While Procampo has attracted the most public attention because of its high profile and broad coverage, Mexico's other major farm support programs also lack functioning institutional channels through which producers or public interest groups can identify problems and promote accountability (Hevia de la Jara, this volume). This includes the Alianza agricultural investment program, operated by the state governments (Palmer-Rubin, this volume). Even in the case of Procampo, which was launched with a large-scale campaign to elect producer representatives known as "*vocales*," there is little field-based evidence of functioning accountability mechanisms. The official evaluations do not address the issue. The "*vocales*" are nominally tasked with being an interface between Procampo participants and ASERCA, but in practice, their role ranges from weak to non-existent. Most often, they represent the agency to the producers rather than vice versa (Maldonado, this volume, Hevia, this volume). The main exception to this pattern occurs in some indigenous communities, where the role of the *vocal* has been incorporated into existing community self-governance structures (Maldonado, this volume).

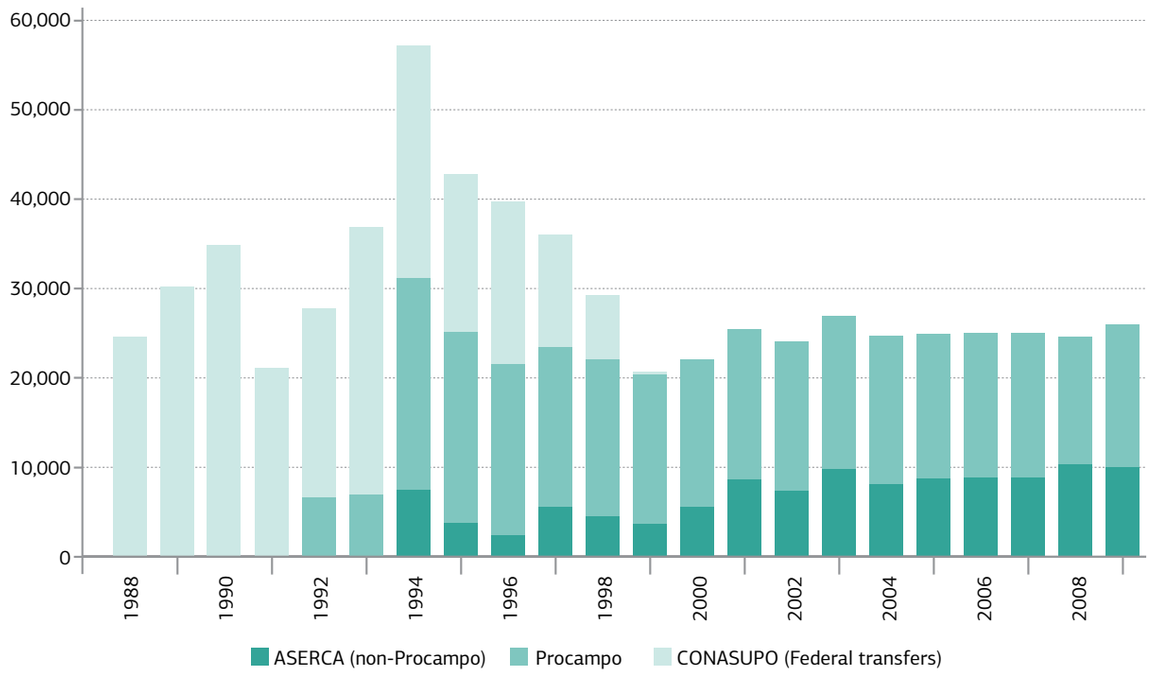
Looking beyond local program operations, there is little evidence that federal agricultural agencies have sought balanced partnerships with Mexico's broad range of non-partisan regional producer organizations that have demonstrated commitment to promoting an effective, accountable public sector. For example, consider the experience of the Tosepan Titataniske cooperative in northern Puebla, detailed in Maldonado's study (this volume).[34] For almost three decades, this broad-based regional organization of indigenous smallholders has consistently sought to partner with public sector agencies to improve the effectiveness of anti-poverty programs, and Procampo was no exception. Yet the organization's efforts to cooperate were rebuffed, including its anti-corruption initiatives, and many of its members who had initially managed to register for the Procampo were later dropped from the rolls.

7. POST-NAFTA AGRICULTURAL TRENDS

What have post-NAFTA agricultural policy priorities been in practice, as seen through long term budget trends and production outcomes? After Mexico's agricultural spending fell sharply following the 1982 debt crisis, it grew steeply in 1994, a year that combined presidential elections and NAFTA implementation. Procampo funding was generous at first, with per hectare payments initially valued at approximately US$100. Agricultural spending then fell sharply after the 1995 peso crisis, including both Procampo's overall budget and the per-hectare real value of the payments (Graphs 1, 3 and 4). As Conasupo was dismantled, ASERCA's budget grew, as ASERCA's marketing support programs and Procampo took its place (Graph 3).

34 See also http://www.tosepan.com/

Graph 3
GOVERNMENT SPENDING ON GRAIN SUBSIDY PROGRAMS: CONASUPO AND ASERCA, 1988-2009 (2008 PESOS)



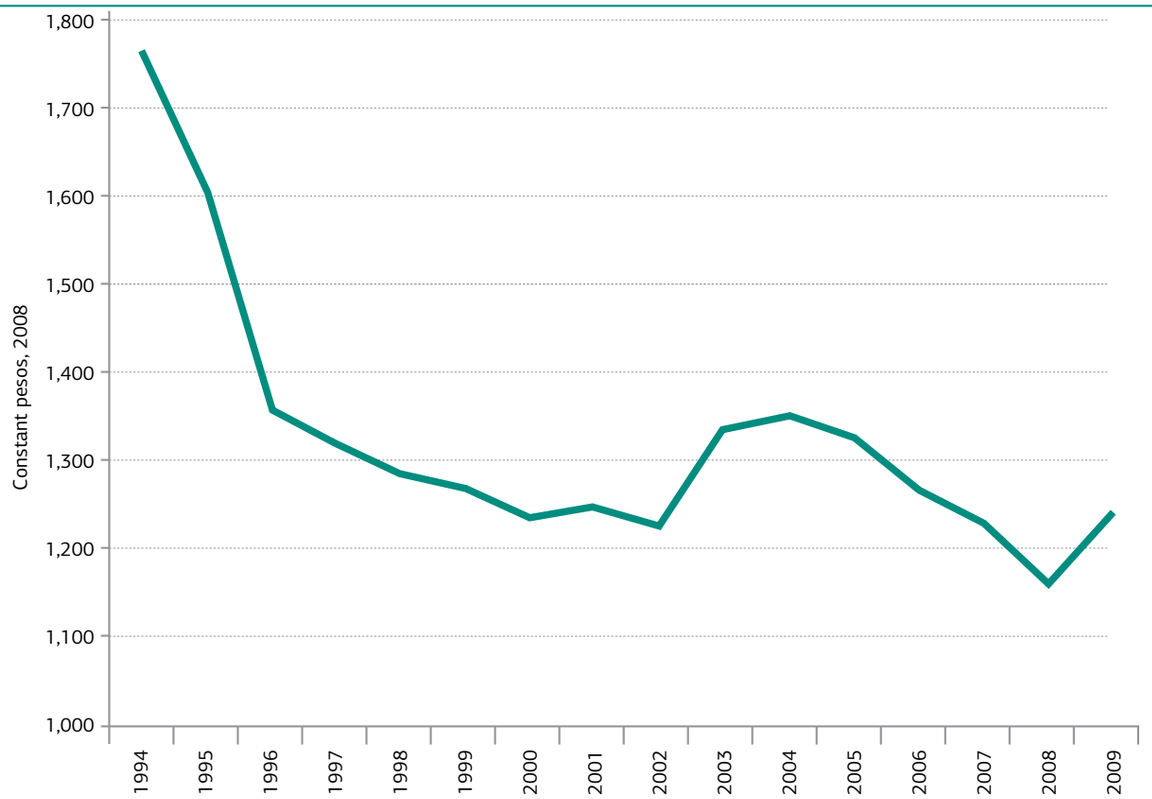
Sources: *Informes de Labores*, Agriculture Ministry, 1989-2000, consulted at Sistema de Información Agroalimentaria y Pesquera (SIAP) de la Secretaría de Agricultura (SAGARPA) and *Informe de la Cuenta Pública Federal*, consulted at www.apartados.hacienda.gob.mx, August-Dec., 2009. For Conasupo budget data, Anexos estadísticos, *Informes de Gobierno*, 1988-2000

Beginning with the Fox administration's first year, in 2001, agricultural spending began to climb steadily back up, almost doubling in real terms by 2009. Procampo continued to have the largest program budget within ASERCA (Graphs 1 and 3). This growth in spending was driven in part by the clout of farm interests in the legislature, and in part by peasant protests that peaked in early 2003 with the movement called "The Countryside Won't Take Any More". [35] The value of Procampo payments in real terms was not restored, however (Graph 4), and Procampo's share of the farm budget fell. Indeed, Procampo's per hectare payments for the smallest farmers (those with less than 5 hectares) lost 29.4% of their peso value between 1994-2009, even after the April 2009 modifications increased their per hectare payment. Graph 4 depicts the changing real value of per hectare Procampo payments for the Spring-Summer harvest cycle, for payments to 5 hectare or smaller plots, including the sliding scale payment modifications of 2003 and April 2009. This per hectare payment was chosen for this indicator because it represents the highest per hectare payment available through Procampo. In contrast, since 2000 the budgets for marketing supports and the Alianza investment subsidy program both grew (Graph 1). The first program benefited almost exclusively commercial farmers, while the second benefited primarily commercial farmers. At the same time, Procampo continued to reach low income farmers, as noted above.

35 See Bartra, Cobo and García (2003), Esteva and Marielle (2003) and Sánchez Albarrán (2007), among others.

Graph 4

CHANGING REAL VALUE OF PROCAMPO PAYMENTS OVER TIME, 1994-2009
PAYMENTS IN CONSTANT 2008 PESOS FOR PARCELS OF 5 HAS OR LESS,
SPRING/SUMMER SEASON



Sources: Procampo payment data from ASERCA and Procampo operational documents and rules of operation, 1994-2009, http://www.aserca.gob.mx/artman/publish/article_186.asp Deflation based on: 1988-2007: INEGI. Sistema de Cuentas Nacionales de México.http://dgcnesyp.inegi.gob.mx/cgi-win/bdieintsi.exe/NIVA05001000600110001000 10#ARBOL, Indicadores económicos de coyuntura / Producto interno bruto trimestral / Base 1993 / Índice de precios implícitos / Por gran división de actividad económica / Índice / Unidad de Medida: Índice base 1993 = 100.a precios básicos y de mercado > Índice de precios implícitos > Unidad de Medida: Índices base 1993 = 100 and SHCP Criterios Generales de Política Económica, 2009, p. 90.

Against this backdrop of changing agricultural policies, what happened to corn after NAFTA? The original debate about NAFTA produced a wide range of predictions, but both advocates and critics agreed on two main points. First, they predicted that the corn opening would encourage a sharp drop in agricultural employment – since most agricultural jobs were in corn.[36] Second, analysts predicted that Mexico's production of corn would also fall in the face of cheaper imports, and as a result corn imports would increase. The data that follows shows that some of these expectations were fulfilled, while others were not.

Farm employment did drop, as expected – continuing a long term trend. Two million workers left agriculture between the 1991 and 2007 agricultural censuses – 19% of the farm labor force, including unpaid family labor (Scott, Table 10A, this volume). Plus, the agricultural share of Mexico's total employment contracted even more sharply, dropping from 23% in 1990 to 12% in 2008. Yet corn production went up, even though Mexico's producer price dropped, driven down by falling import prices.

The widely-held view is that while Mexican trade negotiators managed to successfully resist US pressures to include oil in NAFTA, insurmountable US pressures obliged corn to be included in the free trade agreement. This was not the case. It turns out that Mexican trade negotiators acceded to including corn in exchange for the US opening its market to future orange juice imports (Maxfield and Shapiro 1998). This meant that they essentially traded the

36 See Levy and van Wijnbergen (1992), Hinojosa and Robinson (1992) and Robinson, Burfisher, Hinojosa-Ojeda and Thierfelder (1991). Note that De Janvry, Sadoulet and Gordillo contended that those most affected would be small-scale surplus-producing farmers, predicting that "only about half of maize producers will be affected by a change in the sale price" (1995: 1351). As the *New York Times* reported at the time, then- Undersecretary of Agriculture Luis Téllez said that "...within a decade or two... about half of the rural population will most likely be forced to move" (Golden 1991). Elsewhere he wrote: "rural to urban migration.... is a *highly desirable* phenomenon, insofar as the rural population can be absorbed by the industrial and service sectors..." (Téllez 1994: 27, emphasis added). Noted migration specialists who were NAFTA optimists predicted that in the medium term, the Mexican economy would generate enough jobs to reduce migration pressures (Cornelius and Martin, 1993, Martin 1993).

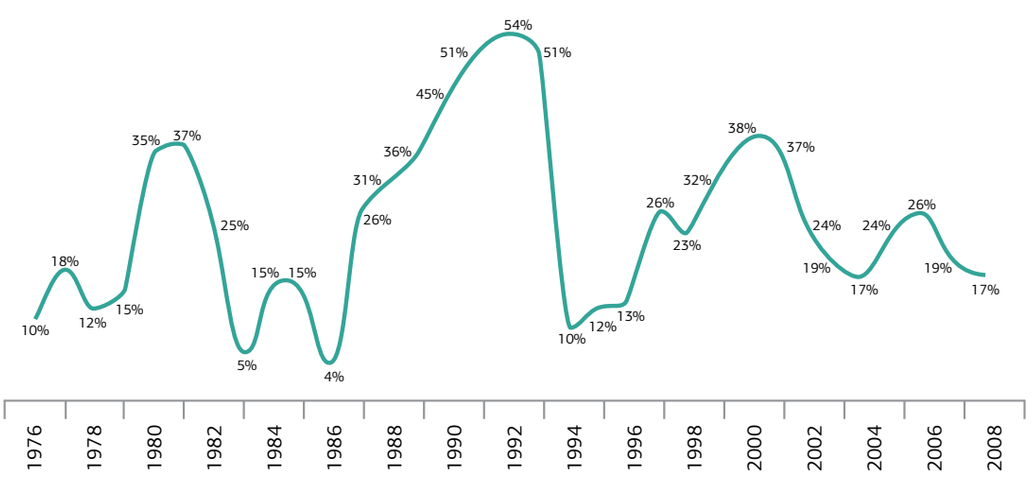
future of the country's main staple crop for a commodity that has yet to become significant in Mexico's agricultural exports. Indeed, interviews with Mexico's leading agricultural trade negotiators show that Mexico's corn opening was not an unavoidable condition imposed by the US, but rather was a deliberate choice by the Mexican government.[37] Moreover, after the agreement went into effect, the Mexican government moved quickly to compress the corn trade opening into just a few years, by not applying the 15 year transition period allowed by NAFTA.[38] Economists recall that the government's goal was to control urban food prices, to buffer consumers' huge drop in purchasing power in the aftermath of the 1995 peso crisis.

Following NAFTA and the 1995 peso crisis, national producer prices for corn fell substantially. Though Mexico's domestic corn prices had been kept above international prices because of trade protection, their ups and downs had long closely followed international prices (Yúnez Naude and Barceinas 2004: 21). Though international prices drove domestic prices down following NAFTA, they had been driving Mexican corn prices down for many years (see Graph 2). However, the long term trend indicates that exchange rate changes may have had more impact on Mexican producer corn prices, even with trade protection. What changed after NAFTA was the *gap* between domestic producer prices and international market prices. As predicted, the gap narrowed and domestic prices became much more closely aligned with international prices (see Graph 5, also Torres Rojo 2007: 29-30, Contreras Castillo and Gómez Uriba 2009: 97). Meanwhile, the impact of the producer price drop was accentuated by the late 1990s' fall in the peso purchasing power of Procampo's per-hectare compensation payments (see Graph 4 above).

In addition, Mexican grain producers were significantly affected by US farm policies that led to below-cost exports. According to Wise's study in this volume, between 1997 and 2005, the estimated cost of that US dumping was larger than the total value of Procampo transfer payments. He shows that corn producers were by far the most heavily affected, with US$6.2 billion in losses, an average of US$94 per hectare, which is more than the average Procampo payment during that period.

Graph 5

GAP BETWEEN DOMESTIC AND INTERNATIONAL CORN PRICES, 1976-2008
(PERCENTAGE DIFFERENCE)



Sources: International corn prices from Annual FATUS Series for US corn exports to Mexico. National producer prices ("precio medio rural") from Sistema de Información Agroalimentaria de Consulta, SIACON. Data from 1976-79 from Centro de Estadística Agropecuaria, "Consumos Aparentes de Productos Agrícolas (1925-1997), Maíz, 1998, p. 103

Yet contrary to universal expectations, Mexican corn production *increased* during the post-NAFTA years (Graph 6).[39] At the same time, Mexico's grain imports have also increased substantially (see Wise, this volume). While agricultural imports displaced some domestic crops, in the case of corn, *both* imports and production have increased over the past 15 years. Overall

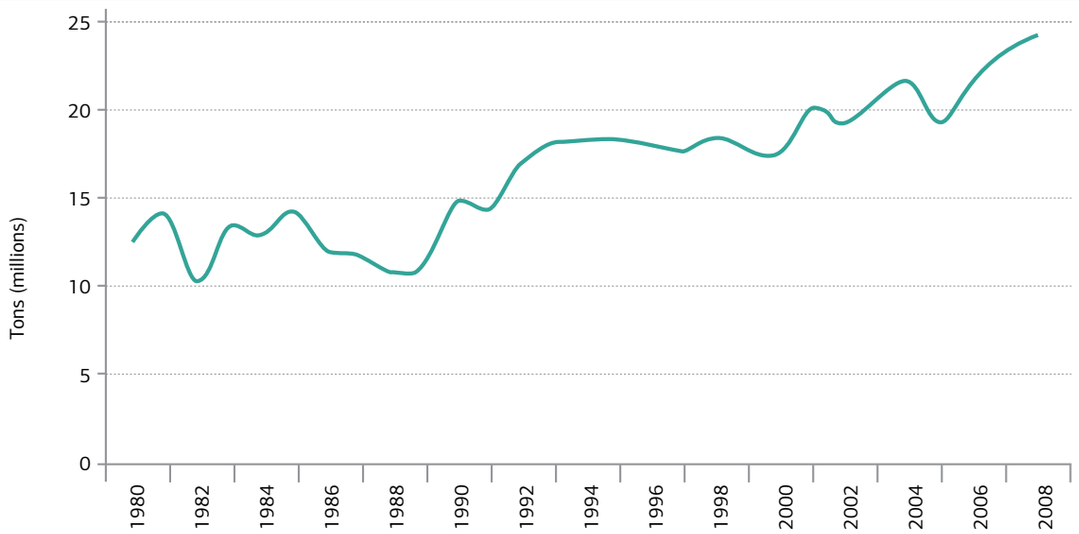
37 As the architect of this policy, Luis Téllez, put it: "It is necessary to include corn, grains in general, to make productive many chains that in Mexico are not productive: grain-based foods like meat and foods made from industrially-processed corn" (interview cited in Lasala Blanco, 2003:87).

38 This little known decision was first highlighted by De Ita (2003), Nadal (1999), Rodríguez Maldonado and Suárez Carrera (1998) and Suárez Carrera (2005). Recent econometric analysis concludes that "the elimination of import permits, combined with the Mexican government's decision to apply zero import fees and not to implement the agreed import duty elimination timeline, are the main factors that explain the reduction of domestic prices for maize producers" Contreras Castillo and Gómez Uribe (2009: 95).

39 While this study does not address the wide range of NAFTA impacts on agricultural production and marketing, see, for a range of perspectives, Avila, Puyana and Romero (2008), Loyns, Meilke, Knuton and Yúnez Naude (2001), Puyana and Romero (2008a, 2008b), Rivera, Chavez and Whiteford (2009), Yúnez and Barceinas (2003).

consumption increased sharply. Remarkably, by the end of the NAFTA transition period, Mexico was largely self-sufficient in white corn for tortillas, while increased yellow corn imports went primarily to livestock producers (see Wise, this volume). [40]

Graph 6
NATIONAL CORN PRODUCTION, 1980-2008

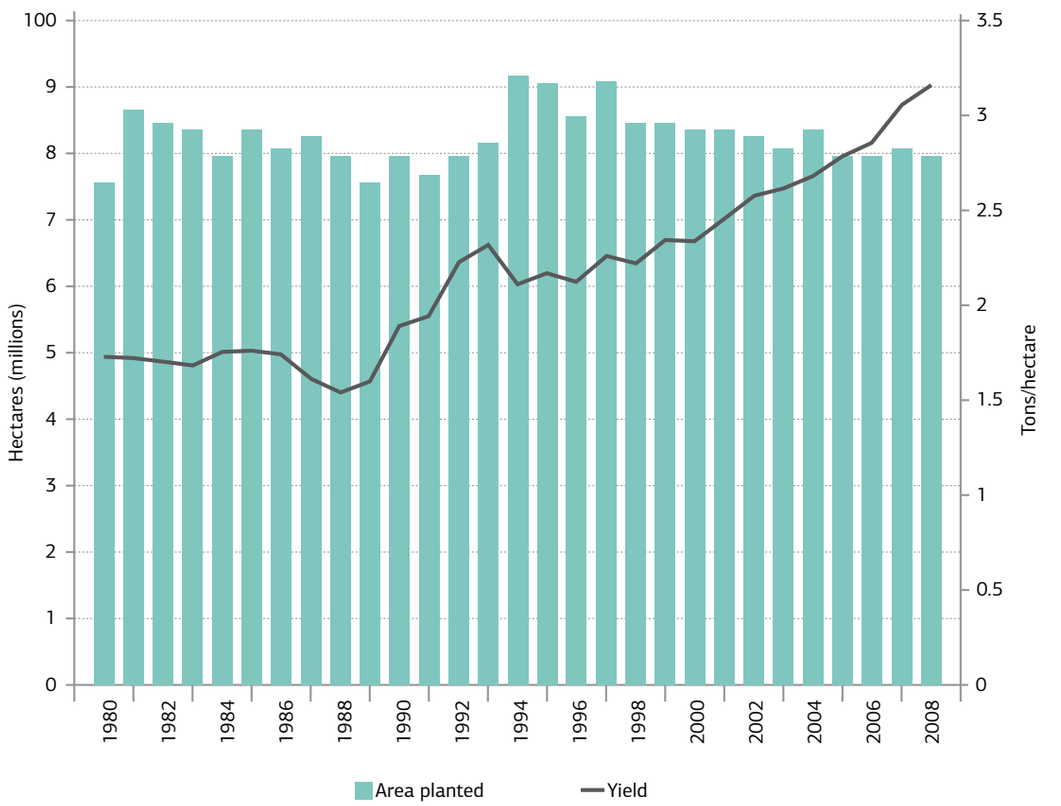


Source: Sistema de Información Agroalimentaria de Consulta (SIACON; Módulo Agrícola, www.siap.gob.mx, consulted Sept. 2009

While Mexico's corn production increased since the late 1980s, the area planted with corn did not change dramatically. The rise in domestic production was driven primarily by sustained increases in corn productivity (Graph 7). Average national corn yields more than doubled between 1990 and 2007, reaching 2.8 metric tons/hectare (Robles Berlanga, this volume). The increase in yield is explained partly by the substantial increase in irrigated production (Graphs 7, 8).[41] Dramatic regional differences in productivity persist, a legacy of uneven distribution of quality land and access to water, but the majority of Mexican corn continues to be produced on rainfed land (Graph 8). Among non-irrigated farmers, however, productivity continues to vary widely, depending on their access to credit, technology and reliable rainfall.

40 Indeed, US Dept of Agriculture researchers found that in the late 1990s and early 2000s, Mexican consumer prices increasingly favored meat (Zahniser and Coyle 2004: 11). US farm policy favored Mexican meat production through subsidized exports of animal feed, as well as US meat exports, which also reflect subsidized grain (Wise, this volume).
41 For the evolution of the irrigated share of corn production over time, see also CEDRSSA (2007) and de Ita (2003). The irrigated share first began to grow substantially during the 1991-1995 period, when most grains and oilseed imports had opened up but corn was still protected.

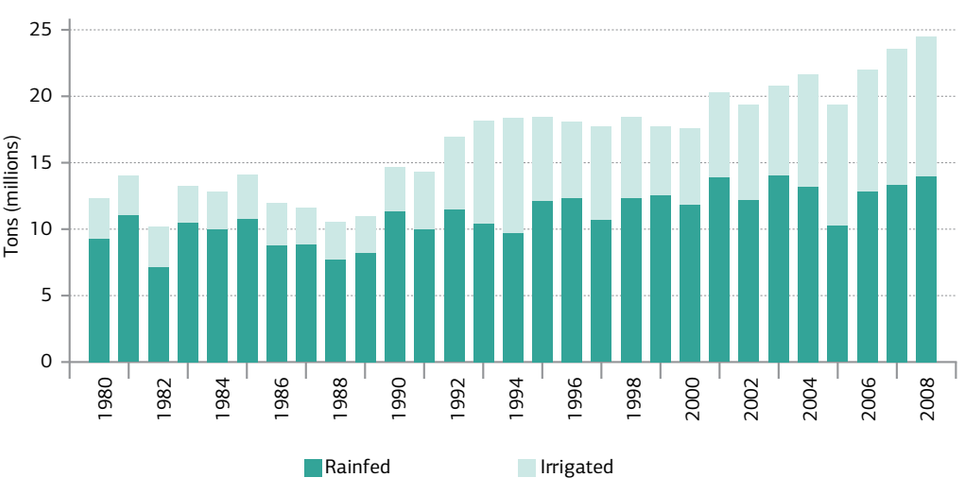
Graph 7
CORN PRODUCTION AND YIELD, 1980-2008



Source: SIACON, www.siap.gob.mx, consulted Sept., 2009

In spite of the predictions of the theory of comparative advantage, very few corn producers shifted into other crops (Ceron Monroy 2008, GEA 2006). These dilemmas continue to challenge researchers, who have yet to find a consistent explanation. Lack of smallholder access to investment credit is certainly relevant. Comparison of the 1991 and 2007 agricultural censuses shows that the number of production units with access to formal credit dropped by more than 75%, to fewer than 150,000 (Robles, this volume). One reason for the difficulty explaining the persistence of corn may be that the reasons for continued production vary significantly by type of producer. Because of the way official production data is presented, it is not easy to determine what kinds of producers are responsible for most of the production increase. As a result, researchers have yet to determine what fraction of the increased production comes from larger commercial growers, smaller, surplus-producing farmers and subsistence peasants.

Graph 8
CORN PRODUCTION: RAINFED AND IRRIGATED, 1980-2008



Source: SIACON, www.siap.gob.mx, consulted Sept., 2009

The 2007 agricultural census produced the surprising finding that the total number of corn "production units" did not fall, compared to the 1991 census. This suggests that peasant smallholders continued to be heavily involved in corn production, in spite of its decreased profitability. Meanwhile, the increase in agro-export jobs was not as significant as many expected (Scott, this volume). The overall drop in agricultural jobs was concentrated largely in unpaid family labor. Specifically, unpacking the overall 19% drop in farm jobs between 1991 and 2007, Scott's analysis of the agricultural census data shows that unpaid family labor dropped 58%, while paid seasonal farm labor rose 151% (by a full 245% for women). This pattern suggests that family farm employment has been dramatically "hollowed-out," with older landholders continuing to farm their while their sons and daughters have to leave home to find work, as seasonal agriculture workers, in the cities, or the US. This interpretation is consistent with the increased annual out-migration rate during the 1990s [42]

Analysts differ in their explanations of the ways in which peasant producers respond to changing producer prices. Some analysts propose models of peasant economic behavior that assume that subsistence and sub-subsistence producers, because of their lack of net surplus production and often remote location, are not directly linked to market signals (De Janvry, Fafschamps and Sadoulet 1991). These analysts posited that small and medium-sized commercial corn growers would be the group that would be most affected by NAFTA, representing approximately half of the corn producers (De Janvry, Sadoulet and Gordillo 1995: 1351). Indeed, prices are not the only factor that determines whether peasants grow corn. Many analysts have found that peasants continue to produce corn for domestic consumption as a household survival strategy to preserve some degree of autonomy, in the face of risk, uncertainty and limited employment alternatives. This explanation of persistent smallholder corn production as a defensive strategy is reinforced by the cultural emphasis on both consuming and preserving native varieties of corn.[43]

In this context, note that many government policymakers hold a very different view of the persistence of peasant corn production for household use. As a recent large magazine display advertisement by the state government of Chiapas put it, "corn produced for household consumption perpetuates poverty..." (*Nexos*, Dec. 2009, p. 89). This view assumes that smallholder corn is the *cause* of poverty, but most analysts who do fieldwork would contend that the causal arrow goes the other way – that persistent corn production is a *response* to poverty, and to producers' lack of access to less risky economic alternatives.

To make the transition from corn to less well-known crops requires reliable access to appropriate inputs, markets and technical support – all of which are in very scarce supply for low-income producers. Prudent risk management often leaves them with the corn they know well. In addition, for smallholders, membership in autonomous, representative producer organizations is usually necessary - though far from sufficient -- for reliable access to affordable inputs and crop markets, not to mention access to government support programs (Echánove and Steffen 2003, Palmer Rubin, this volume). Yet those representative smallholder organizations that have survived – most were formed in the 1970s and 1980s, when reformists in the federal government offered some degree of support – are barely holding on in what has long been a very inhospitable policy environment (Fox 2007a).

Recent models of peasant economic behavior offer additional explanations for persistent corn production. In this view, because of the linkages between producer prices for corn, the cost of labor and the cost of renting land in remote areas, when producer prices fall, better-off producers are less likely to employ local labor and more likely to rent their land, which encourages the rural poor to increase production even though their overall income falls (Dyer, Boucher and Taylor 2006). Other analysts of the peasant economy add that sub-subsistence producers often sell their harvest to meet immediate needs and then buy corn back later in the year with wage income (Bartra 1994). Some net buyers are therefore also sellers. In summary, analysts from diverse perspectives agree continued corn production by small-scale rainfed producers is widely seen as a form of self-defense or social insurance.

For commercial producers, the reasons for increased corn production may be much simpler – ASERCA programs offered substantial economic incentives (Yúnez-Naude and Taylor 2006). Continued access to Procampo payments requires sustained crop production – and the program is therefore a conditional cash transfer (though not as directly tied to volume of produc-

42 In 2008, Mexico's migrants were still disproportionately of rural origin (51%) and reported their occupation as agricultural (49.5%), according to the regular government-sponsored exit survey of border crossers (Encuesta EMIF Norte, cuadro 2.2.07, www. conapo.gob.mx)

43 See Barkin (2006), Cortés Vázquez and Díaz Hinojosa (2005), Dyer and Yúnez-Naude (2003), Luna Flores (2004) and Yúnez-Naude (2007), among others. The many field-based studies that stress the consumption logic behind household production include Arslan and Taylor (2009), Appendini, Cortés and Díaz Hinojosa (2008), Appendini, García Barrios and De la Tejera Hernández (2008), Díaz Hinojosa (2008), Esteva and Marielle (2003), Reyes Guzmán, Guerra Navarro and Calderón Ponce (2005), and Rivera, Chavez and Whiteford (2009) among others.

tion as are the Marketing Support programs). Moreover, official evaluations found that few producers were actually aware that they had the right to change crops – so few did (GEA 2006). Yet though Procampo's incentives have consistently reached more than two million recipients, ASERCA's Marketing Support programs offer much more generous additional inducements to fewer than 150,000 producers, in the case of Ingreso Objetivo. An even smaller group of commercial buyers, processors and other large agribusiness entities are subsidized by ASERCA's other Marketing Support sub-programs, such as those discussed in Box 3.

BOX 3:
LARGE PAYMENTS OF GRAIN MARKETING SUBSIDIES GO TO TRANSNATIONAL CORPORATIONS

Libby Haight (UCSC/IBP)

In addition to its two direct payment programs for farmers, Procampo and Ingreso-Objetivo, ASERCA also operates numerous additional large-scale marketing support programs. They primarily benefit large corporations that buy, sell and process grain, under the rubrics of insurance, storage, futures markets, transportation, export subsidies, feedgrain for ranchers and contract agriculture. ASERCA has operated such corporate funding programs since its founding, which consistently account for a significant share of its annual budget (official data limitations prevent determining the precise percentage). In recent years, this array of little-known marketing subsidy programs has received a growing share of ASERCA's non-Procampo budget (see Graph 2 above).

Moreover, many of the commercial farmers who supply these large-scale industrial processors are themselves recipients of both the Procampo and Ingreso-Objetivo subsidies, which means that the same grain is in effect subsidized by a multitude of different programs, while the vast majority of smaller farmers receive either just Procampo or nothing at all.

The public versions of these programs' lists of beneficiaries are significantly more opaque than ASERCA's data on recipients of other farm subsidies (see Haight and Fox, this volume). The programs' fragmented nature also complicates efforts to see how marketing subsidies are actually distributed. Repeated public information requests were necessary to begin to reveal the degree to which payments were concentrated in large corporations.

Even transnational corporations receive large marketing subsidies. Recent coverage of agricultural subsidies in the national newspaper, *El Universal*, highlighted that Cargill has received over 500 million pesos in Marketing Support payments between 2005-2009 (Hernández and Alvarado 2010, see also Ramírez 2009). Interestingly, Cargill responded to this coverage by defending the fact that their subsidy payments do not translate into "any direct benefit" for the corporation, but rather are passed along to farmers due to the fact that Cargill pays a higher price for the crops they purchase (*El Semanario*, 2010).

In other words, Cargill claims that this program reimburses the company for higher prices paid to farmers, and therefore it does not profit from the subsidy.

Ultimately, Cargill's defense of their subsidy payments indicates that ASERCA's Marketing Support programs are basically functioning like a privatized CONASUPO. Rather than letting the market dictate prices, ASERCA is both paying farmers directly to compensate for differences in domestic and international prices through Ingreso Objetivo, while also paying purchasing companies directly to buy at higher prices than the market otherwise indicates. Instead of the government running the grain market at artificially high prices, the government is now paying private corporations to do so – and paying as many as three different subsidies for the same grain (Procampo, Ingreso Objetivo and Marking Support). Given that such large sums are concentrated in a relatively small number of private grain purchasers, acting not unlike an oligopoly, in addition to the overt acknowledgement that these payments intervene directly to influene grain prices, it is unclear how ASERCA's Marketing Support programs are more "free-market-oriented" than the previous state-owned system.

Table 4 shows the large payments channeled to US and Mexican transnational corporations in 2008 alone. Because of limited public access to both corporate ownership

and subsidy data, it is extremely difficult to know with certainty whether or not these are the *total* amounts of payments that these companies received under these subsidy programs. As a result, Table 4 represents only the minimum amounts of explicitly documented corporate payments from ASERCA's Marketing Support programs for one year.

Table 4

PAYMENTS TO TRANSNATIONAL CORPORATIONS THROUGH MARKETING SUPPORT SUBSIDY PROGRAMS, 2008

Company Name	Amount paid in ASERCA Marketing Support subsidies, 2008 (M$)
COMPAÑÍA NACIONAL ALMACENADORA SA de CV*	318,932,285.46
CARGILL de MEXICO SA de CV	196,634,344.68
MINSA SA de CV	163,031,660.49
BACHOCO SA de CV	116,222,116.31
ADM MEXICO SA de CV	16,977,991.90

* Note: This is not an exhaustive list. ***Compañia Nacional Almacenadora SA de CV*** is a subsidiary of MASECA, though it is not the only MASECA-related company receiving subsidies through these programs. Information on BIMBO's subsidiaries was unavailable at the time of this report, and therefore BIMBO is not included on this current list.

The totals presented include all appearances of these companies in ASERCA's recipient lists for the combination of Marketing Support programs (excluding Ingreso Objetivo). These include: *Apoyos Directos a Coberturas de Precios de Productos y Especies Elegibles*, *Apoyo a la Pignoración del Maíz Blanco*, *Esquema de Compras Anticipadas de Maíz Blanco*, *Apoyos a la Agricultura por Contrato de Maíz Amarillo y Sorgo*, *Apoyo a Fletes de Granos y Oleaginosas*, and *Apoyo a la Exportación de Granos y Oleaginosas*,

It is notable that, included in the overall total listed above, Cargill-Mexico received M$11,166,868 under a program of ***export subsidies for white corn***.

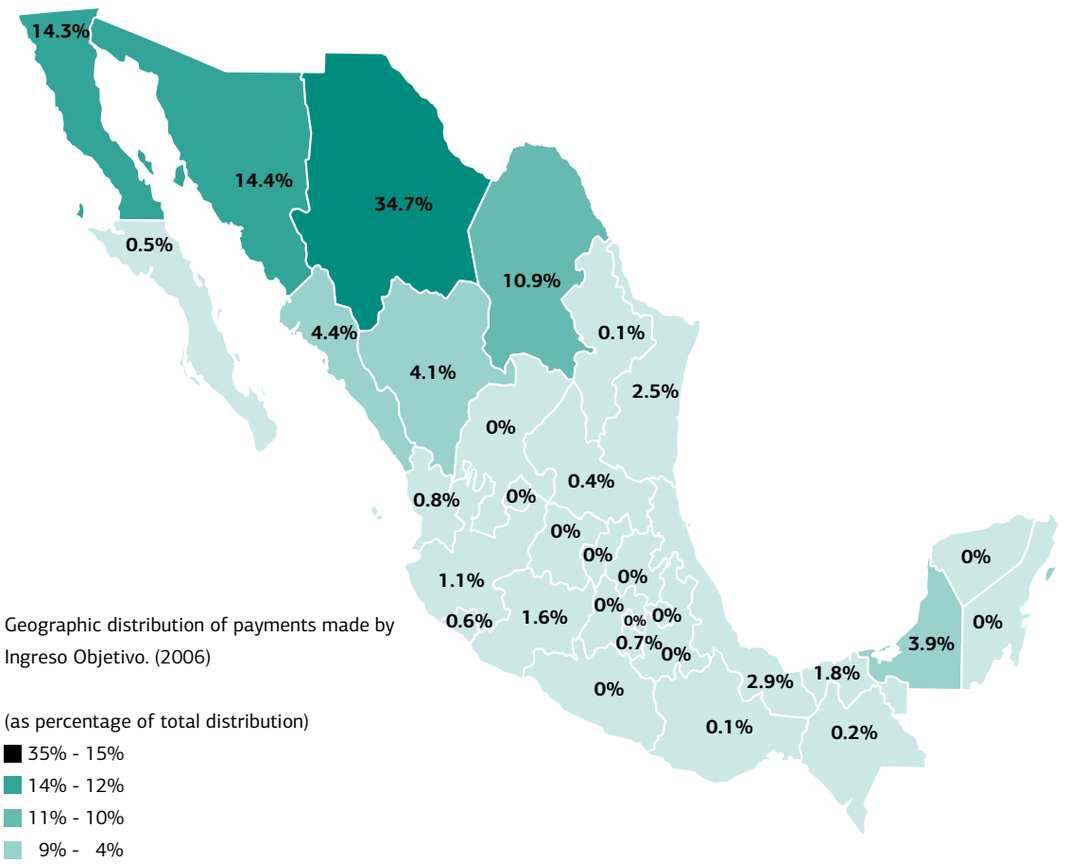
Source: ASERCA official recipient lists available at, http://www.ASERCA.gob.mx/subhomes/NuestrosProgramas.asp, under the heading "Programa de Atención a Problemas Estructurales (Apoyos Compensatorios)". Each sub-program presents it's own recipient lists, and were downloaded separately. Files were downloaded December 7-10, 2009. Totals were calculated combining the amounts listed in each sub-program's recipient lists wherein the above-listed names appear. See also ASERCA (2008).

In terms of its impact on production, as mentioned, the Ingreso Objetivo program specifically offers a select, small group of commercial growers bonus payments that made up the difference between the domestic and international price for key grains, most notably corn (until 2007-2008, when the international price for corn spiked, the program's budget fell and payments shifted to cotton and other crops). Remarkably, this program, when corn played the largest role in support payments, directly subsidized a much larger fraction of the corn crop than Conasupo used to buy, even in its heyday.[44] *Between 2000 and 2005, Ingreso-Objetivo subsidized a full 70% of national marketed grain and oilseeds*, according to the most comprehensive official evaluation (ASERCA 2006). [45] In other words, a small minority of well-off producers received sustained protection from international competition, while most did not.

44 For example, between 1980 and 1988, the share of the national corn crop purchased by Conasupo varied from 11% to 25% (Conasupo 1989)

45 This evaluation was originally made public on ASERCA's website, but it is no longer available, Moreover, unlike most official "external" evaluations, its authorship is not specified.

Map 6
GEOGRAPHIC DISTRIBUTION OF INGRESO OBJETIVO SUBSIDY PROGRAM
(PERCENTAGE BY STATE, 2006)



Source: Elaborated with data form www.subsidiosalcampo.org.mx based on the official data from the rolls of recipients of ASERCA.

The impact of the Ingreso Objetivo program goes beyond subsidizing larger commercial growers and keeping national grain production at unprecedented levels. By design, access to the program was confined to a relatively small number of producers. [46] According to an in-depth economic analysis commissioned for the Mexican government by the Inter-American Development Bank, because of its huge scope, the Ingreso Objetivo depressed the corn prices received by Mexico's other producers. Their model found that elimination of the program would increase the income of non-participating producers by 6%, while saving both consumers and the government more than two billion pesos (Sumner and Balagatas 2007: 44). [47] Their findings reveal a stark conflict of interest between a small number of Ingreso-Objetivo beneficiaries and the *rest* of Mexican corn growers. [48] Indeed, this program put Procampo in the position of having to compensate *both* for the impact of international price competition *and* a domestic deficiency payment concentrated in a small sub-set of well-off farmers. The Treasury Ministry implicitly recognized some of the issues with Ingreso Objetivo, recently renamed (along with the remaining Marketing Support sub-programs) as "Apoyos Compensatorios."

46 The program rolls peaked at approximately 144,000 registrants in 2006, but the official program roster presented to the public allows individual producers to register more than once, so the total number of actual individuals covered is uncertain. See further discussion of problems with ASERCA's lack of full public disclosure of who gets what from farm subsidies in Haight and Fox (this volume).
47 Previous technical work by other multilateral agencies had underscored the extremely regressive nature of the distribution of marketing support payments, but had not made the direct connection to reduced grain prices for non-participants (World Bank 2004, OECD 2006).
48 In response to a public information request from the public interest group Fundar, the Mexican Finance Ministry declared this study confidential, based on the claim that public dissemination would risk damaging relations with the IDB. The request was appealed to the IFAI, which asked the IDB for its assessment of the Finance Ministry claim. In the absence of a prompt reply, the IFAI ruled in favor of the release of the document to the requestor, and the Finance Ministry complied. The IDB belatedly replied to the IFAI's query, in support of the Finance Ministry's claim. See the IFAI resolution 0000600044909, http://www.ifai.org.mx/resoluciones/2009/2160.pdf.

8. WHERE DO CORN CONSUMERS FIT IN?

Assessments of the winners and losers following NAFTA are further complicated by unexpected price trends on the consumer side. Economists expected that cheaper imports would keep urban corn consumer prices down. In this context, the government ended subsidies for urban corn consumers, first by eliminating generalized tortilla subsidies in the mid-1990s and then by ending a large-scale, means-tested free tortilla program in 2003.[49] Urban food subsidies continue to be delivered via the longstanding milk program and through a component of the Oportunidades social welfare program (15% of its participants are in cities).

Yet NAFTA's opening to cheaper imported corn did not turn into a clear win for Mexico's corn consumers. Urban tortilla prices have increased at a much higher rate than the price of imported corn, as shown by comparisons of international corn prices and domestic tortilla price trends (Zahniser and Coyle 2004, and Simmons, Box 4, below). This indicates that corn markets continue to be "imperfect," even in large urban areas The persistence of these marketing problems is remarkable, in light of ASERCA's long-term emphasis on "marketing supports" (direct payments) to private firms, justified with the goal of encouraging competitive markets. Diverse researchers find that persistent imperfections in local, regional and national corn markets remain very significant (IMCO/World Bank 2007, Robles Vásquez and García Barrios, 2008). Disconnects between domestic and international prices following the 2007 spike raised additional questions about how actually-existing corn markets work in Mexico (De Ita 2008, García Rañó and Keleman 2007, Hernández Navarro 2007). On balance, the government's 15 years of targeting opaque marketing subsidies to a small number of large farmers and private firms appears to have fallen far short of the policy goal of encouraging more efficient and competitive national grain markets.

In terms of consumer prices, the main beneficiaries of cheaper imported corn appear to have been those urban consumers who could afford industrially-produced meat. According to standard economic theory, if Mexico had a single, competitive national corn market that "cleared," translating import prices consistently throughout the country, net rural corn consumers – that is, landless farmworkers and sub-subsistence producers -- should benefit from cheaper imports. Yet this does not appear to have happened. First, the relationship between cheaper imported yellow corn and rural consumer prices is not clear, since rural consumers continue to have such a strong preference for Mexican white corn. After all, Mexican consumers are well aware that imported yellow corn is animal feed. Second, lower imported corn prices at the border do not necessarily translate into lower prices in remote rural consumer markets, because of imperfect, fragmented markets and high transportation costs.

Meanwhile, the government still plays a role in buffering the potential conflicts of interest over corn prices between producers and consumers by making low-cost corn and other staple foods available to low-income rural consumers through community-managed village stores, especially in southern Mexico. Diconsa, one of the last institutional remnants of Conasupo, supplies these 23,000 village stores with basic foods at prices that include a subsidy for the cost of transporting the commodities to remote areas. These stores provide a safety net of food security for the net corn buyers who make up a majority of the rural population (Guerra Ford et al 2005a, 2005b, see below). In response to the 2003 "The Countryside Won't Take Any More" protest, Diconsa also stopped supplying the village stores with imported animal feed and instead began providing Mexican white corn on a large scale. These village stores' sales of basic staple foods bolsters local food security and keeps consumer prices down, covering an estimated 90% of villages (Yúnez-Naude 2007).

Diconsa stores are highly geographically targeted to low income rural communities. In 2005, 67.3 percent of stores were in villages ('localities') considered to be either high or very high 'marginality'. If one also includes villages considered to be of 'medium marginality', where two-thirds of the population earned less than twice the minimum wage, then 86 percent of stores were located in low-income communities (Haight 2006). The rural food store system also has the most effective, broad-based, community-based oversight system of any national social or economic program in Mexico, through a pioneering, large-scale experiment in what has come to be called "contraloría social," or "social oversight." In spite of waves of either hostility or indifference from senior policy-makers over the past decade, the Diconsa store network has survived largely because of its broad-based constituency of organized beneficiaries, who are among the poorest of the poor (Fox 2007a).

49 During its first decade, the tortilla program had been widely considered to be inefficient, as well as a tool of electoral clientelism, but the final official evaluation concluded that it had improved substantially once its management had been transferred to Liconsa in 1999 (Soto Romero 2004). In addition, government nutrition experts found that the program had substantial positive impacts (Shamah Levy et al 2003). The policy decision to eliminate the program was apparently not informed by the government's then-new external evaluation process (see Fox and Haight, Box 6 and González Arreola, 2010).

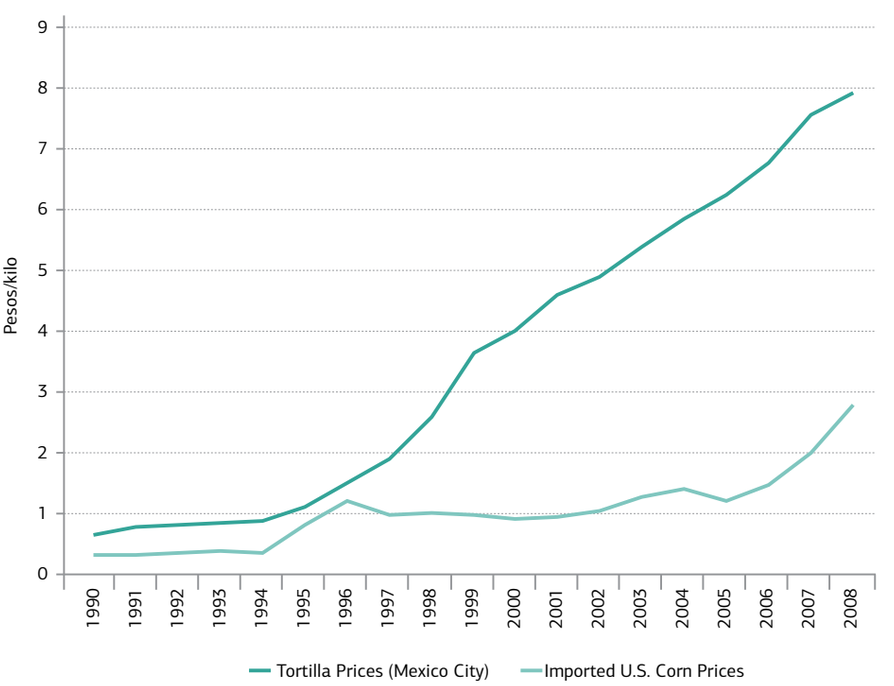
BOX 4:
FOLLOWING NAFTA, TORTILLA PRICES DID NOT DIRECTLY REFLECT INTERNATIONAL CORN PRICES

Erica Simmons (University of Chicago)

For over ten years, the price of tortillas in Mexico City rose sharply, while the price of corn imported from the United States remained almost flat, in constant peso terms. NAFTA's promise of lower consumer prices for Mexicans proved elusive. Yet in recent years, as the price of imported corn began to increase, tortilla prices did not keep pace. Since 2004, the price of corn imported from the U.S. has increased nearly 100%, while tortilla prices have gone up only 35%, according to the federal government's price data for Mexico City. This recent trend in corn price increases is often linked to international demand and subsidies for ethanol.

Government policy appears to be a key factor accounting for why tortilla prices have not uniformly followed international prices. After a rapid spike in tortilla prices in late 2006 and early 2007, the Calderón administration quickly intervened, establishing a voluntary "price pact." Participating large-scale retailers and processors agreed to cap tortilla prices at 8.5 pesos/kilo and corn flour prices at 5 pesos/kilo and the pact has been renewed at least twice. Indeed, the head of the Unión Nacional de Industriales de la Masa y la Tortilla claimed that the government spent MX$4 billion in subsidies to corn processors, in a little-known program designed to keep retail prices down during 2007 and 2008 (González 2009). In spite of an official ideology of deregulation, state intervention continues to play a significant role in Mexican corn markets.

Graph 9
PRICE TRENDS FOR IMPORTED CORN AND TORTILLAS



Sources: Annual data on the value of U.S. corn exports to Mexico was converted to pesos using nominal exchange rates listed at: http://www.ers.usda.gov/Data/ExchangeRates/Data/NominalMonthlyCountryExchangeRates.xls_Base year for all data is 1990. Tortilla prices are annual averages.
Sources: United States Department of Agriculture (annual value of corn exports to Mexico), Secretaría de Economía de México (Mexico City tortilla price data), and Banco de Mexico (tortilla price index). For official price data on tortillas, see: http://www.economia-sniim.gob.mx/

9. CORN POLICY AND ENVIRONMENTAL IMPACTS

The relationship between national corn policies and local environmental impacts is not well-understood.[50] Procampo's original decree argued that direct payments should encourage conservation, restoration and reduce erosion and pollution. The rules of operation mentioned the possibility of getting payments for "ecological projects," subject to Environment Ministry approval. According to a Mexican congressional research center report, however, "in reality... the ecological projects... are no more than a few references in official documents... The external evaluations... make no reference to any environmental components or indicators, simply because they do not exist" (Peña Garza 2009: 6). In practice, in spite of the nominal official regulation of changes in land use, for example from forest to pasture, according to the author of this volume's field survey of producer perceptions, "in all of the offices of SAGARPA or state rural agencies, any ecological issue is considered an irritation." [51]

The agroecological impacts of Procampo have received little attention from program evaluators and scholars, but the most rigorous studies so far indicate that the program encourages deforestation in biodiversity hotspots (Schmook and Vance 2009). Procampo requires land be cropped continuously, which undermines the sustainability of agroecological methods that traditionally left lands fallow (Klepeis and Vance 2003). Moreover, the widespread producer perception that the Procampo program prohibits changing crops further limits rotation.

The future of Mexican corn is likely to be strongly influenced by seed policy decisions**.** The Mexican debate over future seed technology has been dominated by the question of whether to permit experimentation and use of genetically-modified organisms (GMOs). This issue is especially controversial because of Mexico's historic role as the source of domesticated corn and as a major resource in terms of corn biodiversity. Advocates claim that GMOs are essential to increase productivity, while critics express concerns that GMOs threaten corn biodiversity. While the planting of GMO corn has been prohibited since 1998, a recent scientific assessment concluded that "unintended transgene flow into Mexican landraces has been confirmed..." (Piñeyro Nelson et al 2008: 11). These specialists also found that that conventional techniques for measuring the presence of transgenes in native varieties produces "false negatives," leading them to conclude "it is urgent to establish rigorous... criteria for biomonitoring at centres of crop origination and diversification" (2008: 11). Nevertheless, Mexico's Agriculture and Environment Ministries recently decided to permit experimental planting of GMO corn on 22 farms in four northern states. Yet the government's National Biodiversity Commission has expressed skepticism, strongly recommending the continuation of the moratorium (See Box 5). Debate continues over whether the recent approval of experimentation permits is consistent with the 2005 Biosafety Law on GMOs.[52]

To put the potential contribution of GMO corn in context, Mexican average corn yields have increased by more that 63% since 1980 – on average (CEDRSSA 2007). In other words, Mexican corn producers have demonstrated substantial room for increased productivity based on non-GMO improved seeds. Much of this improvement appears to involve irrigated corn. Meanwhile, research to increase the yields and resilience of native seeds under rainfed conditions has not received substantial government attention in recent decades.

50 For initial overviews, see De Ita (2003) and Nadal and Wise (2004)
51 Mauricio Maldonado, personal email communication, Nov. 18, 2009
52 On the policy debate, see CEC (2004), Lloyd (2009), McAfee (2008) and Massieu Trigo (2009), among others.

BOX 5:
SELECTED RECOMMENDATIONS FROM THE GOVERNMENT'S NATIONAL COMMISSION FOR THE KNOWLEDGE AND USE OF BIODIVERSITY *(CONABIO) STUDY: "ORIGIN AND DIVERSIFICATION OF CORN: AN ANALYTICAL REVIEW"*

Takeo Kato et al (CONABIO)

10: Reinstallation and maintenance of the moratorium on the introduction of transgenic maize in Mexican territory is recommended until: 1) the centers of origin and diversity are precisely identified, 2) infrastructure necessary for the control of transgenic maize is in place, 3) the degree of transgenic contamination of maize varieties throughout the country is determined; 4) research relevant to the impact of transgenic maize in Mexico is carried out, and 5) programs for the protection, conservation and improvement of maize races are developed.

11. The Law on Biosafety of Genetically Modified Organisms must be modified: current concepts of centre of origin, centre of diversity and the articles related to them must be substantially changed because they do not agree with the scientific evidence....

13: To protect the genetic diversity of maize, it is necessary to protect more than two million small scale or marginalized farmers in the country. They are the guardians of the native germplasm of maize: they retain, maintain and even modify the genetic diversity present in their territories through exchange, gene flow, and the testing of new seeds. They must be supported through subsidies, technical assistance and rural development programs.

Source: Kato et al (2009: 12)
Note: This is the document's official English translation. This report became publicly accessible on-line in January 2010, three months after it was officially released (Sarukhán 2009)

10. RURAL POVERTY AD SUSTAINABLE FAMILY FARMING: THE MISSING LINK IN AGRICULTURAL POLICY

In conclusion, Mexico's lack of a pro-poor agricultural policy appears to reflect ineffective representation of low-income producers in the policy process. Some of Mexico's largest, traditionally partisan peasant organizations have allied themselves with agribusiness interests in favor of preserving current farm subsidy policies and increasing governors' discretionary funding (Pérez 2009, Merlos, Arteaga y Arvizu 2009). Since 2001, dominant rural interest groups have closed ranks and successfully influenced congress to steadily increase overall agricultural spending, without changing the policies that allocate most of the funds to the wealthiest producers. Meanwhile, autonomous peasant organizations gained additional representation in Congress during the 2003-2006 term, and peasant protest in 2003 increased their leverage to promote a legislative initiative to create essentially a Farm Bill for Mexico.[53] This bill involved long-term budgeting and policy planning, and reform of major programs, such as Procampo, to increase their pro-poor focus and responsiveness to farmer needs. After approval in Congress in 2006, the legislation stalled in the Senate. Looking back, during this period rural legislators of diverse persuasions were able to increase appropriations for agriculture, but the pro-*small* farmer contingent did not manage to change the way funds were spent.

Looking outside the Federal District, many autonomous regional organizations have long attempted to represent the rural poor in the policy process, at both national and local levels (Fox 2007a). For decades, these non-partisan membership organizations have sought to form partner-

53 The Ley de Planeación para la Soberanía y Seguridad Alimentaria y Nutricion.

ships with open-minded public sector officials to encourage more effective community economic development and public service delivery, most notably at the regional level. Yet they have rarely found willing partners in the public sector, and Mexico's transition to a competitive electoral system did not open new doors, in spite of the change in the party in power. These organizations' efforts to compete for policymakers' attention with entrenched vested interests face enormous challenges. In many rural regions, the lack of guaranteed freedom of association, effective public security and the administration of justice sharply limits the capacity of low-income citizens to exercise voice to defend their interests and encourage greater public sector accountability.

Against this backdrop of under-representation of *campesino* interests in the agricultural policy process, many family famers emigrate while others persist. The result is a growing gap between a shrinking share of the population employed in agriculture and the size of the rural population overall. To an ever-increasing degree, this rural population survives on remittances, wage labor and government transfers. As noted, overall agricultural employment dropped substantially during the post-NAFTA period, from 10.7 million jobs in 1991 to 8.6 million in 2007, according to the two most recent agricultural censuses. Agriculture's share of Mexico's jobs overall also fell substantially, from 23% in 1990 to 13% in 2008 – as predicted by both advocates and critics of NAFTA at the time. At the same time, the *rural* share of Mexico's population was still at 23.5% in 2008, having declined much more slowly. In 2005 the census agency considered 24.7 million people to be rural, counting only those living in communities of under 2,500 inhabitants (other analysts argue for a 15,000 cutoff). In contrast, if one applies the OECD criteria of rurality based on population density, the "predominantly rural" population rises to 32.7 million (Figueroa Sandoval 2008: 8). In other words, Mexico's rural population continues to represent somewhere between one quarter to one third of the national population, depending on one's definition. This growing gap between Mexico's shrinking agricultural employment and a large rural population that is increasingly supported by breadwinners who must earn income far from home reveals the growing degree to which millions of families are separated, with the corresponding unquantifiable social and cultural costs.

In this context, it is important to recognize that Procampo has unfulfilled potential to begin to address rural out-migration. There was no policy decision to target Procampo investments to higher out-migration areas, and there is no correlation between the geographic distribution of Procampo funds and state out-migration levels. Yet more fine-grained econometric analysis finds that when the distribution of Procampo funds is disaggregated to the municipal level, taking into account impact on local labor markets, the program does help to reduce out-migration (Cuecuecha and Scott, Box 7 and 2010).[54] In spite of this incremental impact, however, large-scale surveys find that 43.6% of Procampo participants surveyed had a family member who migrated since 1994 (GEA 2006: 115).

In a context in which rural income comes primarily from outside the rural sector – from wage remittances and government transfers -- the prospects for the rural economy to be able to support more of the rural population still depend primarily on agricultural jobs. In spite of longstanding hopes for productive rural non-agricultural employment, they have not been fulfilled on any scale. The future of most agricultural employment, in turn, depends on the fate of Mexico's family farms, insofar as very small farms -- those with less than 5 hectares – still account for *two-thirds* of Mexico's agricultural employment (Scott, this volume). In other words, each peso in farm subsidies that goes to larger farmers generates less employment than if the same peso went to smaller farmers. Yet as this report shows, Mexico's farm subsidies mainly go to larger farmers. As a result, as long as Mexico's agricultural policy excludes the goal of making more small family farms economically viable, the outcome will be persistent poverty and more out-migration.

54 González-Konig and Wodon reach similar conclusions.

BOX 6:
EVALUATING EVALUATIONS

Jonathan Fox (UCSC) and Libby Haight (UCSC/IBP)

In the late 1990s, the Mexican government attracted worldwide attention for its use of highly professional external evaluations to assess its new flagship social program, then known as Progresa. Beginning in 2001, the Mexican government began to require all federal programs subject to "rules of operation" to commission external evaluations, which were delivered to congress. Beginning in 2003, agencies were mandated to make these program evaluations publicly accessible on-line. The Mexican government had carried out numerous program evaluations beforehand, dating back at least through the 1980s, but only at the discretion of policymakers – and they remained strictly confidential and were not even disseminated within the public sector.

The government's current mandate to commission evaluations covers programs that deliver direct subsidies, such as Procampo and Ingreso-Objetivo, but does not cover programs that deliver indirect subsidies, such water and electricity for farmers with irrigation, nor do they address programs operated by state governments. Alianza was an exception, however, having been subject to a decade of evaluations jointly managed by Sagarpa and the FAO.[55]

The official evaluations are carried out by third parties, but their degree of actual independence varies. In practice, the evaluators are chosen by the agencies themselves, which set the evaluators' agenda. It took several years for the evaluation results to become more consistently accessible to the public (Fox and Haight 2007). Some significant evaluations did not remain on agency websites. For example, one of most revealing evaluations of ASERCA's Marketing Support programs, covering FY2006, is no longer available on their website (ASERCA 2006).

Very few Mexican evaluations follow the standards set by Progresa, which sought to determine impact with scientific rigor by using control groups. Some do document results, though their scope is constrained by the fact that both the evaluation agenda and the evaluating entity are usually determined by the agency in question. As a result, most Mexican program evaluations focus primarily on compliance with administrative rules, without questioning the parameters set by the agency under evaluation. Some assess program coverage of target populations and carry out large-scale surveys that assess client satisfaction (e.g., Guerra Ford 2005a, 2005b). Others document rates of client satisfaction without addressing target populations that are excluded from the program (e.g., ASERCA 2006, GEA 2006). In other words, interested parties influence the evaluation agenda (the agency to be evaluated), others influence the findings (those with access to the programs), while the views of stakeholders who are excluded from the programs are not addressed.

To encourage congress to focus more on lessons from the evaluation experience so far, Mexico's congressional rural affairs research center carried out a very comprehensive "meta-evaluation" of agricultural programs, which identified many of their constraints (CEDRSSA 2007c). [56] Nevertheless, there is little evidence that congress took the results into account. The World Bank has recently added a major contribution to the evaluation literature with an overview of Mexican broad public spending trends in agriculture and rural development, recently published online in both Spanish and English (World Bank 2009b).[57]

In 2007, the National Evaluation Council (CONEVAL) led a process that compared program goals to operational design. [58] CONEVAL also contributes to addressing a "quality control" gap in the official evaluation policy, though much of its mandate is circumscribed to social programs, which leaves out agriculture. In 2008, the public interest group Gestión Social y Cooperación (GESOC) carried out a comprehensive independent assessment of the design of 104 federal programs, generating a comprehensive and accessible ranking:[59] According to GESOC's director:

55 See Scott, this volume and Palmer-Rubin, this volume. For a review of this evaluation experience, see Sagarpa/CEPAL/FAO (2008).
56 Rindermann, Cruz, De Dios Trujillo and Ferman (2007) reach similar conclusions.
57 See www.worldbank.org/mexico, under "economic and sector reports"
58 See coneval.gob.mx
59 See http://www.gesoc.org.mx/icadi/

> "Given the lack of interest that the federal government and the congress have to encourage comprehensive and transparent approaches to the use of the information, GESOC has taken on the role of metaevaluation of the performance evaluation policy (PED), from a civil society position – providing an independent and systematic analysis of the results of the external evaluations of programs, as well as the conditions in which they were carried out between 2007 and 2009... [these tools and rankings] permit the detection of strengths, as well as specific problem areas that require attention to improve the programs' design and performance."[60]

GESOC's assessment of Procampo's evaluations during 2007-2009 gave the program a slightly above average ranking for the quality of its program design:

"[receiving]...a rating of 6.9 out of 10 (45th out of 104 ranked). Procampo came out ahead with ratings of 7.6 y 7.8 in the indicators for *strategic alignment and operation*, but received only 4.5 in *orientation to results and the citizenry*. This indicates that Procampo does address a highly relevant public problem (low productive capacity and poverty among rural producers), and its operations are considered to function reasonably in the delivery of benefits, but its rationale for identifying its beneficiaries is incorrect. Procampo is based on an allocation of resources based on their amount of land, and not on the specific needs of the target population, which generates a *regressive* logic in that its benefits end up disproportionately favoring those who have more hectares in production and those who have higher incomes." (emphasis in original).

The Direct Producer Support Program (Ingreso Objetivo) was ranked 5.7 in the ICADI study (71th place out of 104), with a ranking of 5.9 and 6.3 in the indicators for *strategic alignment and operation* and 4.5 in *orientation to results and the citizenry.* These rankings are due to the lack of clarity in the definition of the program's target population, the lack of medium and long term planning instruments to assure the program's consistency, as well as the weak logic of the linkages between this program and Procampo, in terms of the results that they seek.

The two programs share similar strengths and weaknesses: operational capacity but little capacity to resolve the public problem that they were created to address: to deal with the growing levels of inequity and poverty among rural producers."[61]

So far, Mexico's official evaluations in agriculture have had limited impact on the policy process. This substantial body of research constitutes an untapped resource for informing public debate over agricultural policy.

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60 See González Arreola (2010)
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Agricultural subsidy programs:

The rationale and irrationality of a poorly-designed policy

Mauricio Merino[1]
Centro de Investigación y Docencia Económicas

1 This paper was written with the collaboration of Natalia Rivera and Jordy Meléndez. A longer version of this paper, including all complete bibliography, was published as a CIDE Working Paper (DT/DAP 229, September, 2009). The full version includes detailed, full citations of numerous policy analyses and data sources, as well as government regulations, operational manuals and decrees. This summary version was edited by Jonathan Fox with the collaboration of Mauricio Sánchez Álvarez and, then, corrected by the author.

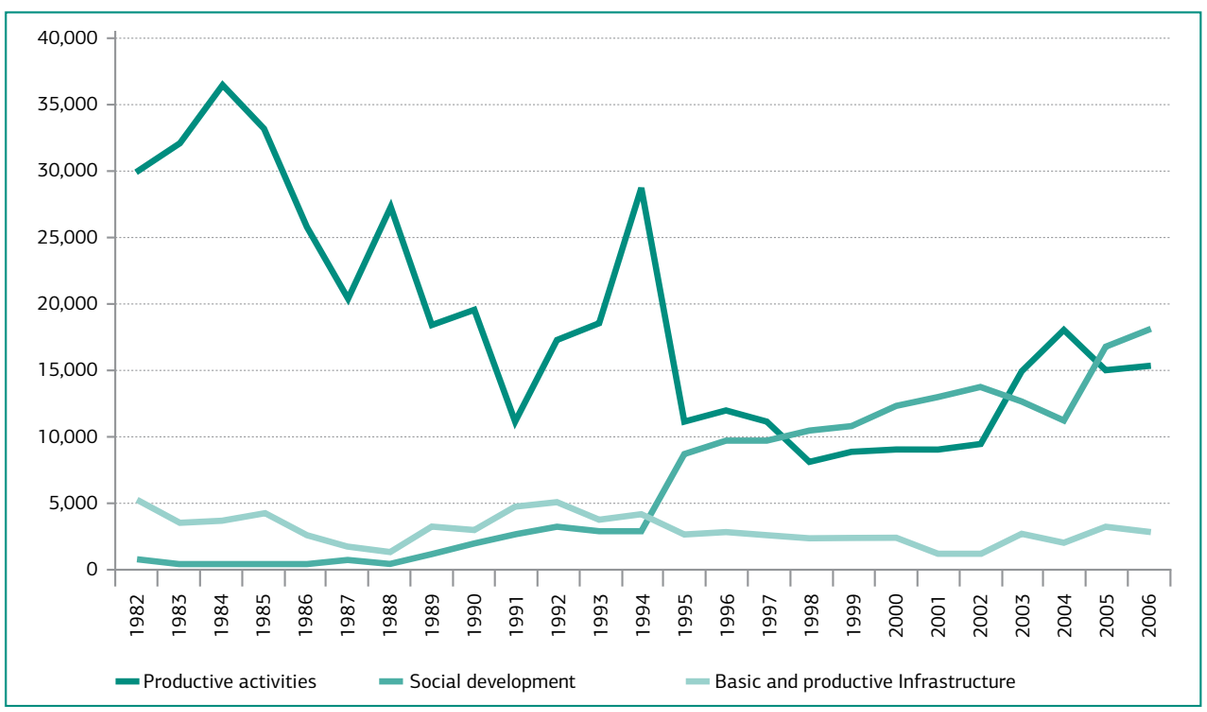
2

Giandomenico Manjone has suggested that public policies, like scientific research programs, have a "hard core." At the heart of all policies, there is the definition of the problem that the state will address, the criteria and values that guide its intervention, as well as its specific intended goal. To continue the metaphor, Majone says that policies also have their "safety belt" (made up of the rules, resources, functions, actions and agencies in charge of carrying them out), and that it may –or should– be adjusted along the way (1997).

This study shows what happens when the hard core of a policy is not well-defined and, instead, it is bound by an excessively rigid safety belt, unable to adapt to new circumstances, and without the timely assessment mechanisms that can issue a warning about a policy that is no longer meeting its goals. When unrelated or even contradictory goals accumulate, the formal procedures may become a means to capture or divert public resources, and eventually bureaucratic routines can replace the policy's original goals. After studying the policies designed to grant agricultural subsidies in Mexico from 1994 to 2009, we have found that the combination of an ill-defined and relaxed hard core with a rigid safety belt resulted in the capture of resources, the deviation of policy goals and, probably overt acts of corruption. The evidence also shows that transparency may be a useful tool to observe those cases of capture, deviation and corruption in public policies.

Our study focuses on the *Procampo* and *Ingreso Objetivo* programs, which constitute the core of the current policy to support the Mexican agricultural sector. The prior history of agricultural policy reflects two opposite approaches: the first one, from 1970 to 1982, involved the strengthening of state participation in rural development and the promotion of national food security.[2] The second one, carried out after the 1982 economic crisis, changed the previous forms of state intervention and pursued a more market-oriented agricultural development approach. During this period, the state continued to intervene, not with large investments but with new regulatory instruments. Graph 1 shows that after 1985, public expenditure targeted at rural development began to decrease, seeking greater insertion of producers in the market (see Graph 1).

Graph 1
PUBLIC EXPENDITURE IN RURAL DEVELOPMENT, BY CATEGORY, 1982-2006.
(MILLION PESOS, 1994)



Source: Rello (2008: 8)

During the 1970s, Mexican agriculture was not open to international market forces, and imports required special permits or were carried out directly by the state. The government's National Basic Foods Company (Conasupo) regulated prices by purchasing basic grains via support prices. The federal government also subsidized inputs, such as fertilizers, seeds, water, agrochemicals and credit. Government agencies involved in marketing basic grains and industrial crops tried to create marketing alternatives in isolated areas, where the local bosses controlled the trade in food and other goods.

2 See Hewitt de Alcántara (2007) and Fox (1990, 1992), among others.

In 1980, the government launched the Mexican Food System (SAM), which aimed to foster the production of staple foods, to improve grain distribution nationally and, eventually, to reach food self-sufficiency. This program tried to move from a regressive approach that treated the poorest and the richest producers as though they were equal, towards a more peasant-oriented approach that attempted to favor basic grains and rainfed agriculture. The SAM program tried to develop an integrated strategy that addressed all the links in the food production and consumption chain, from the use of more productive seeds to the nutritional enrichment of staple foods, with greater political support of the government. However, the combination of financial mismanagement and the fall of oil prices rendered this approach economically unviable.

The De la Madrid administration (1982-1988) then began a process of structural adjustment in the government support system for agriculture. The Salinas de Gortari administration (1988-1994) eliminated most of the support prices and substantially decreased tariffs, with the exception of the protection granted to corn and beans. This trade and market liberalization revealed a series of old structural problems, such as producers' lack of knowledge and experience regarding the marketing process, as well as inadequate infrastructure and financing, which led to producer uncertainty in the face of future international competition and price mobility. In 1989 and 1990, in fact, commercial producers had great difficulty selling their crops and the government responded by creating a new agency called Agricultural Marketing Support Services (ASERCA) in 1991, with broad new responsibilities for production and marketing.

But the 1992 reform of Article 27 of the Constitution was perhaps the centerpiece of the reformulation of the Mexican state's rural development strategy. This reform promoted the division of *ejido* land into individually titled parcels, legalized land rental and allowed its conversion into private property. The system of agrarian courts was also reformed to adjudicate land disputes, and a new agency (PROCEDE) was created to define and title land parcels within ejidos. Meanwhile, the negotiations of the North American Free Trade Agreement (NAFTA) were in progress. The treaty, which would come into effect in January 1994, fixed a 15-year term to liberalize agricultural trade (including the most sensitive crops, corn and beans) and inspired the creation of the Direct Rural Support Program (Procampo), on July 25 of that year. This is how a new era in the history of Mexican agricultural support policies began.

1. PROCAMPO

Procampo not only replaced the previous agricultural support strategy, but it also sought to reach a sector of producers who had been excluded by it. The new policy design took into account low-income producers who produced mainly for household consumption. This sector had not received Conasupo's support (via support prices and marketing subsidies) because it did not produce marketable surpluses and, according to official estimates, this sector not only numbered more than 2.2 million producers, but –according to public officials involved in the design of this new policy– the system of support prices had contributed to increasing inequality in income distribution. As a result, Procampo chose to give producers a set payment per hectare in each agricultural cycle so that they could operate based on the eligible land area in production, and were not tied either to the individual producer or to the volume harvested.

From its first year, Procampo rules limited payments to producers of corn, beans, wheat, rice, sorghum, soybeans, cotton, safflower and barley. The program began with a "closed" support area, determined by the lands that had been sown with those eligible crops during the three crop cycles prior to the spring-summer of 1993. By the 1995/1996 fall-winter crop cycle, however, all legal crops were allowed, as well as livestock, timber production and land in approved ecological projects. From the beginning, the registration was open to individuals or firms and, according to the original rules, the support checks would be issued preferentially to the individual producer, though in the case of social organizations the funds could be received by their legal representatives.

Procampo's original rules were later modified frequently, trying to correct errors, to address ambiguities and to adjust program operations, whether concerning the production cycles or the information required for the producer application -- which had to be renewed annually. Under the Fox administration (2000-2006), two policy changes favored low-income producers: those who cultivated less than 5 hectares (12.3 acres) would receive a slightly higher payment per hectacre, the support would be delivered (only in the case of the spring-summer cycle) before the planting season; and the amounts of the payments for plots smaller than one hectare (2.5 acres) would be rounded up to that of one full hectare.

As of 2002, Procampo data on registered plots divided the beneficiaries into three categories: those with less than 1 hectare, those with between 1 and 5 hectares, and those with more than 5 hectares. This division was the basis for establishing, in 2003, differentiated payments levels for those with up to 5 hectares, who then received a per hectare amount slightly higher than the one received by the larger producers. Furthermore, in the most recent changes to the program,

published on April 8, 2009, the differentiation of rates follows a three-level approach: an "alliance rate" for rainfed plots with fewer than 5 hectares; a "preferential rate" for rainfed plots with more than 5 hectares, and a "normal rate" for the rest of the rainfed plots and for all the fall-winter (irrigated) plots. This last modification also included, for the first time, a ceiling of M$100,000 (around $7,700 dollars), per person, per crop cycle. The last modification was a reaction to the program's excesses, because even though it was thought that Procampo's regulations had already incorporated the ceilings on the size of private landholdings of up to 100 irrigated hectares and 200 rainfed hectares (according to Art. 27 of the Constitution), it was not until the April, 2009 rule change that the program explicitly set a cap on the maximum amount of funding that a producer could receive.

Furthermore, Procampo also spun off a related program called Procampo Capitaliza, designed to stimulate the capitalization of the original program beneficiaries through loan agreements that would be repaid with the program's own future flow of payments. According to its rules, all applications required a productive project, whether primary or agroindustrial production, that federal, state and local agricultural officials would evaluate and eventually approve (Sagarpa, Consejo Mexicano para el Desarrollo Rural Sustentable, with the assistance of the state, district and municipal councils and ASERCA). The program also established that organized low-income beneficiaries, especially women and indigenous groups, would be given priority.

Finally, though state and municipal authorities have a say in the design and planning of other rural development programs, Procampo is managed by the federal government. Each year, Procampo's projects and applications are submitted to the local Ministry of Agriculture's offices, the Rural Development Support Center (CADER). CADER, together with the Social Oversight Committee, reviews the application and supporting documents, and then the application makes its way up the chain of command to the regional office of ASERCA, where it is electronically processed and receives a first approval. After many levels of review within ASERCA and at the Ministry of Agriculture regional offices, the applications are finally approved and then ASERCA issues the checks, which are delivered to the producer in the same CADER office where their application was submitted (with the exception of the growing share of payments that are made by direct bank transfer).

2. MARKETING SUPPORT PROGRAMS

Since 1991, ASERCA launched its Marketing Support Program (PAC) to support cotton, rice, sorghum, soybeans and wheat crops. Mostly, these programs were not targeted at producers, but to buyers of crops that could be experiencing marketing difficulties (such as a unforeseen fall in international agricultural prices). In 2001, however, reportedly in response to concerns of producers and state governments, the Program of Marketing Support and Regional Market Development (PACDMR) redirected the flow of resources directly to producers. The corresponding program rules were published in 2003 and stated specifically that the goal of the Ingreso Objetivo program is to "deliver supports directly to agricultural producers, whether individuals or firms, who have marketing problems or surpluses of eligible crops." The funding from Ingreso Objetivo covers most seeds and grains, and the amount of the subsidy is determined by the difference between the crop's target price – a cost already established in order to avoid losses– and the market price. This is very similar to support prices, but converted into payments organized so that any producer registered in Procampo could get it.

These payments have a maximum amount, corresponding to the production of 100 irrigated hectares or its equivalent in seasonal land, per person. At the end of 2007, the program changed its name to Program of Attention to Structural Problems (also known as Compensatory Supports). Like Procampo, the Ingreso Objetivo subprogram is linked to producers through the Ministry of Agriculture's federal and state offices, and is operated by ASERCA.

3. DIVERTED AND FRUSTRATED GOALS

The literature on public policy design and implementation stresses that one of the most significant flaws of any state intervention is the lack of a clear definition of the problems to be addressed, based on a precise identification of their causes and the pathways of action to change the *status quo*. This lack of definition not only generates the imminent risk that all bureaucratic actions justify themselves, in the name of more or less vague goals, but it also becomes practically impossible to evaluate whether the policy has achieved its goals. In this scenario, a public policy is more likely to be held captive by interests that come into play during its implementation.

Procampo's founding decree said that its main goal was "to transfer resources to support the economy of rural producers, who plant land eligible to be registered in the program directory,

fulfill the requirements and present written applications for support." The idea was to establish a direct link to the economy of rural producers, "through actions that encourage transparency and fight corruption," in order to achieve a list of six different "clauses" (or goals) the program had to accomplish and that, from the beginning, revealed the confusion between the policy's hard core and the means to carry it out.

The first of these clauses was "to improve internal and external competitiveness; to raise the standard of living of rural families; and to modernize the marketing system... in order to increase the rural production units' capacity for capitalization." The second clause emphasized that the supports should be used "to convert those lands, wherever possible, in order to establish more profitable activities, thus giving economic certainty to rural producers and greater capacity to adapt to change." The third one was to promote "new alliances between the social and the private sectors... through the adoption of more advanced technologies..."

The fourth clause that justified the subsidies was much more focused: "Because more than 2.2 million rural producers use their production for household consumption, they are excluded from the support system, and therefore, have a disadvantage compared to producers who market their harvests, *one of the main goals of this program is to improve the incomes of those producers*." The fifth clause mentioned environmental conservation goals. The sixth one summarized that "it was in the national interest to support rural producers, by means of a program that raises the standard of living and fosters rural development." The creation of Procampo Capitaliza addressed one of the more specific goals that had not been addressed by the regular program (Procampo Tradicional), to capitalize production units and to encourage economic certainty. Although Ingreso Objetivo was part of a different program, which fundamentally supports producers with marketing surpluses, as has been noted, it shares with Procampo the goal of increasing competitiveness and economic profitability in the Mexican countryside.

The problem is that none of those goals have been achieved in a stable or permanent way. The government spends substantial amounts on agricultural support (it has to be noted that Procampo accounts for almost 5% of the agricultural GDP since 1994), but this funding has not translated into a more competitive agricultural sector, nor in a sustained increase in production of grains and oilseeds, nor in an improvement in the standard of living of the more disadvantaged producers. Rather, Mexico remains substantially dependent on agro-food imports. Though the yield per hectare has improved in the last eight years, Mexico is still well behind Canada and the United States, which indicates the structural fragility of its agriculture. As the Federal Audit Agency has found, "the indicators constructed by ASERCA... do not allow for measuring the efficiency with which its strategic goals have been achieved, including the improvement of the income level of rural producers and the increase of the capitalization capacity of their production units."[3]

The limited data given by the evaluations about the variability of income level of the beneficiaries and the capitalization of production units is based on the "perception" of the supported producers, and is not disaggregated by states and municipalities. According to a Colegio de Mexico economics thesis, "Procampo producers have not changed the production patterns from [basic] grains to other kinds of crops. [Between] 1994 to 2005 only... 14% of program beneficiaries have changed their land use pattern."[4] Furthermore, this figure corresponds mainly to *ejido* producers in northwestern Mexico with more than 5 irrigated hectares.

In terms of poverty trends, the share of rural inhabitants below the poverty line fell by more than 10 points, from 66.5% in 1992 to 54.7% in 2006. However, in 2006, of 14.4 million people officially considered to be in acute poverty ("pobreza alimentaria",) two-thirds lived in the countryside. Although absolute poverty has fallen at the national level, the gap between the developed North and the backward South remains. This issue should not be overlooked, because a comparison of the states that have received the most support from Procampo and Ingreso Objetivo with those that have the most producers registered, clearly shows that the subsidies are concentrated in the North, while the producers are concentrated in the South. The official data in Table 1 indicates that the farm subsidy policy has followed a two-track strategy. On the one hand, the richer states of the Northwest should have increased their competitiveness, production and productivity, and, on the other hand, the poorer states of the South and Center should have reduced their poverty, but neither of these two situations has happened.

3 Auditoría Superior de la Federación (2008: 415). For additional details on Mexican agricultural trends, see Merino (2009).
4 See Cerón Monroy (2008)

Table 1
FARM SUBSIDY AMOUNTS AND DISTRIBUTION OF BENEFICIARIES IN SELECTED STATES

State	1994-2008 Procampo and Ingreso Objetivo amounts	Percentage	Beneficiaries	Percentage
Sinaloa	$18,145,970,543	10.8%	86,892	3.4%
Tamaulipas	$14,937,699,918	8.9%	68,710	2.7%
Zacatecas	$11,489,271,362	6.8%	106,021	4.1%
Jalisco	$11,284,293,808	6.7%	108,315	4.2%
Chihuahua	$10,255,034,016	6.1%	79,898	3.1%
Sonora	$8,661,124,964	5.1%	21,262	0.8%
Chiapas	$11,039,566,255	6.6%	236,148	9.2%
Oaxaca	$6,360,839,300	3.8%	237,871	9.3%
Veracruz	$6,764,979,568	4.0%	205,961	8.0%
Puebla	$6,372,070,477	3.8%	170,021	6.6%
Guerrero	$4,588,159,437	2.7%	116,498	4.5%

Source: ACERCA, data available at www.subsidiosalcampo.org.mx; ASF (2008:418), UNDP (2009: 6)

In addition, the official data has been incomplete and inaccurate. Up to 2008, ASERCA had not yet quantified its operation costs, nor had it produced reliable efficiency indicators. The available information, according to external evaluations, indicated that the official versions "have tended to confirm Procampo's operational efficiency... using various indicators... that lead the evaluations to confirm favorable expectations about the program's future," but "in concrete terms, the evaluations as such do not provide conclusive evidence regarding the program's multiplier effects on productive activity and the standard of living of the beneficiaries."[5]

4. "WE ALL AGREE, BUT WE WANT MORE"

With so many goals and such meager results, we may ask: What was the main problem that was to be addressed and what was the definitive goal that subsidy policy was supposed to achieve? Why do the most influential organizations in rural Mexico, as well as the governors of the states that have received the most funding, defend a policy that has not achieved its goals after 15 years of operation? The data available suggest that the programs have been maintained only because of the commitments established with those who have benefited the most, and because of the political interests that have converged around those resources. There is also evidence that the implementation of those programs has created opportunities for corruption. But the most solid explanation of these programs' continuity would be in the prior construction of clientelistic networks and mutually beneficial relationships that neither the producer organizations nor the state governments, nor the federal government have been able to break. On the contrary, each time there has been an effort to modify the relationships, conflict has ensued.

In August 2008, the [then] Secretary of Agriculture, Alberto Cárdenas, announced that the federal government was considering changing the rules of operation of ASERCA's two main subsidy programs (Procampo and Ingreso Objetivo), in order to seek greater balance between income groups and regions.[6] The announcement also confirmed that President Calderón had authorized the extension of those programs for an additional 5 year period, even though their original 15-year lifespan was about to end.

Table 2
PRODUCERS, LAND AND SUBSIDY IN PROCAMPO, BY LEVEL, 2006

Level	Producers (thousands)	%	Hectares (thousands)	%	Subsidy received %
I. Up to 1 hectare lots	612.4	23.9	606.5	4.3	0.6%
II. 1 to 5 hactares	1,373.4	53.6	3,977.1	28.2	46.1%
III. More than 5 hectares	576.5	22.5	9,519.7	67.5	53.3%
Total	2,562.3	100	14,103.3	100	100

Source: Author's analysis from data in ASF (2008: 428) Available at http://www.asf.gob.mx, section: "Informe de Auditorías"

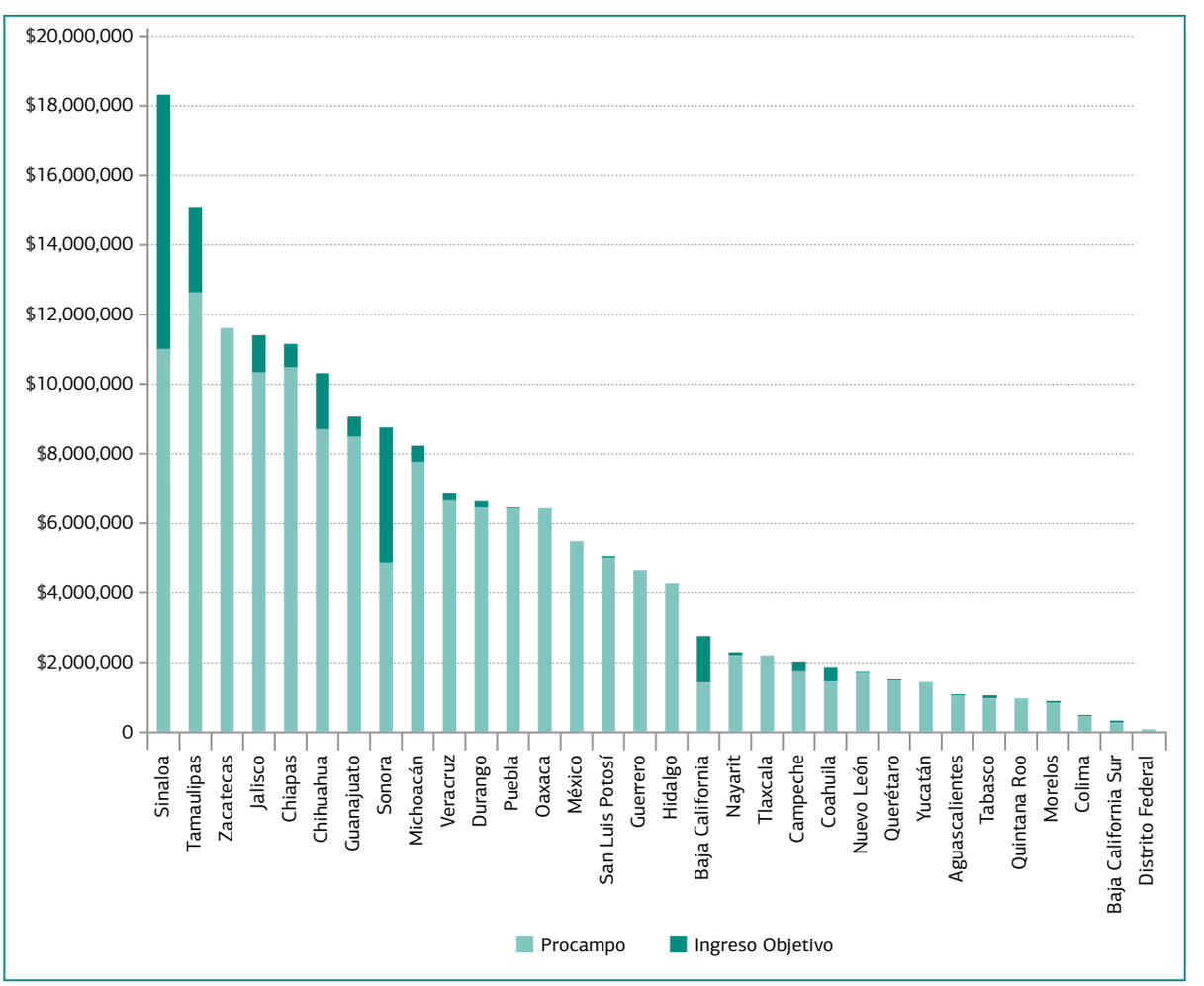
5 See Durán Ferman, Schwentesius Rindermann, Gómez Cruz and Trujillo Félix (2007: 13)
6 Verónica Martínez, "Baja Procampo apoyo a estados norteños", *Reforma*, August 20, 2008.

The Federal Audit and official data show a strong concentration of Procampo resources between 1994 and 2006. At one end, 0.2% of beneficiaries (a little more than 50,000 producers) received payments for more than 100 hectares each, accounting for 8.7% of the total payments.[7] At the other end, as can be seen in Table 2, 23.9% of the producers registered with less than one hectare each barely received 0.6% of the resources, even though they had 4.3% of the land. This is the basis for the Federal Audit Agency's recommendation that the Ministry of Agriculture review the program's rules of operation, with the explicit purpose of avoiding the reproduction of that income concentration.

At the beginning of 2009, however, the rejection of the changes recommended by the Federal Audit Agency had become a political cause for most of the state governments and the more influential producer organizations in Mexico. There was no opposition to the government's decision to raise the subsidies targeted at the smallest farms, as had been happening. But what provoked a real media battle was the proposal to obtain those additional resources for the poorest by reducing the payments to the owners of the larger farms, which would also lead to the redistribution of resources from some states to others. For instance, the secretary of rural development of the state of Tamaulipas, upon learning that the Ministry of Agriculture was considering reducing payments to large producers, admitted that around 45% of 2008 Procampo budget would go to only 9% of the producers enrolled. But he added, "the Secretary [Alberto Cárdenas] doesn't understand that that 9% produces 92% of the grain in Mexico."[8] But his counterpart in the state of Sinaloa, Jorge Kondo López, then chairman of the Mexican Association of Agricultural Development Secretaries (AMSDA) defined the terms of the conflict which would modify the rules of the game, "What Cárdenas is trying to do means taking funds from the states; he is confronting us. The state governments are willing to review the program, but not if it means taking resources away from us."[9] It is no coincidence that Tamaulipas and Sinaloa are two of the states that have received the most subsidies from those programs, as shown in Graph 2.

Graph 2

PROCAMPO AND INGRESO OBJETIVO HISTORICAL PAYMENTS, BY STATE



Source: ASERCA data, available at www.subsidiosalcampo.org.mx.

7 This is based on official ASERCA data available at Fundar's farm subsidy database, at www.subsidiosalcampo.org.mx.
8 Verónica Martínez, "Baja Procampo apoyo a estados norteños", *Reforma*, August 20, 2008.
9 *Ibid.*

Producer organizations also made their presence felt. On September 2008, the National Peasant Confederation (CNC), the agricultural branch of the Institutional Revolutionary Party (PRI), rejected the proposal to reduce payments to larger producers. CNC leaders called for a slight increase in the subsidies targeted towards producers with less than 5 hectares, but maintaining the amounts targeted to the rest. The CNC, which represents mainly smallholders (*ejidatarios* and *comuneros*), closed ranks with the leading private sector interest groups (which in the past have pursued different interests), such as the National Farmers and Ranchers Council (CNA), the National Confederation of Private Landowners (CNPR), and the National Ranchers' Confederation (CNPG). These organizations demanded the timely delivery of payments to everybody and the continued support for separate payments for the spring-summer and fall-winter crop cycles, an aspect of the program that grants two payments per year to irrigated producers.[10]

By the end of 2008, it was clear that the disputes over government agricultural spending had gained attention and generated conflicts that, up to then, were hidden by a sort of negotiated stability. Juan E. Pardinas, a renowned expert on public sector oversight and transparency in Mexico, commented in the newspaper *Reforma*:

> ...Procampo's most serious problem is not the subsidies that go to the drug dealers, but the monumental amounts of money given to successful farmers who don't need the government's largess. According to the website www.subsidiosalcampo.org.mx, 5% of the richest farmers concentrate 44% of Procampo's total resources (1994-2008). In contrast, 80% of the poorest beneficiaries received barely 27%... The assumption that the budget spent on rural Mexico benefits poor peasants is a myth... each peso spent in this subsidy increases the rural inequality gap... The right decisions are politically unfeasible. Procampo has created a powerful portfolio of clients. Subsidy checks have turned into a vested "right" for their beneficiaries. If someone dared to change those privileges, they would provoke a social movement with the slogan "The subsidy belongs to those who work it"... We have all the political stability that the budget can buy...[11]

This statement would be confirmed in September 2008 by a public declaration of the National Governors' Conference (CONAGO), backing the initiative of the governor of Sinaloa, historically the state that has benefited the most from farm subsidies:

> This Conference expresses its concern about the fact that in times of food crisis, while all countries, especially the United States and Europe, are strengthening their farm support programs to raise productivity. In Mexico, in contrast, there are warnings of a clear tendency to withdraw supports or to reduce Procampo, Ingreso Objetivo and marketing programs... On the other hand, the Ministry of Agriculture is trying to weaken Procampo, even though this could provoke a notable fall in national grain production. This disintegrating proposal assumes a new approach with differential payment rates, which would increase the allocation to producers with less than 10 hectares, but based on a reduction of amounts paid to producers with more than 10 hectares. This new model also proposes continuing Procampo for only another 5 years, closing the registry, as well as eliminating support for double crops or double cycles, which would significantly reduce Mexico's food production.[12]

CONAGO was demanding an increase in subsidy spending and its specific proposals included continuing the program for at least 10 more years, keeping the double cycle, allowing new producers to register for payments, and increasing the support for those with less than 10 hectares, providing that those with more than 10 hectares, "if their payments are not increased, at least they should stay as they are." Evidently, the governors' power was felt in the House of Representatives, which rejected the government's proposal to reduce farm subsidy spending and to modify the allocation criteria, with the explicit goal of continuing the existing policy.

Nevertheless, the differences between the Ministry of Agriculture and the organizations opposed to changing farm subsidy policy continued. After the first defeat of the federal authorities and their impotence to redirect subsidies, both CNC and CNA not only maintained their opposition to the government's proposals, they increased the political pressure. They not only demanded that Procampo continue, they also called for an increase in the official target prices for basic grains, especially corn, under the Ingreso Objetivo program. The government announced new, higher reference prices on January 2, 2009.

But, how can the alliance between CNC and CNA be explained, since they represent very different sectors? The CNC's leader, Cruz López Aguilar, said that the Secretary of Agriculture "has turned into the main ally of the opposition to the National Action Party (PAN), because he has the virtue of uniting the majority of agricultural producers against the government."[13]

10 Rechaza CNC propuesta de Sagarpa del nuevo Procampo", *Imagen Agropecuaria*, Monday, September 22, 2008. Consulted at www.imagenagropecuaria.com/artículos.php?id_sec12&id_art=540. See also CEDRSSA (2008b)
11 Juan Pardinas, "¿Pronarco o Procampo?," *Reforma*, Nov. 23, 2008
12 CONAGO (2008)
13 Radio interview, on the "Entre Amigos" program (later called "Enfoque financiero"), with Alicia Salgado and Roberto Aguilar, on Estéreo 100 (100.1 FM, Mexico City), February 7, 2009.

The current subsidy policy had reinforced both organizations' networks and political clout, and they were ready to defend it at all costs.

Although Procampo was created with an explicit transparency and anti-corruption mandate, since its origins there have been many windows of opportunity for the capture and political use of subsidies, and very few windows for public oversight on the construction of the registry and the payment mechanisms. It is no coincidence that in the Index of Quality and Design of Public Programs (ICADI), constructed by the public interest group Social Management and Cooperation (GESOC), based on a review of official government policy evaluations, Procampo was ranked only 45 out of 104 programs evaluated.[14] As has been noted, this was due not only to the lack of precision in the program's goals, but also to the poor production of complete and verifiable information, which creates serious obstacles even for those charged with implementing the policy.

Since its origins, it was clear that one of the main risks of the program was the proper construction of the registry of beneficiaries. This risk was supposed to be mitigated by basing the subsidies on lands in production rather than to individuals, and that the first efforts to create the original registry required showing that those parcels were, indeed, producing eligible crops. It is clear, however, that the rapid expansion of program operations created opportunities to enroll non-producers, and little is known about the control measures that were supposed to avoid this bias. There was also little certainty that the program would manage to enroll all of the producers who were eligible in the 1993 census, because the Ministry of Agriculture had never taken on such a vast task, with so many producers scattered across the country. As a result, there is little systematic evidence about the patterns of inclusion and exclusion in the program registry.[15] It is worth noting that to receive the first payments, producers had to prove their identity with any document with a signature or fingerprint (and they also could do it with a power of attorney or even through an intermediary organization) and it was never required that they be the owner of the parcel, since it was enough to show a contract of derivative possession, in which the landowner authorized the farming of the parcel.

Procampo's first Operational Manual set two kinds of controls to verify applications. The first one was to be carried out "by the producers together with local authorities, within the Oversight and Control Subcommittees (SCV), which would be created as collegial autonomous bodies." The second one was "through random verifications of communities and plots to confirm the information producers' provided in their application." Evidently, these rules were designed to give the main producer organizations a say over who would be the first to get to sign up, including the possibility to present the applications indirectly, through them. Indeed, the rules permitted producers to sign up indirectly, via their organizations.

The first director of Procampo, José Octavio López Presa, recalled that early in the process of enrolling producers, there were strong pressures from the producer organizations affiliated with the National Agrarian Congress (most of whom were in the CNC), as well as from the already powerful famers of Sinaloa and other organizations associated with the Institutional Revolutionary Party. According to López Presa, the leaders of these groups "wanted to negotiate the registries. So we said 'fine, you negotiate them, but in each district. You bargain, but out there, in the field, not here in the Federal District'." He added that:

> To organize the first Procampo registries, 45,000 agricultural representatives were elected from 85,000 villages, in almost every locality in the country, and they were made to take an oath that they would do their job. After receiving training, a random selection followed to see who would review the applications in the name of the peasants, together with all the *ejidos* and private farmers in each region, to see who would have the right to government support.[16]

He also recalled that the federal government drew on the operational infrastructure of the National Solidarity Program, which was quite consolidated towards the end of the Salinas de Gortari administration. Thanks to this operational network, they were able to carry out a census of grain producers, with a focus on corn. López Presa underlines the enormous difficulty of doing a census in more than 80,000 villages with "rudimentary computer tools. They needed to get information about four million people, including their names, the location of their plots and what they produced. Nevertheless, by the second half of 1993, the information that became the basis of the first registry had been collected, and the first beneficiaries were set to receive their checks in June 1994.

In the process, there was a clear tension between large producer organizations that attempted (and succeeded) in registering their members and government officials who attempted to broaden the access to the largest number of *ejidos* and communities. Another source of tension involved the state governors and their efforts to use the subsidies for electoral purposes. These

14 González, *et al.* (2009).
15 Fox (1995).
16 Transcribed interview, José Octavio López Presa, Mexico City, February 27, 2009.

conflicts were costly. López Presa recalled that out of the 45,000 producers randomly selected to oversee program operations locally, "11 died in the time I was there... I don't know whether it was because they were taking their duties seriously or not, but the fact is there were 11 deaths."

José Octavio López Presa also reported that following the Zapatista uprising in January 1994, the subsidy program gained even more political importance. The state governors "signed up to organize events to deliver the payments, and some cabinet members also participated (between March and June, 1994) and even President Salinas himself... Think about it this way [continues López Presa], we were hosting a party while we were still building the house, putting up the banners and the bricks at the same time." He added an especially valuable recollection:

> Around June 1994, we had a meeting in Oaxtepec, the whole weekend... There I delivered my report, and in contrast to previous weekly reports, when there were 10 or 12 people, here there were more or less 40... Someone suggested that we should privilege the delivery of payments to PRI municipalities, and obviously I said that it was illegal... The use of the Internet and e-mail was just beginning back then, and all of our offices were already connected... So the following Monday, the first thing I did was to send an e-mail to all of the representatives in the rural districts, reminding them of their obligations as public servants and telling them that, if any official from the Ministry would want to divert the program from its goals, they should immediately file a report with the Audit office and the appropriate authorities. I sent that e-mail Monday morning and, 24 hours later, on Tuesday, I was abruptly fired.

One might have expected that with the passing of time those original conditions would have changed, especially because the alternation of political parties in the presidency and the growing political pluralism that, precisely after 1994, became a characteristic of the Mexican political regime. But at the end of 2008 and the beginning of 2009, an attempt to change the farm subsidy program's rules of operation created a conflict, and the actors and interests at play remained practically the same as when the first registry was created in 1993. On the one hand, a sector within the federal government says it seeks the modernization of direct rural subsidy programs, and on the other hand, producer organizations refuse to give up the state rents captured by their members for 15 years, as well as the governors, who like their predecessors in 1994, continue to assert the political use of those transfers. The problems that these subsidy programs face today are practically the same as those recalled by its first director, López Presa.

According to Procampo and Ingreso Objetivo's current managers, the opposition from governors and the main producer organizations to the Ministry of Agriculture's proposed changes is not only due to the resistance of the farmers who receive the largest subsidies, it also involves the struggle of local politicians and social leaders who want to control the registries and payments.[17] They report that Procampo's process of converting the payment delivery mechanism to direct bank deposits has faced strong political and bureaucratic resistance, even inside the Ministry of Agriculture. According to the manager in charge of payments, last year, a check could be held up for a year, then it was in transit, someone had it who did not cash it, and sometimes corruption was involved. For example, an official would say: 'I'll give you cash for your check if you give me 10%'." Certain interest group leaders complained for the same reason: "because there is no business in it anymore, because it was clientelistic: give me 20% and I'll take care of your check, sometimes in collaboration with some corrupt administrator... Paying through direct bank deposit prevents this, because the producer receives their funds directly." The managers emphasize that no producer has complained about the direct bank deposit process (which now covers more than 60% of the producers, according to the managers in charge.)

From the point of view of federal officials, the state governments also launched their offensive against changing the rules of Procampo and Ingreso Objetivo because their state agriculture secretaries (SEDAGROS) "have been fighting to be the ones who give out the money... to do politics left and right." The federal coordinator of Ingreso Objetivo in the state of Veracruz reported the case of its farm machinery subsidy program, which "prohibits buying a certain tractor because it's blue. It's no joke. Fidel Herrera [the governor of Veracruz] does not fund the purchase of tractors if they are blue. They have to be green or red."

Even though the controversial new operational rules propose greater decentralization, allowing state governments to manage more resources, SEDAGROS' complaint was still in force, because the states are not only seeking more funds, but also more freedom to decide on how they are used. ASERCA officials' position is that they are attempting to require a work plan, a project plan and an investment plan per state, as a condition to increase funding.

17 Transcribed interview with ASERCA managers: Gustavo Adolfo Cárdenas Gutiérrez, Coordinador General de Apoyos al Campo (PROCAMPO), Manuel Martínez de Leo, Coordinador General de Comercializaciones; Fidel Gaona Urbina, Director General de Programación y Evaluación de Apoyos Directos al Campo; Rubén Zamanilla Pérez, Director General de Medios de Pago; and Miguel Ángel Hernández Servín, Director de Seguimiento Operativo. February 27, 2009, Mexico City.

On the other hand, Gustavo Cárdenas, [then] General Coordinator of Agricultural Support, acknowledges that it is important to update the registry of Procampo beneficiaries, a position surely influenced by the fact that he is a PAN member and a federal congressman, on leave, from the state of Tamaulipas. He says that all the documentation regarding land possession and ownership is going to be digitized, including the plot georeference and the producer's personal identification and photo, thereby linking the land to the owner. And he adds, "There won't be any more confusion, this ambiguity about who is planting and who is the owner, which really hasn't helped us at all." Even though the updating of the registry was postponed until after the July 2009 elections, what follows is unlikely to be very different from what has become open dispute for the clientelistic control of the subsidies. In addition to the modifications proposed to the subsidy payment amounts for the larger plots and the resistance from the states that receive the most resources (such as Tamaulipas and Sinaloa), the clean-up of the beneficiary lists and its systematic and open disclosure will surely add new factors to the conflict.

Data offered by the Federal Audit Agency after its 2006 review of Procampo show diversion of resources, beneficiaries that received the money without having proven their work or who had not planted, huge uncashed checks, problems with bank reconciliation, duplicated and even fake beneficiaries.[18] We may therefore assume that the opacity in ASERCA's information is not only a flaw derived from its ambiguous and imprecise design, or due to a poor bureaucratic operation, but it has also served to establish political networks and negotiations that for 15 years have prevented the disclosure of reliable information about who is benefitting from the subsidies and what interests are involved.

5. POOR RULES AND LITTLE TRANSPARENCY: THE DOUBLE DOOR TO CORRUPTION

Even though he has probably committed no crime, nor can he be accused of the intention to do so, it is worth pointing out the peculiar case of Mr. Jorge Kondo López, who until December, 2008 was the Sinaloa state Secretary of Agriculture. As has been noted before, he was also the chairman of the Association of [state] Secretaries of Rural Development, which so firmly opposed changing the operational rules of the farm subsidy programs. According to the official ASERCA data, available at www.subsidiosalcampo.org.mx, Mr. Kondo López – or someone with the same name – has received M$1.7 million (according to an ASERCA official, maybe more). Manuel Martínez de Leo, an ASERCA official, remembers the prominent role that Kondo López played during the construction of Procampo's first registry:

> I was working in the private sector then... in the National Farmers and Ranchers Council, and... he was the president of the Confederation of Agricultural Associations of the State of Sinaloa (CAADES) and agricultural vice-president of the National Farmers and Ranchers Council... He fought for Procampo to pay out by the ton and not by the hectare. That was the toughest issue...

But Kondo López's leadership among the Sinaloa producers not only allowed him to have significant influence on the procedures used to create Procampo's original registry, as well as on the criteria for allocating subsidies, but also permitted him to become a PRI federal representative in the LVI Legislature. Nevertheless, the policymakers in charge at that time (including Procampo's first director) managed to link Procampo payments to the land, rather than to individual producers or to their volume of production (though without an effective ceiling on the amount of land that could be subsidized). This approach allowed the government to balance the interests of large and small owners, in a context in which, as López Presa put it, "on the one hand, those CAADES (Confederation of Associations of the State of Sinaloa) producers were able to make a huge amount of noise and had a great deal of political clout... And on the other hand, there were subsistence producers who had no say, but for moral and economic reasons had to be indisputable beneficiaries." Moreover, in the international trade policy context, the fact that Procampo did not link payments to the volume of production gave the Mexican government certain prestige, because the approach was much more "market-friendly" than that of its OECD counterparts in Europe and North America.

The decision to allocate subsidies based on the number of hectares farmed rather than on the volume produced reflected an attempt to avoid even greater inequality in the distribution of subsidies. But this policy did permit that one individual (or organization) could register many different farms in various parts of the country, making it difficult to determine who is receiving exactly how much. Moreover, the system created the possibility of people receiving checks in the name of others. It was not until the public interest group Fundar launched the "Subsidios al Campo" website, when official beneficiary data became publicly accessible in practice, revealing the highly unequal distribution of farm subsidy payments. The website's search engine allows citizens to find out how much specific individuals have received, and in November 2008, several major newspapers reported the coincidence between the names of subsidy recipients and

relatives of several well-known drug dealers.[18] All this can be true and, however, without violating the program's legality or its rules of operation because, as has been repeatedly noted, subsidies were linked to land and not to individuals. Nevertheless, the organization of the registry and the absence of an efficient, reliable system of targeted transparency have also created opportunities for direct corruption of program resources.

Yet the fact that agricultural officials in charge of those programs are listed in the registry and that they have been received program subsidies does clearly violate the current regulations, especially because the rules of operation, as modified on December 2007, explicitly forbid this. To explore this problem, we created a database with the names, positions and responsibilities of all federal, state and municipal agricultural officials, and we cross-referenced the information with the subsidy recipient data from Procampo registries (whose registry identification number also coincides with the ones from the Ingreso Objetivo program). This research produced 328 coincidences. We also noted that there are several numbers with different producer names and that apparently belong to the same person. So, we submitted 83 public information requests to ASERCA to determine whether these registrations with the same name, but a different producer number, belonged to the same person. The responses were mixed, although we observed a general trend of one registration per producer. But we also confirmed that there are cases in which the same beneficiary has multiplied his registries, by means of different producer numbers. The only way to confirm the correspondence between name, registry and person would be to access the full files of each and every one of the cases, with their official Individual Population Identification Number (CURP) and, moreover, the receipts issued (to see whether they actually cashed the payments). But these public information requests were denied, because they were considered to involve personal data. Overall, we found that at least 371 names and individual registrations that received subsidies in 2008 corresponded with the names of public officials involved with operating agricultural programs. Of these, we are sure of the coincidence in 292 cases (131 federal, 161 state), while the data was insufficient to confirm 55 registrations that coincide with the names of federal agriculture officials. And, of course, one of those cases is Jorge Kondo López, who has 89 registrations in the public farm subsidy roster. Yet we cannot be assured that the coinciding names necessarily refer to the same person, because they could be namesakes of the officials detected.

It is worth noting that even after the publication of the farm subsidy recipient data in the "Subsidios al campo" website, and with the access possibilities offered by Mexico's current transparency law, it is still not possible to confirm that more than 300 public servants are receiving prohibited benefits. What is clear is that the current operational rules and flaws in the integration and control of the registry make this possible. It is also clear that ASERCA has not met its strategic goal of "preventing and reducing corruption and making transparent the implementation and operation of its supports and services."

6. CONCLUSIONS

In this study we have tried to show that Procampo and Ingreso Objetivo have not met their official institutional goals. We have also seen that the lack of transparency in their operations and results has served other goals: to distribute public resources to maintain political stability and to build support for governments. The programs have not met their original goals because, among other reasons, from its design, the implementation network was in conflict with that possibility and favored the early capture of these public resources. As noted at the beginning of this study, the hard core of Mexican farm subsidy policy attempted to address many different and conflicting goals, but evaded a definition of the problems of agricultural production, productivity and competiveness as a whole. At the same time, the policy established a series of rigid rules and procedures for the construction of the program registries that ended up becoming its own *raison d'être*. The program's *safety belt* cancelled out its *hard core*, and eventually favored the diversion and even corruption of public resources dedicated to the countryside.

That said, it is not evident that the farm subsidy programs were used openly to buy votes or to finance electoral campaigns (although there are signs that this may have occurred in certain elections). But there is sufficient evidence to state that these resources created social and political demands, supported by clearly identifiable networks, and that changing them would have political costs for any government. The main beneficiaries of the subsidy programs have not offered clear results in terms of increased production, productivity or competitiveness. But they have been very efficient at maintaining political pressure to avoid reducing subsidies over the past 15 years and to openly increase their profits. Notably, this has been the position that the National Farmers and Ranchers Council (CNA) has maintained ever since the subsidy program began.

18 See "Ayuda Procampo narcofamiliares", El Norte, Monterrey, Nuevo León, November 8, 2008, and "Piden limpiar el Procampo", *El Universal*, Mexico City, November 24, 2008.

At the same time, the less privileged beneficiaries with lower incomes and fewer hectares have not managed to improve their standard of living, nor have they increased their plots' productivity, nor has competition become more balanced as a result of the subsidies received. The per capita funding levels are so small that it would be impossible to achieve such an ambitious outcome. Nevertheless, the data do show that Procampo has played an important social function by mitigating the poverty of millions of peasants; it has made a modest monetary contribution by at least providing a reliable annual income to a broad segment of low income producers. This support has been insufficient to overcome their poverty, but has provided a minimum level of insurance for survival.

From another point of view, Procampo has also allowed social and political organizations claiming to represent those marginalized social groups to take advantage of their role as intermediaries with the program bureaucracy by charging producers substantial fees, and to use this role to put pressure on the government to allocate even more resources. The statements documented in this study and the data drawn from Procampo's registries tell us that, since the registry was first created, agrarian organizations (notably the National Peasant Confederation) had a strong influence on determining who was registered. To date, the programs' rules of operation still allow them to maintain a direct and active relationship with the subsidy beneficiaries. As a result, farm subsidies play a dual role, contributing to the survival of low-income peasants, while allowing interest groups to use them politically.

This study has shown that the hard core of the farm subsidy policy in Mexico should have achieved, at least, both an increase in production and productivity of large producers and an improvement in the standard of living conditions of low-income peasants. Yet, all external evaluations available agree that none of these goals has been met. They also note the lack of the systematic and complete data needed to make an assessment of their success or the diversions of the program. Even the Federal Audit Agency, the agency in charge of collecting direct information and reviewing the programs archives, was unable to establish the scope of the subsidy policy. In other words, Procampo is still in effect because it contributes to peasant incomes, but not because it has allowed the construction of a level playing field to compete with its two partners in the North American Free Trade Agreement.

Furthermore, this study has underlined ASERCA's lack of transparency, including the lack of certainty regarding the way in which some of subsidy payments are distributed to producers, those that are not yet delivered by direct bank deposit. According to Procampo's general director, Gustavo Cárdenas, as of early 2009, the program had only a list of beneficiaries, not a proper registry. Greater transparency in the subsidy payment process is certainly a plausible goal for the program's current managers, but the lag in achieving this speaks eloquently to the way in which the program has been implemented up until now. As this study shows, the data obtained through the analysis of the beneficiary registry are insufficient to confirm the identity of the people receiving payments, whether the issue is ruling out namesakes or revealing the aggregated amounts received by a single person, through the accumulation of different registered plots. The only thing that can be learned is that there is a name registered according to the programs' rules of operation and that people under those names receive farm subsidies.

Beyond the registry issue, the subsidy programs have not internalized the concept and the goal of *open government* in other operational areas, such as decision-making. Moreover, the study found that the program procedures left room for the diversion of resources, including possible corruption in the case of numerous public officials who may be illegally receiving farm subsidies. While this study does not make legal judgements, it does show that there is evidence of the possibility that hundreds of public officials are receiving subsidies as owners of farms and are therefore involved in conflicts of interest.

In addition, we have presented enough evidence to show that state governments have openly supported those who defend the clientelistic networks that have been built around ASERCA's programs. When the federal government opened up the public debate about Procampo's future and suggested the possibility of changing the payment amounts and the rules for their allocation, the state governments not only came out in opposition, they also gave political backing to the interest groups that opposed any change because their subsidies would have been affected. In itself, this does not constitute evidence of any illegality, but the state governments clearly prefer the *status quo*, taking into account that some key state officials previously served as leaders of the agribusiness groups that would be most affected by a farm subsidy policy reform that would favor lower-income producers at the expense of the wealthiest producers.

Finally, we presented evidence showing that the means used so far by the state to correct or modify flaws in the design or implementation of farm subsidy programs have been insufficient, some even useless, in spite of the series of evaluations that have recommended attention to these problems. This suggests that the diversion in these programs' goals has, over the years, served the state's political interests. In other words, political stability in the Mexican countryside has taken priority over the program's initial (conflicting) goals.

In summary, the flaws in the definition of the problem that farm subsidy programs were supposed to address not only facilitated the early capture of resources, but these program's goals were also diverted, converting them into an instrument used by the Mexican state to sustain its political networks and base of support in the countryside. In the best case scenario, these resources can be seen as having contributed to social peace and greater political stability and dialogue with powerful agribusiness and peasant organizations. But they did not level the playing field between farmers in Mexico, the United States and Canada. That goal fell by the wayside.

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Agricultural Subsidies in Mexico:

Who Gets What?

John Scott[1]
Centro de Investigación y Docencia Económicas

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1 This is an abridged version of Scott (2010).

INTRODUCTION

This study presents a detailed and comprehensive incidence analysis of the principal agricultural and rural development programs (ARD) introduced in Mexico in the context of the opening up of agricultural markets through the North American Free Trade Agreement in 1994-2008. These programs have been the subject of various evaluations in recent years.[2] The OECD and World Bank reports incorporate quantitative estimates of the incidence of agricultural subsidies at the household/producer level, as well as geographically, based on Scott (2006, 2008). The present study builds upon and extends the latter results in several respects, including an extended discussion of the relevance of distributive analysis in the evaluation of agricultural subsidies, a distributive analysis of the income sources and employment conditions of rural and agricultural households, an expansion in the coverage programs analyzed, and the use of more accurate measures of producer wealth to estimate the distribution of agricultural subsidies at the household/producer level.

The poverty-reduction potential of agriculture is a principal theme of the *World Development Report 2008*, though the report also emphasizes the growing importance of non-farm rural activities. None of the noted evaluations of agricultural policies in Mexico includes an analysis of rural/agricultural labor markets. This remains one of the least studied aspects of the rural economy in Mexico (see Esquivel 2009 for a recent research outline of this area), and has important policy implications in the present context, as the regressive concentration of subsidies in the richer, northern state producers has often been rationalized by the claim that these subsidies "trickle down" to the poor through agricultural labor markets. However, given the compensatory rather than productive objectives in the design and allocation of most of these subsidies, these have tended to favor established large-scale, capital-intensive grain production, rather than the development of more labor-intensive fruit and vegetable production. There is no evidence of positive employment effects of agricultural subsidies at the state level. Over the last decade agricultural employment has declined significantly in most states, but disproportionately so in those receiving the larger subsidy shares (see section 5, below).

The study refines the benefit incidence analysis of agricultural subsidies by controlling for variations in the quality and productivity of land, as well as producer prices, at the state level, thus obtaining a better proxy of the wealth/income of beneficiaries than simple (undifferentiated) land holdings. This reveals that the preliminary assessments of previous studies overestimated the degree of regressivity (concentration on wealthier producers) in the case of the delinked *Procampo* transfers, but underestimated the concentration in the case of *Ingreso Objetivo*, as of most of the other subsidies concentrated on larger commercial producers. Not surprisingly, the analysis also reveals that land assets, thus adjusted, are far more unequally distributed than suggested by the unadjusted land data commonly used to measure land inequality in Mexico and internationally (Deininger and Olinto 2002).

The study is structured as follows. Section 1 considers the relevance of distributive analysis in the present context in the light of the multiple (and often conflictive) objectives of agricultural subsidies. In particular, the section responds to a well-established view (among policymakers in the sector) that dismisses such analysis as imposing equity objectives on instruments concerned purely with efficiency objectives. Section 2 describes and quantifies the evolution of the principal agricultural adjustment/compensatory programs in Mexico in the post-NAFTA era. Section 3 reviews the evolution of agricultural growth, productivity and employment and wages, considering the possible effects of agricultural subsidies on these trends. Section 4 reviews recent data on rural poverty and human development deprivation, and analyzes the income sources and labor market profile of the rural poor. Section 5 analyzes the distribution of agricultural subsidies at the state and municipal level, and its incidence on growth, productivity and employment. Section 6 presents a benefit incidence analysis of agricultural subsidies at the producer and household level, and estimates the (first-order) impact of ARD expenditures on rural income inequality in Mexico. Section 7 derives policy recommendations.

2 Recent comprehensive evaluations of agricultural and rural policies in Mexico have been produced by the OECD (2006), IADB (2007) and World Bank (2008), though only the OECD report has been published to this date (September 2009). Evaluations of Procampo have been undertaken by GEA, Auditoría Superior de la Federación (2006), and an advisory group on Procampo's reform set up in 2008 by Sagarpa and IADB (unpublished). Alianza para el Campo has been evaluated by FAO (2005).

1. IS EQUITY RELEVANT? PRODUCTIVE, COMPENSATORY AND DISTRIBUTIVE OBJECTIVES IN AGRICULTURAL POLICY

The distributive incidence of agricultural subsidies in Mexico has received growing attention not only in the cited international reports, but also in a number of governmental and non-governmental initiatives, as well as in the media.[3] Policy-makers within the agricultural sector, however, have traditionally been more skeptical about the relevance of equity considerations for the design and appraisal of agricultural policies. To motivate the distributive analysis to be presented below, it is therefore important to clarify this issue at the outset.

The design and evaluation of Mexico's agricultural policies has often been plagued by a problem which is common in complex policy areas: the imposition of multiple, often conflictive objectives on single policy instruments. This is often aggravated when the objectives are confused and implicit, rather than clearly defined. A notable example of this is the case of Procampo, as will be seen below.

At the same time, the *overall* conception, design and evaluation of rural development and agricultural policies has traditionally been marked by a sharp division in objectives between "productive" and "social" programs, with the former concerned exclusively with increasing the productivity of the agricultural sector, and the latter focused on alleviating rural poverty. This division has been historically ingrained at the federal and local administrations, with a strict division between the ministries responsible for "productive" programs (mainly *Sagarpa*), and those concerned with "social" programs (mainly *Sedesol*). This division has been preserved in the *Ley de Desarrollo Rural Sustentable* and its associated budgetary instrument, the *Programa Especial Concurrente para el Desarrollo Sustentable* (PEC). Despite its intended function as an integrating and coordinating institutional framework for rural development policy, in practice the PEC has served as little more than a classification system that groups the large set of agricultural and rural development programs by common functions, at the broadest level in terms of productive vs. social.

This division is consistent with a general result from modern welfare economics about the independence of efficiency from equity interventions, [4] which may be interpreted as implying that "productive" programs should focus exclusively on correcting market failures to push GDP towards the economy's productive potential (the *production possibility frontier*), delegating to "social" (redistributive) instruments the task of attaining a particular social optimum within this frontier. An obvious implication of this interpretation is that productive instruments should be evaluated by their success in increasing productivity, not by their distributive incidence (and vice versa for social programs).

This may seem to provide a rigorous foundation for the rejection of distributive concerns in the case of agricultural subsidies. Such skepticism is of course often a thinly veiled and self-serving rationalization on behalf of established interests, [5] but it may also be a legitimate concern of agricultural policy-makers, especially given Mexico's agrarian history. For example, Rosenzweig (2008) presents this concern in a recent analysis of agricultural policy produced for a panel of independent experts on Procampo reform set up by Sagarpa and the IDB: "One of the reasons why agricultural policy has lost effectiveness is because of poorly-understood equity considerations... By basing transfers on the factors of production, one is necessarily seeking a productive rather than a social equity outcome. ..." (pp.5-6).

Given the prevalence and basic economic logic of this claim, it is important to be as clear as possible in explaining why this is in fact an argument for considering the distributive impact of agricultural subsidies in their overall assessment, rather than ignoring it.

3 These include various forums on the reform of agricultural subsidies in Presidencia de la República, Congress (Centro de Estudios para el Desarrollo Rural Sustentable y la Soberanía Alimentaria, CEDRSSA), and the excellent data base that includes Procampo and other agricultural subsidies published by FUNDAR (www.subsidiosalcampo.org.mx). The incidence of agricultural subsidies has also been reported by CONEVAL in their *Informe de Evaluación de la Política de Desarrollo Social en México 2008* (graph 16. P.80), and appears to have been used in the definition of priorities in the 2010 proposed federal budget.

4 This follows from the so-called "fundamental theorems of welfare economics" which prove that every competitive market in general equilibrium is Pareto efficient, and conversely, every Pareto efficient point can be achieved through a general equilibrium (per appropriate allocation of assets).

5 For example, a presentación at Sagarpa by the *Asociacion Mexicana de Secretarios de Desarrollo Agropecuario* (AMSDA, Sept. 2008; presented to the Secretary of Agriculture and addressed to the President of Mexico) reacting to recent reform proposals, dismissed distributive concerns as "populist", with a sombre threat: "Unfortunately some have proposed the goal of changing *PROCAMPO and Ingreso Objetivo to take away from large producers to give the small ones... It's the Rich vs. the Poor. That sounds like demagoguery and anachronistic populism and will provoke disturbances that will undermine the stability of the country.*" The presentation was delivered by Jorge Kondo, President of AMSDA, Secretary of Agriculture of Sinaloa (one of the states with the largest shares of agricultural subsidies), and apparently personally a major beneficiary of these subsidies (Merino, 2009, based on www.subsidiosalcampo.or.mx).

1 Note first that even if the conditions of the welfare theorems did apply, allowing a strict separation in the implementation of efficiency and equity policies, this would still not make the distributive effects of the efficiency instruments irrelevant. On the contrary, designing and implementing the equity instruments to achieve the social optimum would of course require precise understanding of the (collateral) distributive effects of the efficiency instruments. These effects could be neutral or even progressive, thus facilitating the task of the equity instruments. As we will see, agricultural subsidies in Mexico (as in most countries) are actually highly regressive, most of them even more regressive than the distribution of private incomes in the rural sector. Considering their weight in the agricultural/rural economy, this means that they are actually a significant *determinant* of rural inequality in Mexico. This implies that to achieve the social optimum (assuming this gives some positive weight to equity), the redistributive instruments would have to be designed to compensate for the effect of the productive instruments as well as for the other (market) determinants of inequality.

2 In fact, of course, the idealized assumptions of the welfare theorems are highly unrealistic, and especially so in the context of rural and agricultural markets and institutions. The theorems assume the existence of complete and perfectly competitive markets for all goods and factors of production, perfectly informed economic agents, and costless (perfectly informed) redistributive instruments. In addition to assuming no market failures, the welfare theorems assume no failures in non-market (political, government and non-government) institutions required to identify and implement a socially optimum distribution. The failure of these conditions to apply does not mean that the welfare theorems are of no practical interest, but their guiding power is "negative" or indirect rather than direct: it lies in the capacity to identify precisely and exhaustively the falsifying conditions to be addressed by public policy.

3 In the present context, this means that the efficiency and equity considerations are not easily separable in the design and evaluation of agricultural subsidies and agricultural/rural development policies more generally. Given the market-failures prevalent in the rural/agricultural sector, large inequalities between producers in the access to inputs and markets represent a major restriction to productivity and growth. The close interdependence between efficiency and equity conditions in economic growth has received much attention in recent years, as reviewed in the *World Development Report 2006: Equity and Development*, the WDR 2008 in the context of agriculture, and World Bank (2004, 2006) and Levy and Walton (2009) for the case of the Latin American region and Mexico, respectively. This interdependence may be illustrated with many specific examples, and even with the broad history of agrarian reform and agricultural support policies in Mexico over the last century. At the risk of gross simplification, this history may be summarized as follows:

a) The agrarian reform produced atomized agricultural land holdings and drastically constrained land markets under the *ejido* system,
b) The principal agricultural support policies applied in this period—price-based subsidies and irrigation and other input subsidies—benefited mostly large-scale and capital (irrigation)-intensive grain producers in the North, but failed to reach the bulk of small-scale and subsistence producers created by the Reform, constraining them to low-quality, low-investment, technologically primitive production units. It was only by the end of the century that a major transfer program was introduced capable of reaching the bulk of these producers (Procampo 1994), even if their share of the transfer was limited to their share in land-holdings.
c) In addition to the historical bias against small-holders, subsistence farmers and landless agricultural workers in the allocation of agricultural subsidies, poor rural households were also excluded from most social and anti-poverty programs, again until the end of the century. These were allocated with a strong *urban bias* which was only reversed with efforts to expand the coverage of basic education and health services to rural areas in the 1990's, including especially the creation of the innovative *Progresa* CCT program in 1997 (renamed *Oportunidades* in 2001).

4 To recap the separation of *equity* and *efficiency* instruments: land reform and (belatedly) social programs were used to address rural inequality, while agricultural subsidies were concentrated on the larger producers on purely efficiency considerations. The outcome of these policies, as we will see bellow, is an agricultural sector which is both highly unequal and relatively inefficient, as well as resilient to reform (section 3). At the centenary of the Mexican Revolution, two decades after the "second agrarian reform", the rural economy is still trapped in a low growth, high inequality equilibrium, barely sustaining the poorest of the poor while supporting some of the richest and most generously subsidized individuals in Mexico. This outcome reflects many failures of design and implementation within the two major policy categories (distributive and productive), but is also explained by the historical separation of these instruments, leading respectively (at one extreme) to a populous, commercially unviable small-holder and subsistence sector, which has survived as a form of minimal social insurance, and (at the other end) large-scale northern grain producers receiving the bulk of subsidies without much evidence of significant impacts in productivity

or employment (see sections 3 and 5). In the middle, are the small to middle-sized (5-20+ has) producers with undeveloped potential, constrained in their access to credit, insurance, technology, marketing and other critical inputs. These are generally not poor enough to benefit from *Oportunidades* or other social programs and not large enough to attract significant agricultural subsidies under present allocation criteria, but may well be the potential beneficiaries with the highest impact: such support would be *both* more equitable and more productive, relaxing significant binding constraints on agricultural production (in contrast to large producers which are already close to their production-possibility frontiers, partly as a consequence of the cumulative effect of past historical investments in their favor). A similar argument was made fifteen years ago by De Janvry et al. (1995), who showed that the strata of middle-sized producers had the most potential to benefit from support to facilitate crop reconversion and modernization under NAFTA. Unfortunately, while Procampo did succeed in allocating resources to these producers at least proportional to their share in cultivated land (41%, see graph 30, below), the required complementary inputs failed to reach this strata (both because the input support programs were significantly curtailed, and those which do exist are concentrated on the larger producers, see section 6, below).

2. AGRICULTURAL TRADE ADJUSTMENT AND COMPENSATORY PROGRAMS AFTER NAFTA

The principal ARD policies currently implemented in Mexico originated in the context of a broad, market-orientated reform effort to modernize the agricultural sector in the early and middle nineties, in the context of both, the opening up of agricultural commodity markets under the *North American Free Trade Agreement* (NAFTA) in 1994 with a 15 year transitional period, and the constitutional reform of the *ejido* land tenure system in 1992.

Mexico's "second agrarian reform", as this ambitious reform effort has rightly been labeled (by one of its principal architects, see Gordillo et al. 1999), was accompanied by extensive reforms in ARD policies, introducing more efficient (less distortionary), as well as more equitable policy instruments. The long, drawn-out "first" agrarian reform, following the Mexican Revolution, was accompanied from the Cárdenas administration in the 1930s until its formal termination in 1992, by two principal forms of agricultural support: input support (irrigation, fertilizers) and market price support (MPS). By design, these support policies where both highly distortionary and inequitable, failing to reach the small and subsistence farmers created by the agrarian reform.

Farmers were partly compensated for the gradual reduction of MPS under NAFTA through three principal support programs: a) the *Programa de Apoyos a la Comercialización* [6], an output-based subsidy program introduced in 1991, b) the *Programa de Apoyos Directos al Campo* (*PROCAMPO)*, a per hectare direct transfer program decoupled from production and commercialization, introduced in 1994, and c) *Alianza para el Campo,* an investment support program (or family of programs) offering matching grants and support services, introduced in 1996. The expectation was that these programs would not only play a compensatory role in the face of growing external competition but, in the case of *Procampo* and *Alianza*, would also provide the necessary support for farmers to modernize production and switch to higher value crops in the context of the newly liberalized land and product markets.

In the context of Mexico´s dual agricultural sector and previous agricultural support policies, the decoupled design of *Procampo* was revolutionary in terms of efficiency as well as equity. By decoupling transfers from production/commercialization, the program was expected to minimize distortions in productive decisions and to transfer resources directly to subsistence farmers, for the first time in Mexico's post-revolutionary history. The original decree for the creation of Procampo lists an extended list of objectives, including prominently as "one of its main objectives", increasing the income of "2.2 million rural subsistence producers which were excluded from the support system". [7]

6 The Programa de Apoyos a la Comercialización and PROCAMPO are both managed by Apoyos y Servicios a la Comercialización Agraria (ASERCA).

7 *Decree that Regulates the Rural Direct Support Program, Procampo*, DOF, July 25, 1994. The list of objectives includes (emphasis added): 1) greater participation of the rural private and social sectors to **improve domestic and international competitiveness**; 2) **raise the living standards of rural families**; 3) **modernization of the marketing system, 4) increase the capacity of capitalization** of rural production units; 5) **facilitate the conversion** of those lands in which it is possible to establish more profitable activities, giving **economic certainty** to rural producers and **increased capacity to adapt** to change, as required by the new agricultural policy under way, and the implementation of the agrarian policy contained in the amendment to Art. 27 of the Constitution 6) **promote new alliances between the social and private sectors**, through joint ventures, organizations and enterprises capable of facing the challenges of competitiveness, 7) **adoption of more advanced technologies** and the expansion of production strategies based on principles of efficiency and productivity; 8) because more than **2.2 million rural producers, whose harvests are used for household consumption, are excluded from the support programs,** and as a result face unequal terms compared to those producers who market their crops, this system is designed to have as one of its main goals **the increase in those producers' income levels,** 9) **contribute to the recovery and conservation of forests and jungles, and to reduce soil erosion and water pollution,** thereby encouraging a culture of rural resource conservation....

The reform in agricultural support policies was accompanied by a reform in rural development and anti-poverty policies, involving the following inter-linked elements: a) the introduction of innovative and effectively targeted rural programs, b) a reallocation of social spending towards the rural sector, reversing the marked urban bias of social spending in previous decades (in anti-poverty programs, food subsidies, basic education and health services for the uninsured), and c) an increase in the relative share of rural development (social) over agricultural support (productive) programs in overall ARD spending. The principal program introduced to implement these reforms was the *Programa de Educación, Salud y Alimentación* (*Progresa*, in 1997; renamed *Oportunidades* in 2001), offering direct cash transfers to poor rural households conditional on human capital investment (attending basic education and using health services). [8] Three important targeted rural development programs introduced in this period are: a) the *Fondo de Aportaciones para Infraestructura Social* (*FAIS*, in 1996), a large decentralized fund for basic infrastructural investment replacing the *Programa Nacional de Solidaridad* (PRONASOL) of the Salinas administration (1988-1994); b) the *Programa de Empleo Temporal* (*PET*, in 1995), a multi-agency, self-targeted temporary employment program; [9] and c) the *Rural Development Program* (1996), the principal Alianza program formally targeted to poor producers.

The principal instruments emerging from these reforms have been retained with some minor changes after 2000, though the pace and depth of the previous reform effort has not been sustained in the present decade. A potentially important institutional innovation was the passing of an umbrella law for rural development, the *Ley de Desarrollo Social Sustentable* (2001), which included an effort to create a coordinating framework for ARD expenditures, the *Programa Especial Concurrente para el Desarrollo Rural Sustentable* (PEC). However, beyond offering a budgetary classification scheme to order ARD expenditures, the PEC has not had much impact on the allocation of ARD resources.

Since 2000, ARD spending has almost doubled in real terms, reaching a federal ARD budget of 204 billion pesos for 2008. This expansion happened in the context of the liberalization of most agricultural products in 2003 and the liberalization of the "sensitive" products (maize, beans, sugar and milk powder) in 2008. The successful political mobilization by farmer organizations led to the negotiation of the *Acuerdo Nacional para el Campo* (2003). As will be shown below, the consequent expansion of APE was allocated to the more distortionary instruments (and some new, like agricultural diesel subsidies), a partial retrenchment of the previous reform effort. [10]

3. SUBSIDIES, GROWTH, PRODUCTIVITY AND EMPLOYMENT IN AGRICULTURE

3.1. Growth and Productivity (Land and Total Factor Productivity)

Between 1980 and 2007 agricultural GDP has grown by an average yearly rate of 1.6%, while total GDP has grown by 2.7%, so AGDP/GDP has contracted from 7% to 5.4% over this period. However, the gap between the national and agricultural growth rates has narrowed in more recent years: agriculture GDP lagged in the first years of the liberalization reforms, but the gap has narrowed after 2000. In 2001 and 2003, when total GDP growth stagnated (0.2% and 1.3%, respectively), agriculture GDP grew by 3.5% and 3.1%. The latter trend, together with the stability of basic food prices and Oportunidades transfers is widely credited for the unexpected reduction in rural poverty during the stagnant 2000-2002 period (Székely and Rascon 2005), as described below.

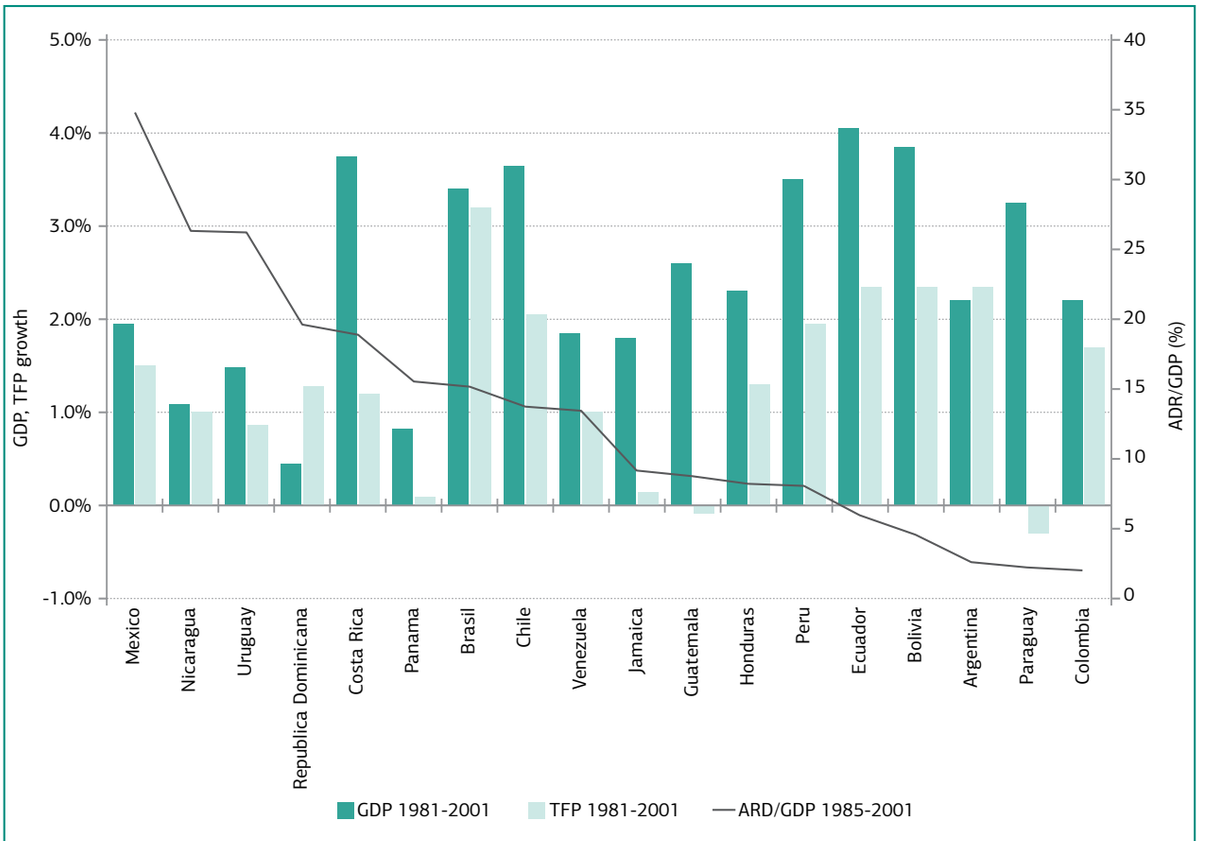
Immediately after 1994 we observe a significant increase in the production of fruits and vegetables, but only a modest expansion in grains consistent with the pre-1994 trend. The former was associated with an expansion in cultivated land in the case of vegetables, and an increase in the productivity of land in the case of fruits. By contrast, after 2000, the growth of vegetable production slows down, and in the case of fruits declines, while grains grow at an average 7.5% annually, entirely through increasing land productivity. The 1988-1994 and 2000-2004 periods present similar trends in the relative behavior of grain vs. fruits & vegetable production and cultivated land, in favor of the former. This coincides with the surge of MPS and output-based support for grains, as well as the expansion of variable input-based support, which is also mostly linked to the latter.

8 In 2001 the program was extended to urban areas and upper-secondary education and renamed Oportunidades.
9 Originally the PET involved the participation of Sedesol, Semarnat, SCT, and Sagarpa, but the Sagarpa component has been recently discontinued.
10 For further discussion and extensive data to support the previous summary, see Scott (2010).

These trends may indicate a conflict between the market liberalization process, initiated in the early 1990s and culminating in 2008, and agricultural support policies. Both MPS and output-linked ASERCA payments have targeted mostly traditional crops, particularly maize and other grains, as well as raw sugar and some animal products like milk and poultry meat. Fruits and vegetables, on the other hand, have not received significant support, but have benefited from the liberalization of agricultural markets. Far from being resolved, this conflict has been revived in the present decade, with the gradual shift back towards more distortionary support policies. Subsidies have been biased towards traditional crops (grains), thus hampering rather than supporting the comparative advantages towards fruits & vegetables under market liberalization.

Considering the correlation between ARD expenditure and agricultural performance, graph 1 compares growth rates in agricultural GDP and TFP over the 1981-2001 period with average ARD/GDP expenditure rates for 1985-2001 for the principal LAC countries (ordered by ARD/AGDP). These rates vary widely, from Mexico, with ARD expenditure equal to 34% of agricultural GDP, to Colombia, with less than 3% of GDP.[11] The figure suggests if anything a negative correlation between the countries' ARD expenditures and growth of GDP and TFP. Excluding Costa Rica, the six top spenders (above 15% of agricultural GDP), have the lowest agricultural GDP growth rates over the period. On the other hand, the high growth agricultural sectors (both GDP and TFP) are concentrated in the lower and middle end of the ARD spending distribution.

Graph 1
DISTRIBUTION OF ARD/AGDP AND AVERAGE YEARLY AGRICULTURAL GDP AND TFP GROWTH RATES IN 1981/5-2001



Source: ARD expenditure and Agricultural GDP from FAO-Regional Office for LA; Agricultural TFP growth rates from Avila and Evenson (2004).

3.2. Employment, wages and other income sources

Between 1930 and 1980 the share of agriculture in total employment declined from 71% to 26% (graph 2), but by the end of the century a fifth of the labor force was still employed in agriculture. According to the national employment survey (ENOE), agricultural employment

11 The expenditure data and GDP data are from the regional FAO data base. TFP growth estimates are from Avila and Evenson (2004).

has declined to 13% in 2008, representing 5.7 million workers, but is still very significant in the poor southern states: 40% in Chiapas, and close to 30% in Oaxaca and Guerrero.

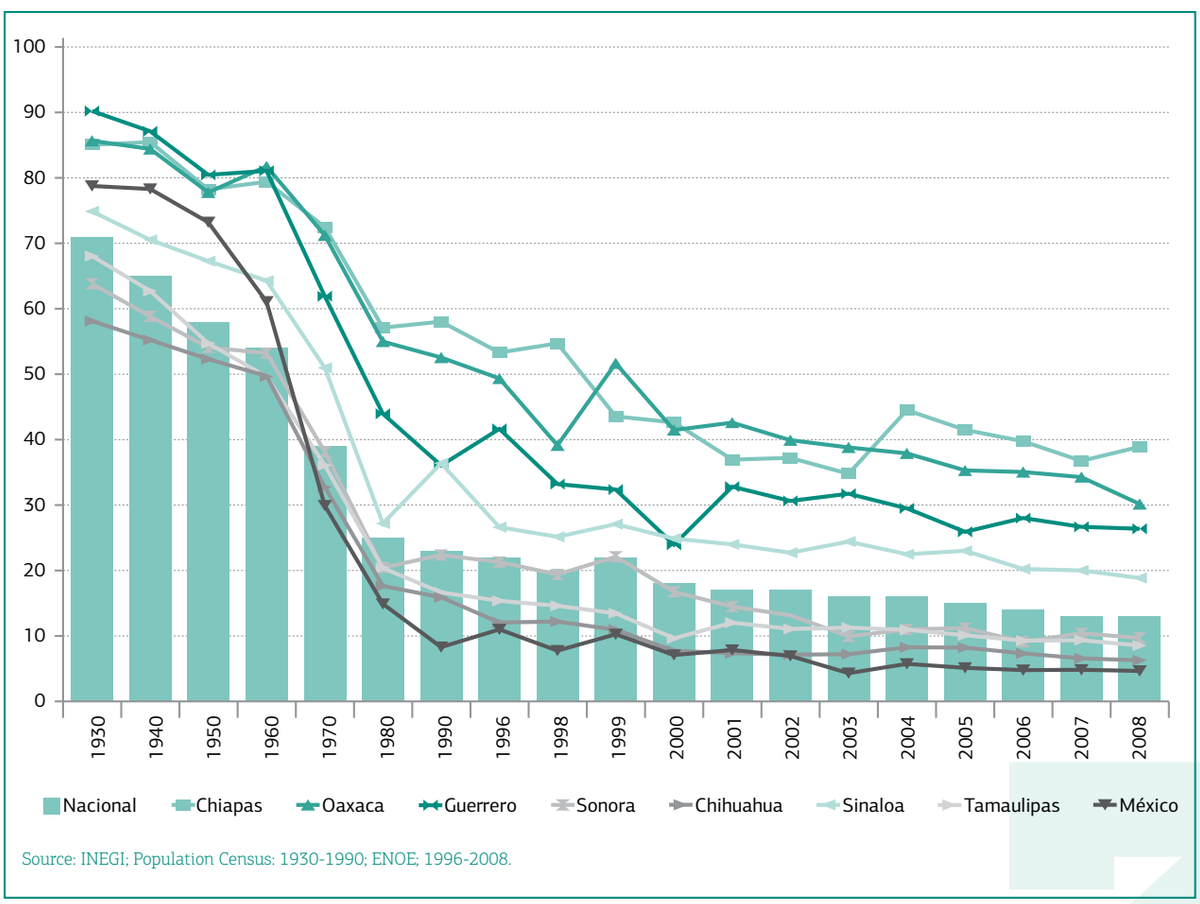
Despite these employment data, the economic weight and labor income from agriculture has fallen drastically in recent decades. The 2007 Agricultural Census shows that most workers in the sector are unpaid family members, and of those who receive payment the majority are eventual workers (Table 1): of the 8.6 million persons reported working in agriculture in the 2007 Census, only 421,000 are permanent paid workers. This number has practically remained the same since the 1991 Census, while the total number of workers has declined from 10.6 to 8.6 million, and unpaid family workers have declined from 8.3 to 3.5 million, with seasonal paid workers increasing from 1.8 to 4.7 million. This substitution of unpaid family workers for paid seasonal workers is striking and suggests agricultural labor markets have developed significantly in the NAFTA years, liberating family members for more productive rural and non-rural employment (migration) opportunities. This hypothesis is also consistent with the evolution of rural income sources, described in the next section (see graph 10, 11).

Unfortunately, at the time of writing the tables from the 2007 Agricultural Census published by INEGI do not report employment by farm size. However, the data from the 1991 Census (graphs 3, 4) shows that both unpaid family workers and paid seasonal workers are concentrated in small to medium farms, while paid workers are concentrated in medium to large farms. Comparing the number of producers in each strata (graph 5), it is interesting to note that between 1991 and 2007 small producers have increased from 2.24 to 2.75 million, while the number of both middle-sized and larger producers have declined by almost 30%.

Wages in the primary sector have also fallen significantly in relation to the rest of the economy and even in absolute terms (table 2, graph 6), declining by 2.2% annually in 1989-1994 while average wages for the economy overall increased 6% annually, and increasing 1.4% annually in the last decade (vs. 2.9% overall). The decline in primary sector employment decelerated in 2007-2008, and wages actually increased more than in the rest of the economy in this year. The primary sector only accounted for 6% of the total wage mass of the economy in 2008.

Graph 2

EMPLOYMENT IN AGRICULTURE AS A SHARE OF TOTAL EMPLOYMENT IN MEXICO: NATIONAL AND SELECTED STATES



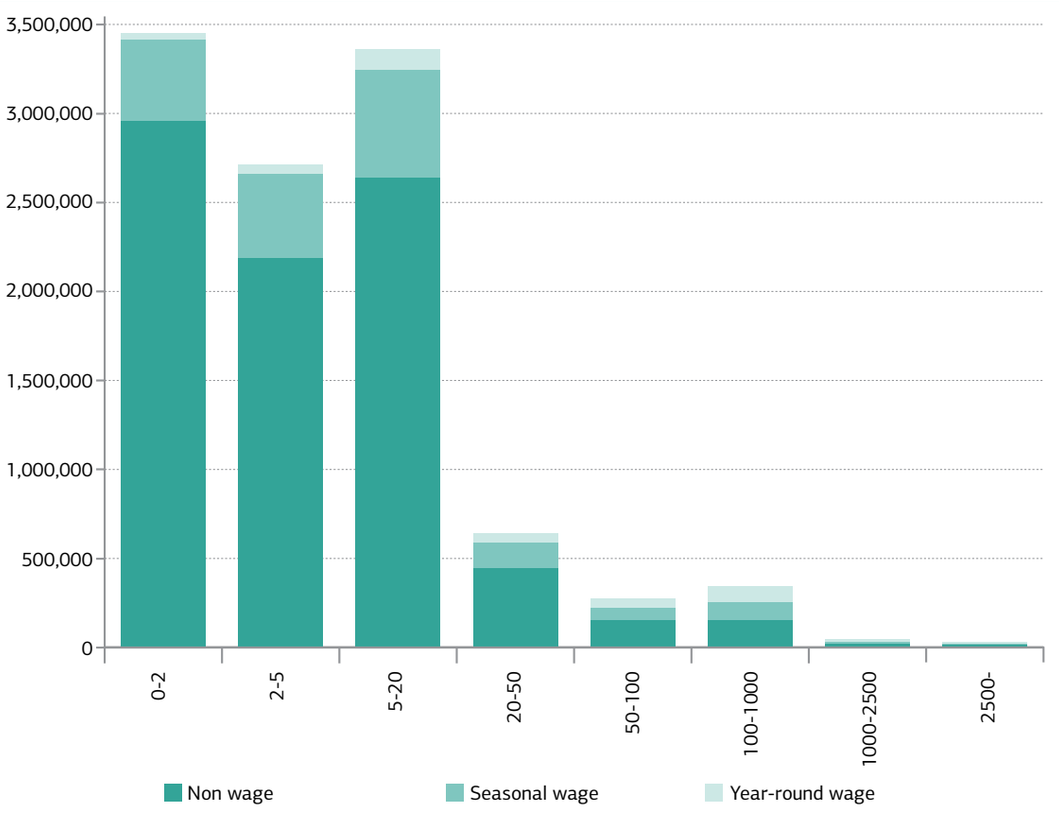
Source: INEGI; Population Census: 1930-1990; ENOE; 1996-2008.

Table 1
EMPLOYMENT IN AGRICULTURAL AND FORESTRY:
AGRARIAN CENSUS 1991, 2007

	1991	2007	Change 1991-2007
Total	10,676,311	8,650,187	-19%
Non Remunerated (Family)*	8,370,879	3,510,394	-58%
Male	7,112,977	2,399,283	-66%
Female	1,257,902	1,111,111	-12%
Remunerated	2,305,432	5,139,793	123%
Permanent (more than 6 months)	427,337	420,989	-1%
Male	399,944	378 701	-5%
Female	27,393	42 288	54%
Seasonal (less than 6 months)	1,878,095	4,718,804	151%
Male	1,717,275	4 164 690	143%
Female	160,820	554 114	245%
*The 1991 Census also reports 268,033, workers who are unpaid but non-family.			

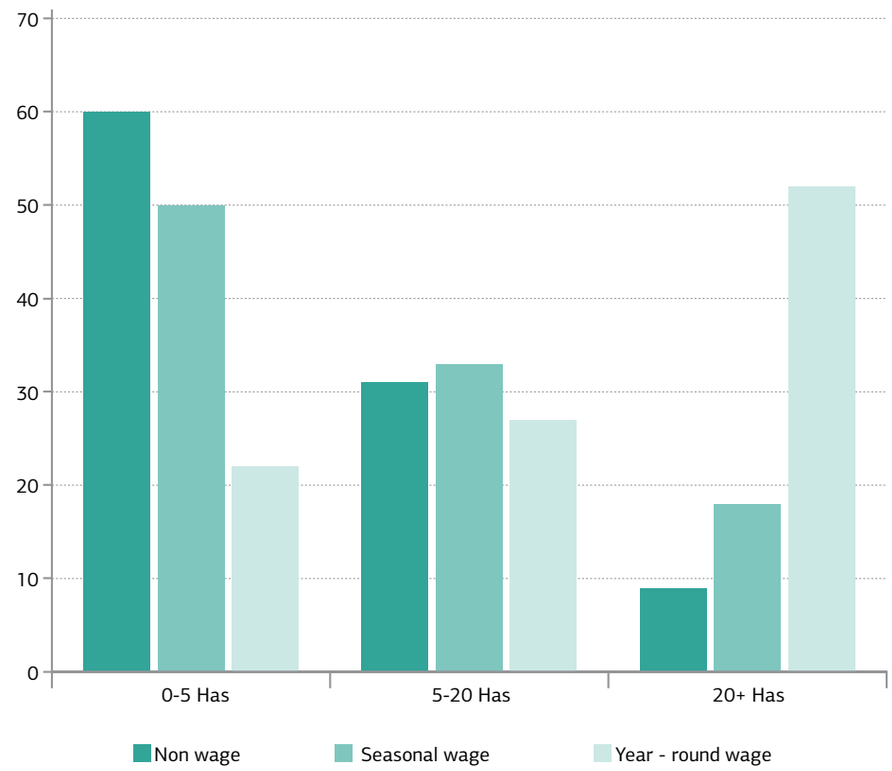
Source: Agricultural Census, 2007 INEGI (table 114 in Resultados del VIII Censo Agrícola, Ganadero y Forestal; Agricultural Census 1991, INEGI, table 54 in http://www.redeco.economia.unam.mx/CA/CAG91/.

Graph 3
DISTRIBUTION OF AGRICULTURAL WORKERS BY FARM SIZE (1991):
NUMBER OF WORKERS



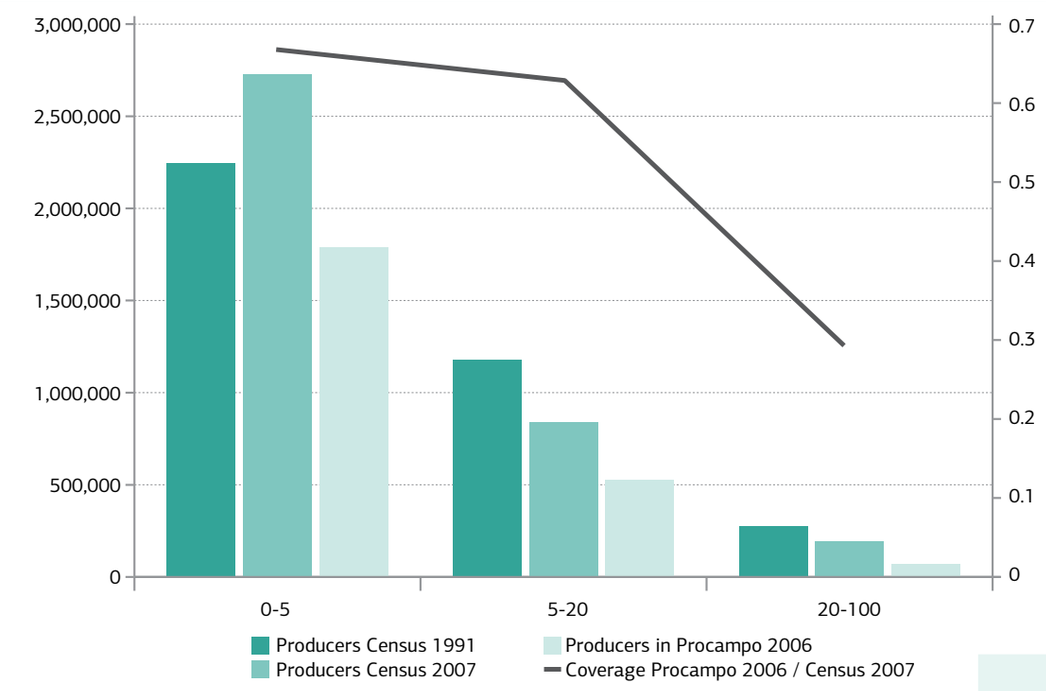
Source: Agricultural Census 1991 (INEGI).

Graph 4
DISTRIBUTION OF AGRICULTURAL WORKERS BY FARM SIZE (1991)



Source: Agricultural Census 1991, INEGI, table 54 in http://www.redeco.economia.unam.mx/CA/CAG91/ .

Graph 5
DISTRIBUTION OF PRODUCERS BY
(BENEFICIARIES/PRODUCERS IN 2007 CENSUS)



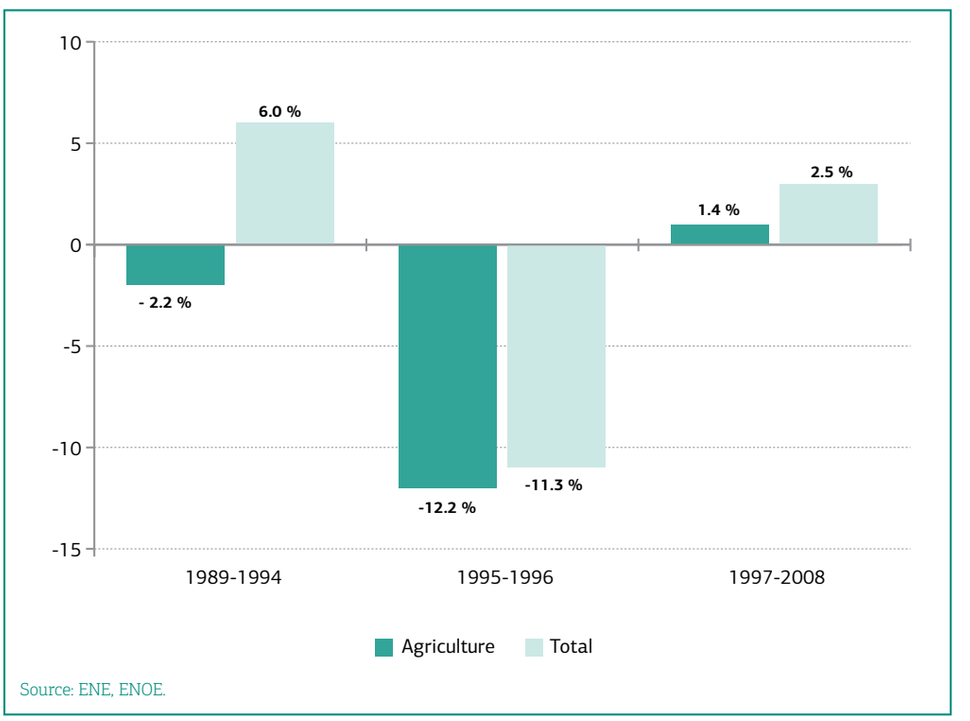
Source: author's calculations using ASERCA administrative data and tabular information from the Agricultural Census 1991 and information of the Agricultural Census 2007 cited in De la Madrid (2009).

Table 2
EMPLOYMENT AND WAGES IN PRIMARY SECTOR:
2005-2008 (FIRST QUARTER)

		Primary Sector	Other sectors
Employed pop	2005	6,047,361	34,528,513
	2006	5,875,619	35,845,496
	2007	5,734,735	36,665,727
	2008	5,676,086	37,644,591
Wage (MP/month)	2005	2,605	10,147
	2006	2,393	10,595
	2007	2,293	10,865
	2008	2,382	11,121
Annual growth rates			
Employed Pop	2005-2006	-2.8%	3.8%
	2006-2007	-2.4%	2.3%
	2007-2008	-1.0%	2.7%
Wage	2005-2006	-8.1%	4.4%
	2006-2007	-4.2%	2.6%
	2007-2008	3.9%	2.4%
Wage Mass	2005-2006	-10.7%	8.4%
	2006-2007	-6.5%	4.9%
	2007-2008	2.8%	5.1%

Source: ENOE 2005-2008, INEGI.

Graph 6
ANNUAL CHANGE IN WAGES: 1988-2008



Source: ENE, ENOE.

4. RURAL POVERTY AND INEQUALITY; AGRICULTURE IN RURAL INCOMES

Measuring rural development in terms of monetary poverty and basic human development indicators, large gaps persist between the rural and urban sector, but also within the rural sector. Extreme poverty (*alimentaria*) declined from 53% to 24% between 1996 and 2006, but most of this decline represents a recovery from the dramatic increase in poverty following the 1995 "tequila" crisis: the 1992-2002 decade was fully "lost" in terms of rural poverty-reduc-

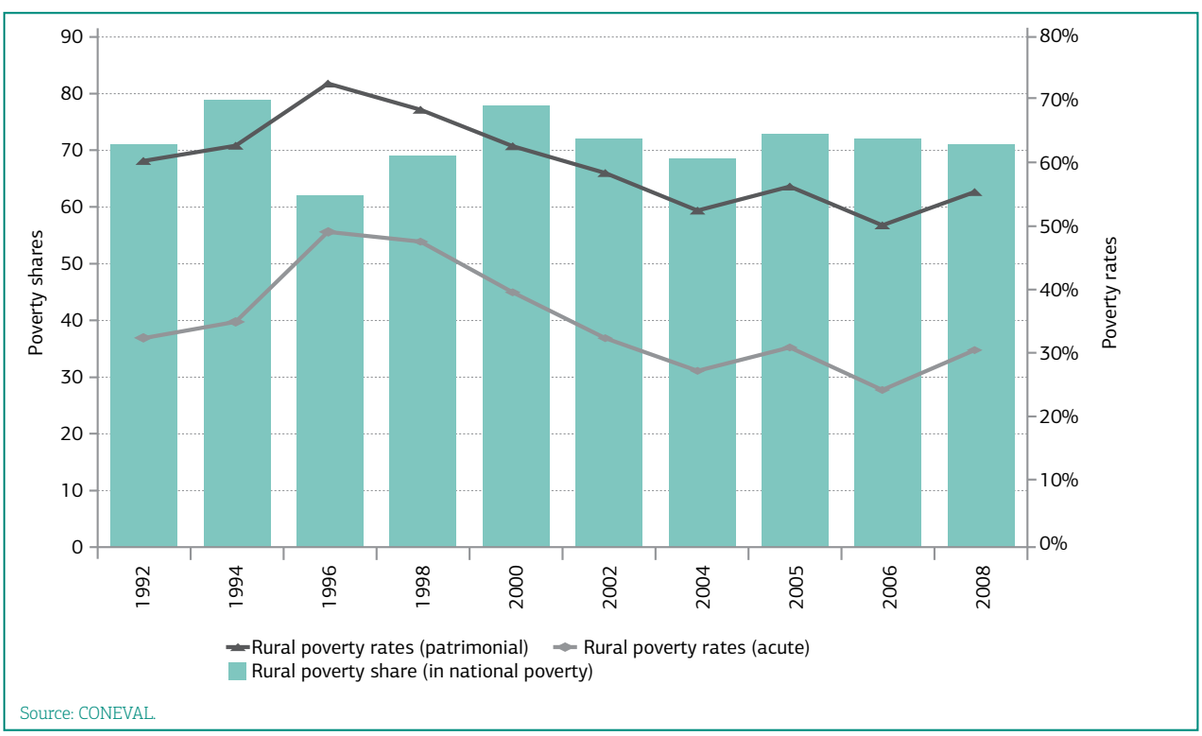
tion, and the decline observed between 2002 and 2006 was almost completely reversed by 2008, when extreme poverty reached almost 31.8%, only slightly below the 1992 value (graph 7). The 2006-2008 increase in poverty was due mainly to the increase in the price of the basic food basket due to the global rise in food prices, and the beginning of the effects of the global financial crisis. Since this still does not take into account the full effects of the latter crisis, it is unfortunately certain that rural poverty will increase significantly more in 2009-2010.

The rural sector is often perceived and assumed by policy makers to be relatively homogenous, but the contrasts in poverty rates by size of locality and regionally the sector are as dramatic as those between the rural and urban sectors. The poverty rate doubles as we pass from urban (>15,000 inhabitants) to semi-urban (2500-15000) localities, and doubles again from the latter to small rural localities (<2500) (World Bank 2005). The contrast between rural areas in the northern states and the rural South is even more dramatic, with almost a ten-fold difference in extreme poverty rates: from 6.5% in BC, to close to 60% in Chiapas and Guerrero (graph 8). The poorest eight states account for 64% of the rural poor, but only 18% of agricultural GDP. As discussed above and shown in detail below, the noted division of labor between "social" and "productive" rural expenditures can be clearly appreciated in the same graph: the allocation of Oportunidades corresponds closely to the distribution of poverty, while APE is distributed between states as a function of agricultural production.

Rural income inequality increased significantly between 1994 and 2000 (2002 if we consider only monetary income sources), but declined back to 1994 levels by 2006).[12] The inverted U-shape reflects mostly the evolution of labor and non-monetary income in this period, which suggests a structural transformation in the rural economy but requires further investigation. Transfers have contributed to reduce rural inequality and flatten the trend over the period. This reflects the effect of Oportunidades, Procampo (which as we will see is regressive in absolute terms but progressive in relative terms), and remittances.

Graph 7

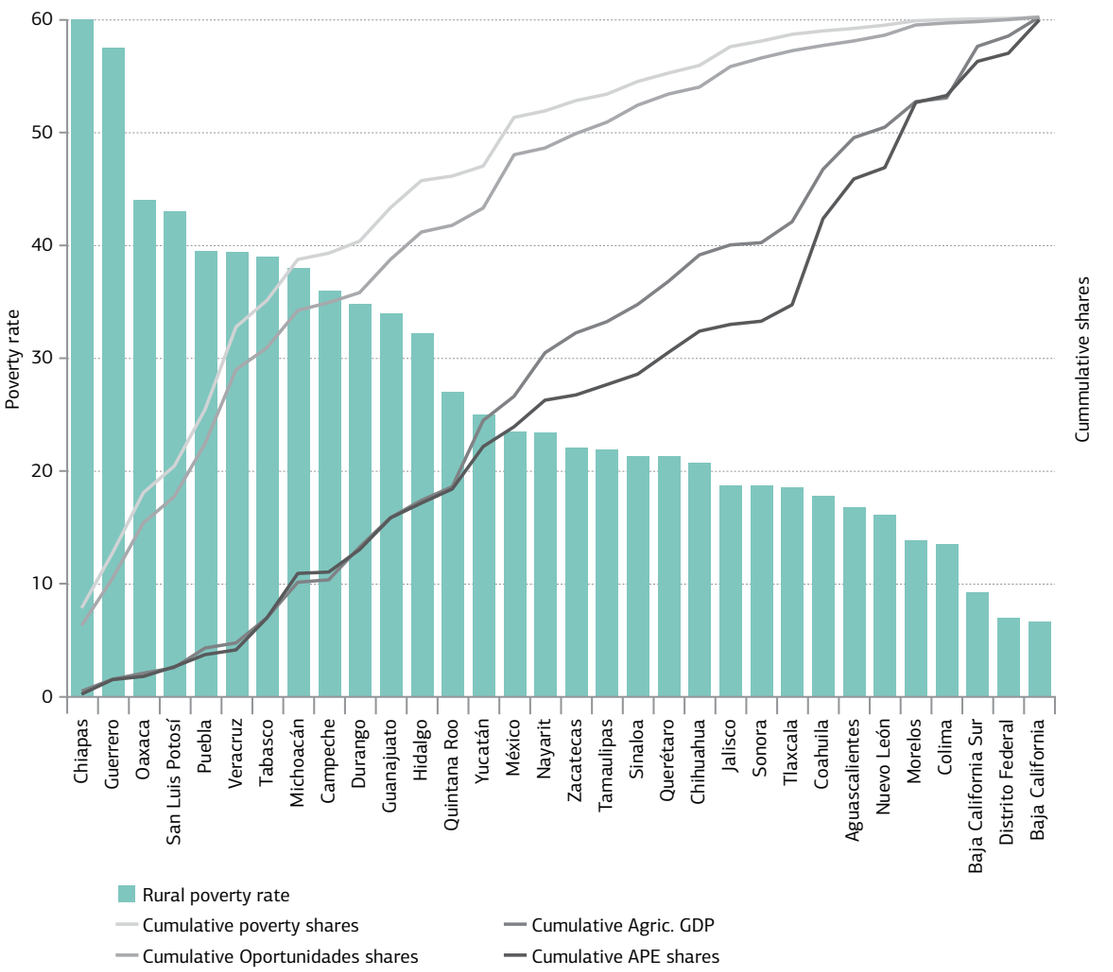
RURAL POVERTY RATES AND RURAL SHARE IN TOTAL POVERTY: 1992-2006



Source: CONEVAL.

12 For further details on the dynamics of income distribution in Mexico over this period see Esquivel (2008), and Esquivel, Lustig and Scott (2009).

Graph 8
EXTREME RURAL POVERTY (POBREZA ALIMENTARIA), AGDP AND PUBLIC ARD EXPENDITURE: 2005/2006
(STATES ORDERED BY EXTREME RURAL POVERTY RATE)



Source: CONEVAL (rural poverty); INEGI (Agricultural GDP); Oliver and Santillanes (2008): (ARD expenditure.

Extreme inequalities in rural living standards persist even in the basic human development (health, education) indicators targeted by the principal social spending programs. In the 2000 census, illiteracy in rural areas was 21%, twice the national average and seven times the average for Mexico City, and average schooling was less than 5 years, half the average for Mexico City. Almost three-quarters of the population in Mexico City (half of the national population) had completed post-primary education, but only a quarter of the population in the rural sector. In 2005, infant mortality rates (IMR) varied widely by municipality ordered by the *CONAPO marginality index*, a multi-dimensional poverty indicator closely correlated with degree of "ruralness": from 3-8 per thousand (live births) in richer urban *delegaciones,* to 30-80 per thousand in the poorest municipalities, comparable to the gap observed between low and high income countries in the world (graph 9).

To assess the extent to which agriculture offers income and employment opportunities for the rural poor in Mexico, we use ENIGH income-expenditure surveys, the ENOE (2008) employment survey, and ENCASEH (2004), a large and detailed survey covering households in *Oportunidades* localities. Though the latter is not nationally representative, it is representative of producers in poor rural localities.

There has been a dramatic transformation in the income sources for the average rural household over the last decade. Independent (non-wage) farm income has collapsed from 28.7% to 9.1% of total household income between 1992 and 2004, while total (independent and wage) farm income has contracted from close to 38% to just 17% of household income (graph 10).

The extreme rural poor have a larger participation in agricultural activities, but they also derive a relatively small share of their income from the sector (graphs 11 and 12, tables 3 and 4). The poorest quintile accounts for more than half of all agricultural workers and 60% of house-

holds in the poorest decile have agricultural workers, though only 26.6% of these households report generating independent farming income. However, the poorest 30% of households obtain on average less than a third of their income from agriculture. In particular, subsistence farming has become irrelevant source of income for rural households: 27% of HHs report obtaining non-monetary income from self-production/consumption, but this represents less than 2% of their total current income, and only 7% for the poorest decile. Non-farming wages represents the principal single income source for all but the poorest decile, whose largest income source are public transfers.

In comparison to urban households, rural households obtain a smaller share of their income from the labor market (41%) and are more dependent on transfers (18%) and self-employment (18%).

Considering the characteristics of rural households in poor localities were Oportunidades operates, table 4 divides these by land-holdings. It is notable first that 71% of these households are landless. Though these households tend to be younger and have less assets generally (housing, appliances and cars), they also report higher labor income and education indicators than land owners.

Among the latter non-agricultural workers are better off than agricultural workers, which also report the lowest coverage of social security of all household groups (5%).

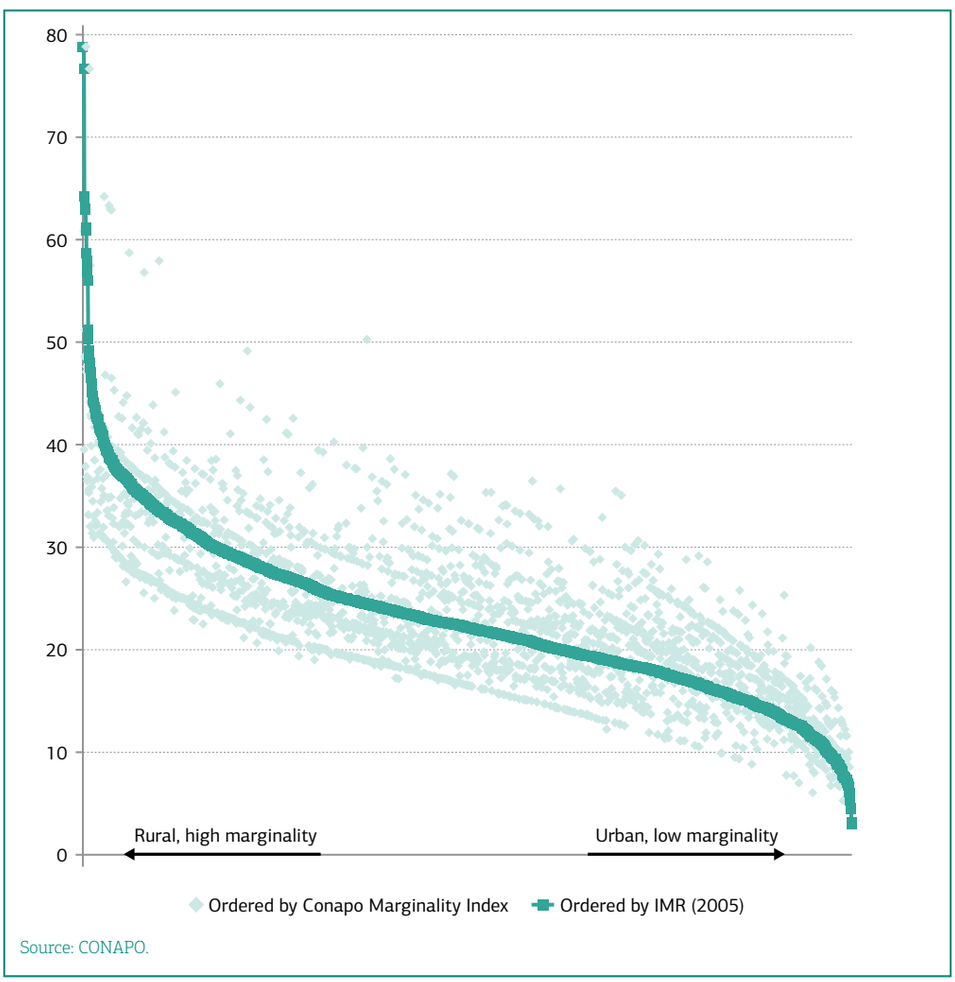
By far the poorest households in these localities are not the landless, but small-holders, especially households with less than 2 hectares. These also tend to have a higher proportion of indigenous population and agricultural workers (more than 70% of these household report the main occupation of the household head as agricultural workers), but lowest proportion of *ejidatarios* or *comuneros*.

The great majority of land-holders own their land, though this proportion is lower for small holders. Most of the land is rainfed, though the proportion of irrigated land increases in the 6-20 ha range. Corn is the principal crop, especially among small-holders, followed by beans.

The data on the coverage of public programs will be taken up in section 6.

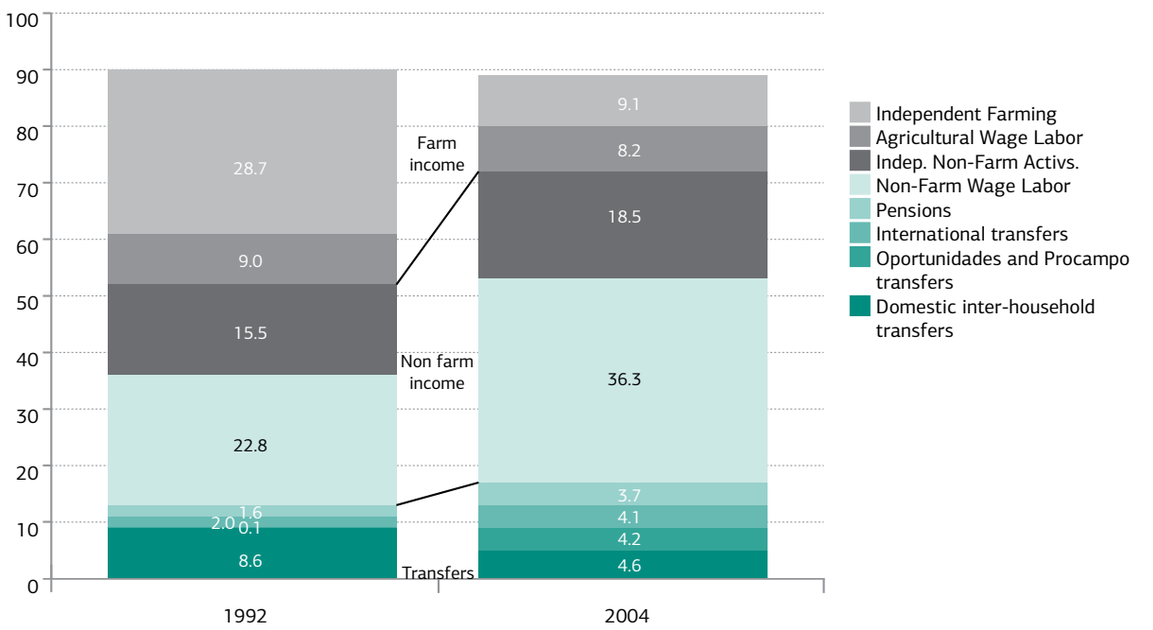
Graph 9

INFANT MORTALITY RATES (IMR) BY MUNICIPALITIES ORDERED BY IMR AND CONAPO MARGINALITY INDEX: 2005



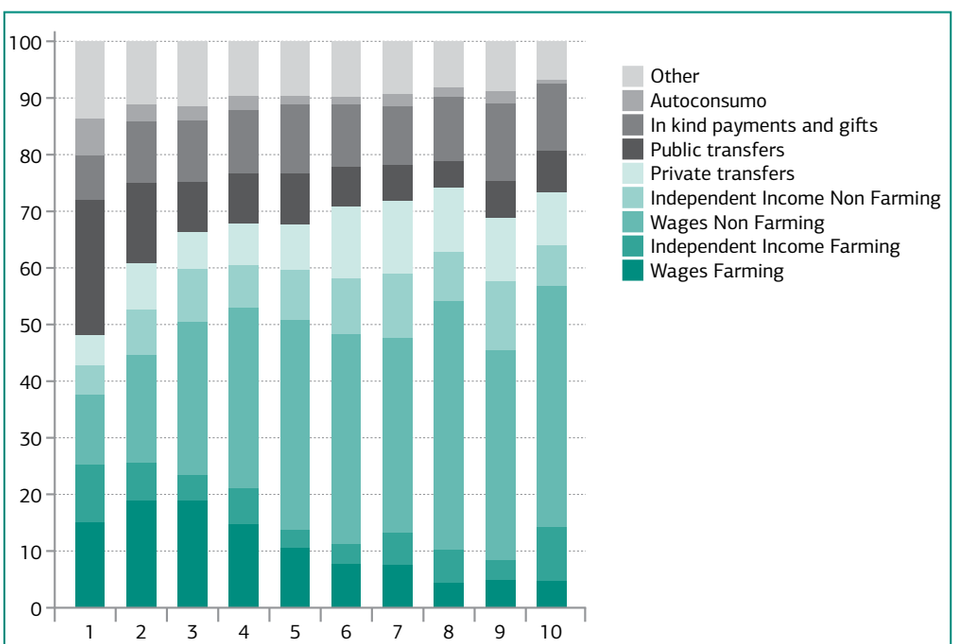
Source: CONAPO.

Graph 10
INCOME SOURCES OF RURAL HOUSEHOLDS: 1992-2004



Source: Ruiz Castillo (2005). Total does not add up to 100% because smaller or unspecified income sources were excluded.

Graph 11
INCOME SOURCES OF RURAL AND AGRICULTURAL HOUSEHOLDS: 2006
(INCOME POR CAPITA PER MONTH)



Source: author's calculations based on ENIGH 2006 (INEGI).

Table 3

AGRICULTURAL ACTIVITIES BY RURAL HOUSEHOLD DECILES ORDERED BY INCOME PER CAPITA (2006)

	Hh with agricultural workers		Hh with independent farming income			
HH Deciles	Households	% Decile	House-holds	% Decile	Annual farming income	
					million MP	MP/hh
1	3,222,510	60%	705,977	26.6%	2,705	3,831
2	1,492,371	32%	249,587	9.4%	1,830	7,331
3	946,424	24%	190,263	7.2%	1,253	6,586
4	625,353	15%	119,835	4.5%	1,038	8,664
5	578,002	13%	103,074	3.9%	1,853	17,977
6	340,805	9%	86,394	3.3%	982	11,362
7	390,019	9%	68,100	2.6%	977	14,349
8	233,630	7%	63,465	2.4%	917	14,456
9	144,672	5%	30,022	1.1%	878	29,249
10	152,976	4%	39,521	1.5%	3,521	89,093
Total	8,126,762	18%	1,656,238	6.2%	15,954	9,633

Source: author's estimations based on ENIGH (2006).

Table 4

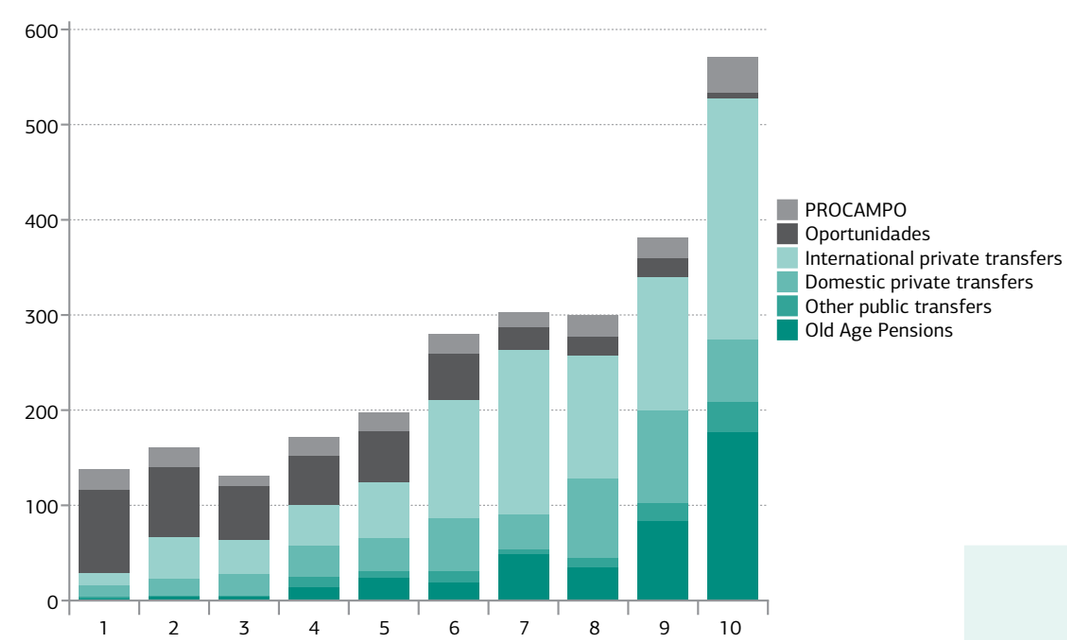
MONETARY AND NON-MONETARY (NM) INCOME SOURCES: RURAL AND URBAN HH: % OF TOTAL CURRENT INCOME (2006)

	Urban		Rural	
	HH	Income	HH	Income
Labor income	79%	52%	67%	41%
Independent income	38%	15%	53%	18%
Transfers	38%	9%	70%	18%
Presents (NM)	70%	8%	71%	11%
Implicit housing rent (NM)	80%	12%	95%	9%
Self-production/consumption (NM)	12%	0.7%	27%	1.8%
Payments in kind (NM)	18%	1.6%	6.6%	0.9%
Rent	6.0%	3.4%	3.2%	0.9%

Source: ENIGH 2006

Graph 12

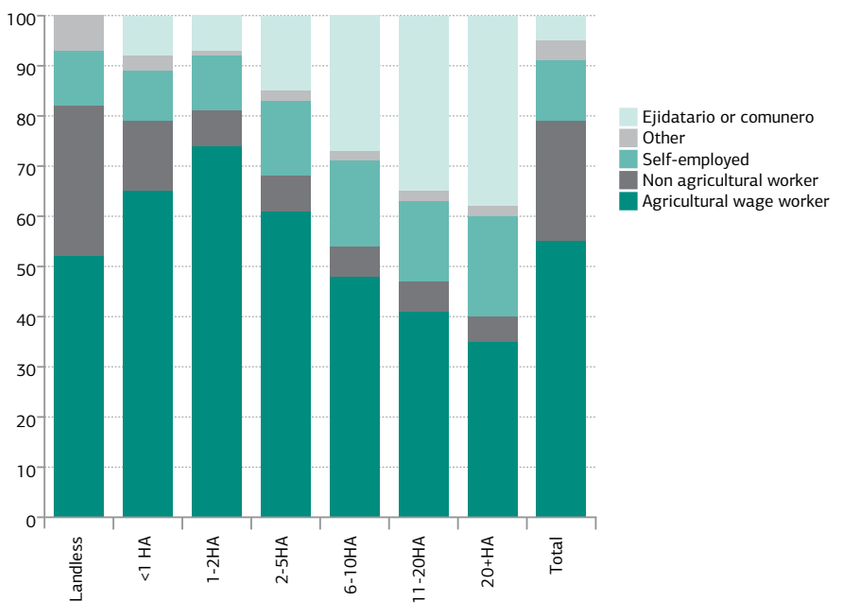
PUBLIC AND PRIVATE TRANSFERS PER CAPITA PER MONTH RECEIVED BY RURAL HOUSEHOLDS: 2006 (BY DECILE)



Source: author's calculations based on ENIGH 2006 (INEGI).

Graph 13

POSITION OF HOUSEHOLD HEAD IN MAIN OCCUPATION IN POOR RURAL LOCALITIES, BY SIZE OF LAND OWNED OR USED.



Source: author's calculations ENCASEH 2004 Oportunidades survey.

Table 5

HOUSEHOLD HEAD CHARACTERISTICS, HOUSEHOLD ASSETS AND LAND USE BY LAND OWNERSHIP OR USE (2004).

	Landless		<1 HA	1-2HA	2-5HA	6-10HA	11-20HA	20HA+
	Non Agricultural worker	Agricultural worker						
Households (#)	223,465	255,968	45,726	52,394	59,119	23,135	11,094	5,603
	33%	38%	7%	8%	9%	3%	2%	1%
Age (years)	38	39	43	45	52	58	58	56
Income from main job ($/ month)	2,547	2,219	1,792	1,748	1,846	2,004	2,107	2,274
Indigenous	6%	10%	31%	33%	17%	6%	6%	8%
Literacy	90%	84%	75%	74%	77%	82%	83%	82%
Post-basic education	41%	44%	41%	44%	38%	35%	35%	36%
No social security	78%	94%	74%	86%	78%	66%	64%	74%
Procampo	0%	1%	7%	19%	39%	47%	44%	42%
Oportunidades	50%	44%	46%	58%	56%	51%	35%	38%
Both	0%	0%	4%	11%	23%	28%	19%	16%
House owned	66%	69%	85%	89%	91%	94%	96%	96%
Dirt Floor	18%	31%	45%	50%	32%	15%	15%	20%
Rooms (#)	1.7	1.6	1.6	1.6	2.0	2.4	2.4	2.3
Electricity	93%	88%	83%	72%	78%	90%	89%	82%
Piped water in house	28%	24%	19%	17%	28%	43%	45%	41%
Fridge	54%	43%	28%	27%	47%	69%	74%	65%
Car or Truck	13%	10%	7%	8%	19%	33%	41%	41%
Tractor	0%	0%	0%	0%	1%	5%	9%	10%
Land characteristics								
Owned			78%	81%	88%	93%	94%	95%
Rented			5%	4%	3%	1%	1%	1%
Sharecroping			3%	2%	2%	2%	1%	1%
Borrowed			14%	12%	7%	3%	2%	2%
Irrigated			7%	5%	10%	16%	18%	10%
Agricultural use			67%	65%	68%	67%	63%	57%
Live stock use			1%	1%	2%	4%	11%	23%
Forestry use			0%	0%	0%	0%	1%	1%
Not used			32%	34%	30%	29%	25%	19%
Corn			63%	61%	55%	50%	44%	44%
Beans			12%	16%	19%	20%	17%	19%

5. GEOGRAPHIC DISTRIBUTION OF AGRICULTURAL SUBSIDIES

5.1 Distribution of agricultural public expenditures across states

The geographic analysis agricultural public expenditures (APE) is presented at the state level for most programs, but extended to the municipality level where information is available (*Procampo, Ingreso Objetivo*). In this case the distribution of APE is analyzed ordering states (and municipalities) by their rural poverty rates, using the official measures of *pobreza alimentaria* estimated by CONEVAL for 2005 (see graph 8 above), except for graph 14 which uses the multivariate CONAPO marginality index. The two state rankings are closely correlated.

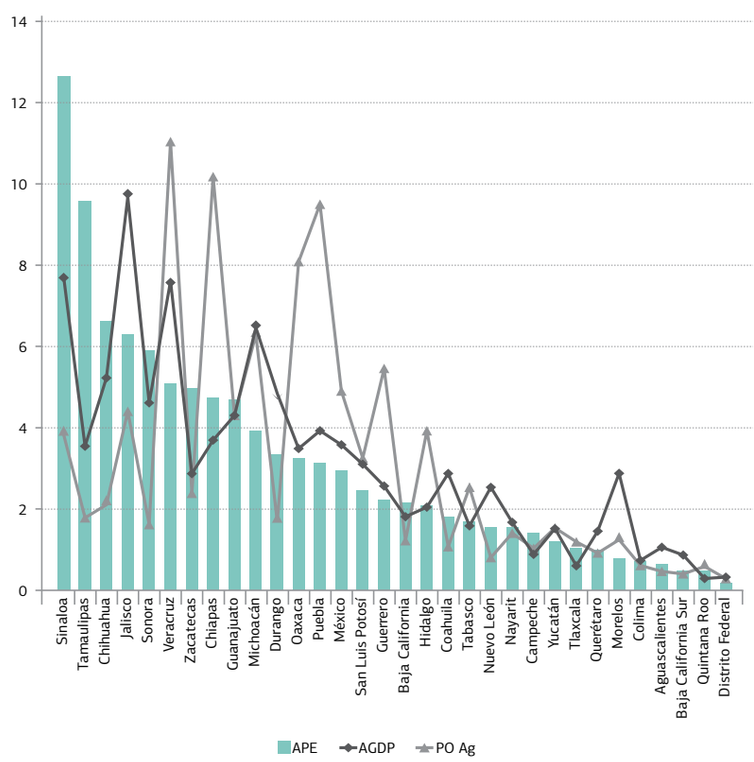
The division of labor between social and productive programs noted above (section 2) is illustrated clearly by the overall allocation of these programs at the state level. Graph 8 (section 4 above) compares the cumulative distribution of APE and of *Oportunidades*, the largest rural social program. This reveals that the distribution of APE follows closely the distribution agricultural GDP (AGDP), while the distribution of *Oportunidades* follows closely the distribution of extreme rural poverty.

The correlation of APE with agricultural economic activity is weaker if we consider agricultural employment (*PO Agr* in graph 14). As we have seen before, the largest beneficiaries, the richer agricultural states of Sinaloa, Tamaulipas, Chihuahua and Jalisco, account for a relatively small proportion of agricultural employment. By contrast, the poorer states of Veracruz, Chiapas, Oaxaca, Puebla and Guerrero, account for a large part of employment but receive a much smaller share of these resources.

The distribution of APE *per rural capita* for the principal programs is concentrated in the richer half of the poverty-ordered state distribution, with the highest benefits allocated to Tamaulipas, Sinaloa, Chihuahua, and Sonora (graph 15, using data presented in World Bank 2004). These four states are among the principal beneficiaries of Procampo (in per capita terms), reflecting their agricultural land assets, but their disproportionate participation in APE is also explained by *Apoyos*, *Diesel* and the electricity/water subsidies (Tarifa 9). At the other extreme of the state distribution, the poorest states obtain support mostly from Procampo and Alianza, but overall obtain barely a tenth of the support benefiting the former states (in rural per capita terms).

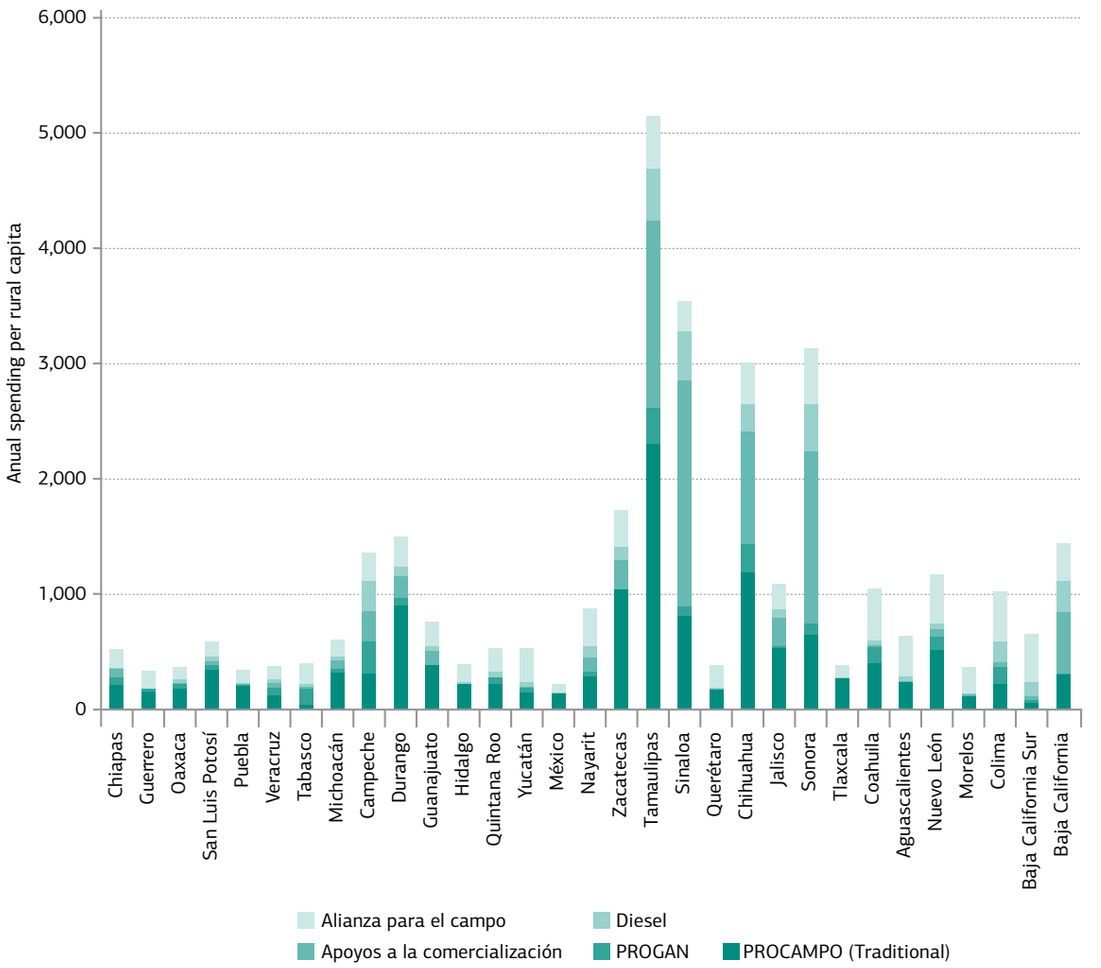
Graph 14

AGRICULTURAL PUBLIC EXPENDITURE (APE), AGRICULTURAL GDP (AGDP) AND AGRICULTURAL EMPLOYMENT (PO AGR)



Source: author's calculations based on Agricultural Census 1991 (INEGI).

Graph 15
ANNUAL SPENDING PER RURAL CAPITA (MP) BY PRINCIPAL APE PROGRAMS:
2006 (2002) (STATES ORDERED BY EXTREME POVERTY RATE)



Source: Oliver and Santillanes (2008

The electricity subsidy for agriculture is mostly used for water-pumping for irrigation in the northern states and represented 10,672 million pesos in 2008 (*Tercer Informe de Gobierno, 2009*). This is the most heavily subsidized use of electricity in Mexico, with price equal to just 28% of cost (vs. 90-100% in industry). In addition to its regressive allocation, which is a consequence of the distribution of hydrological resources in Mexico, this subsidy has contributed to a significant and unsustainable increase in the over-exploitation of aquifers in Mexico (Muñoz et al. 2005, Guevara et al. 2007, Kessler et al 2007).

Taking the broadest division between public goods, representing less than 10% of total agricultural public spending (see graph 17), and private transfers, it is notable that the former are even more regressively distributed than the latter, with per capita benefits rising significantly in the upper half of the state distribution.

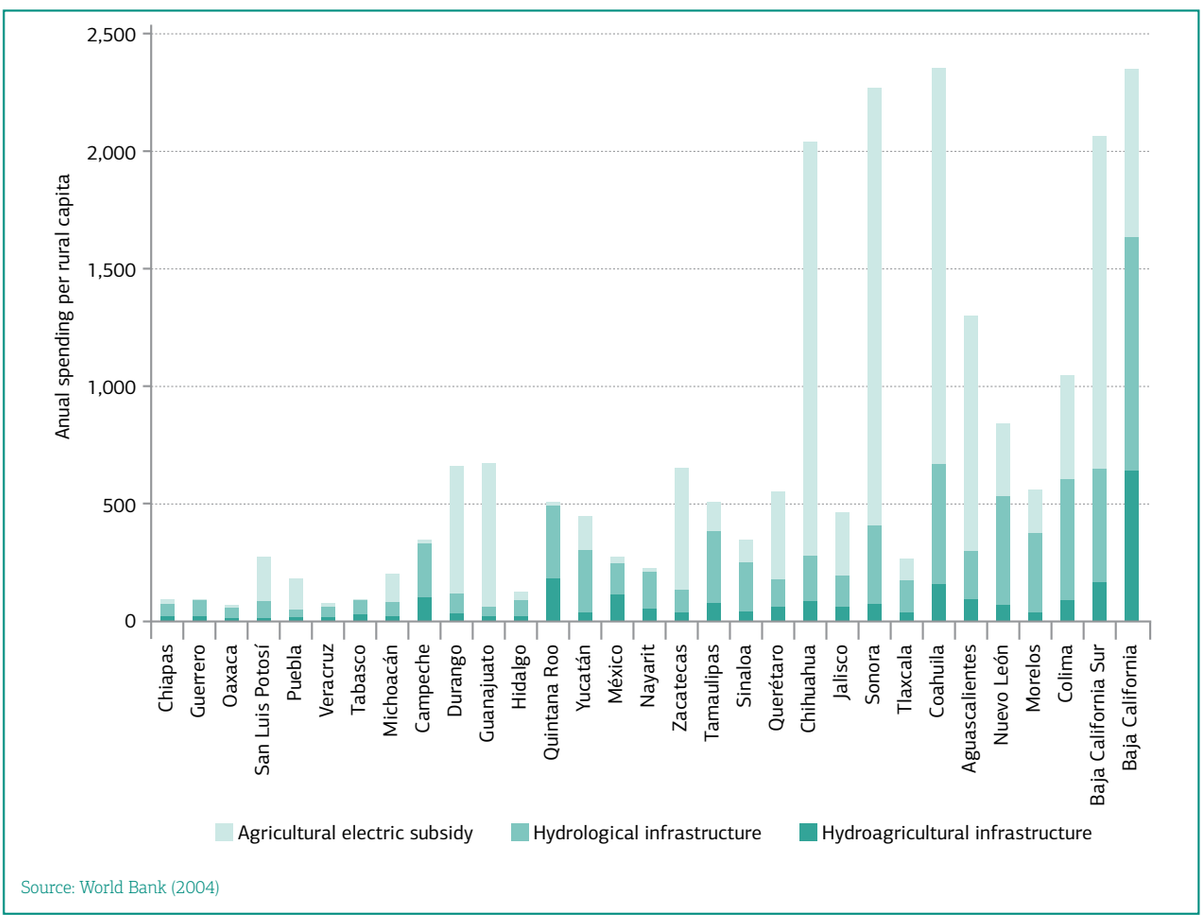
Considering the distribution of the three principal support programs, *Procampo, Alianza* and *Apoyos* (graph 18, the cumulative distribution of extreme poverty is included as a benchmark to judge the degree of progressivity of the programs), *Alianza* is the most progressive at the state level, with 28% of transfers going to the poorest five states, followed by Procampo, with 22%. The degree of progressivity has been slightly reduced for both programs between 2002 and 2006. *Apoyos* is highly concentrated in just four states, Sinaloa, Sonora, Tamaulipas en Chihuahua receiving 80% of its resources in 2002, with the poorest half of the states receiving just 5% of resources in 2002, and less than 10% in 2006.

Considering the case of Procampo in particular, we use the 1991 and 2007 Agricultural Census to evaluate coverage at the state level (graphs 20-22a), in the PV cycle. This analysis must be interpreted with some care, as producers may be counted more than once in the Procampo data base, which may explain the coverage rates above 100% in smaller states. With this caveat, the analysis reveals a large variations in coverage between states, from full coverage in Durango and Coahuila, to less than 15% in BCS and Tabasco.

Considering the case of maize and comparing from the beginning to the present of the program (graph 20a), the number of producers has increased some states, including Chiapas, Puebla and México, but the total number of producers has decreased slightly (2.68 million in 1991, 2.66 million in 2007), while cultivated land has increased from 7.3 to 8.1 million hectares. Procampo's coverage has decreased significantly in all states except Chihuahua, and Jalisco (in terms of land).

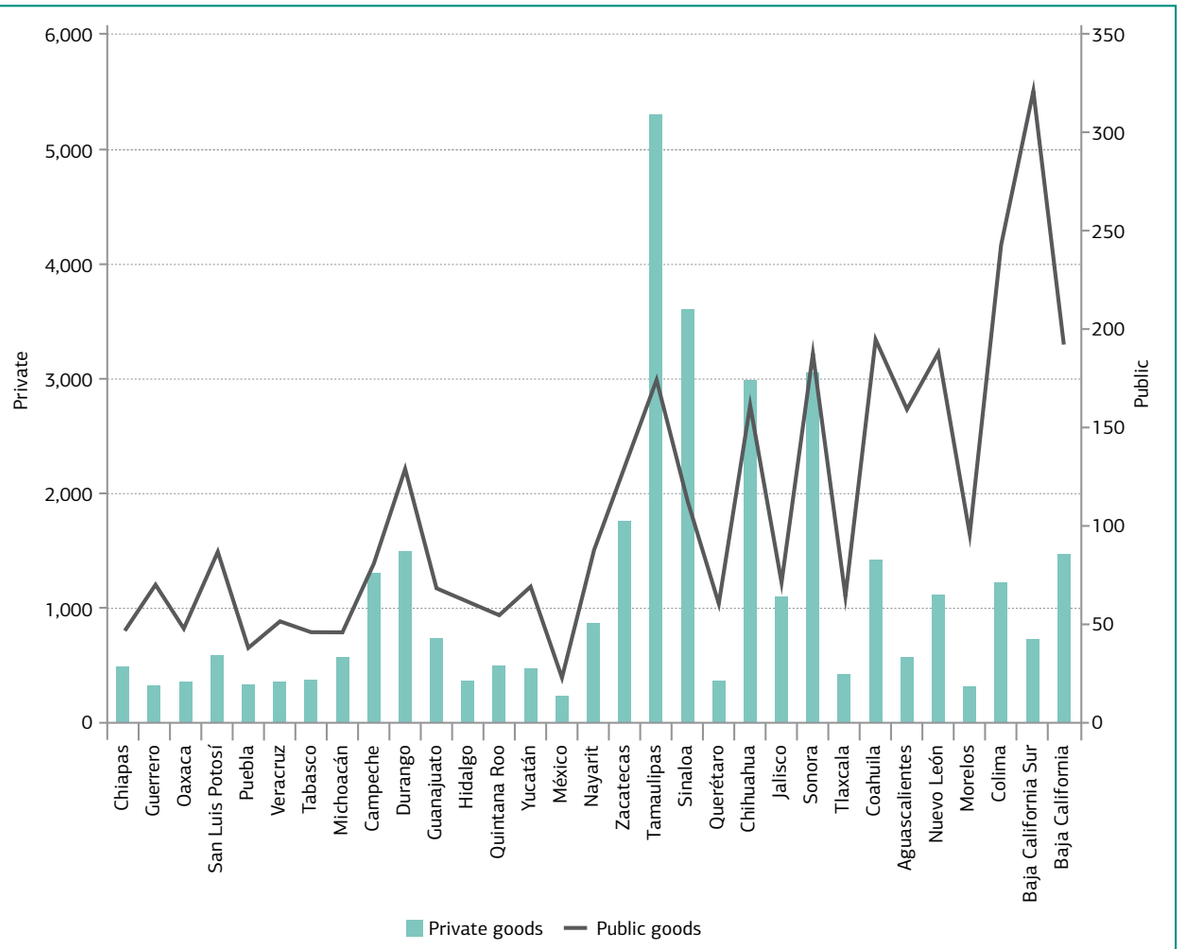
Procampo coverage is below 50% in the poorer states (Veracruz, Guerrero, Chiapas), and just above 50% in Oaxaca. Some of the large agricultural states have high coverage rates (Chihuahua, Jalisco), but this is not so for Tamaulipas and Sinaloa. There appears to be no clear relation with average size of land holdings (graph 21a).

Graph 16
IRRIGATION SUBSIDIES



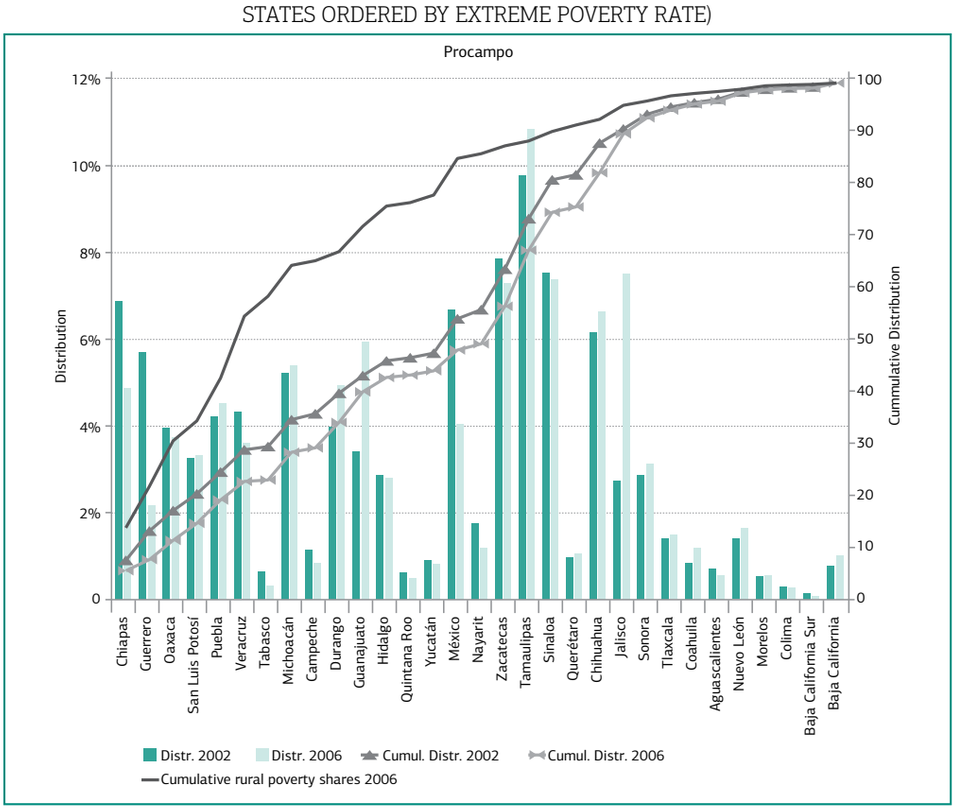
Source: World Bank (2004)

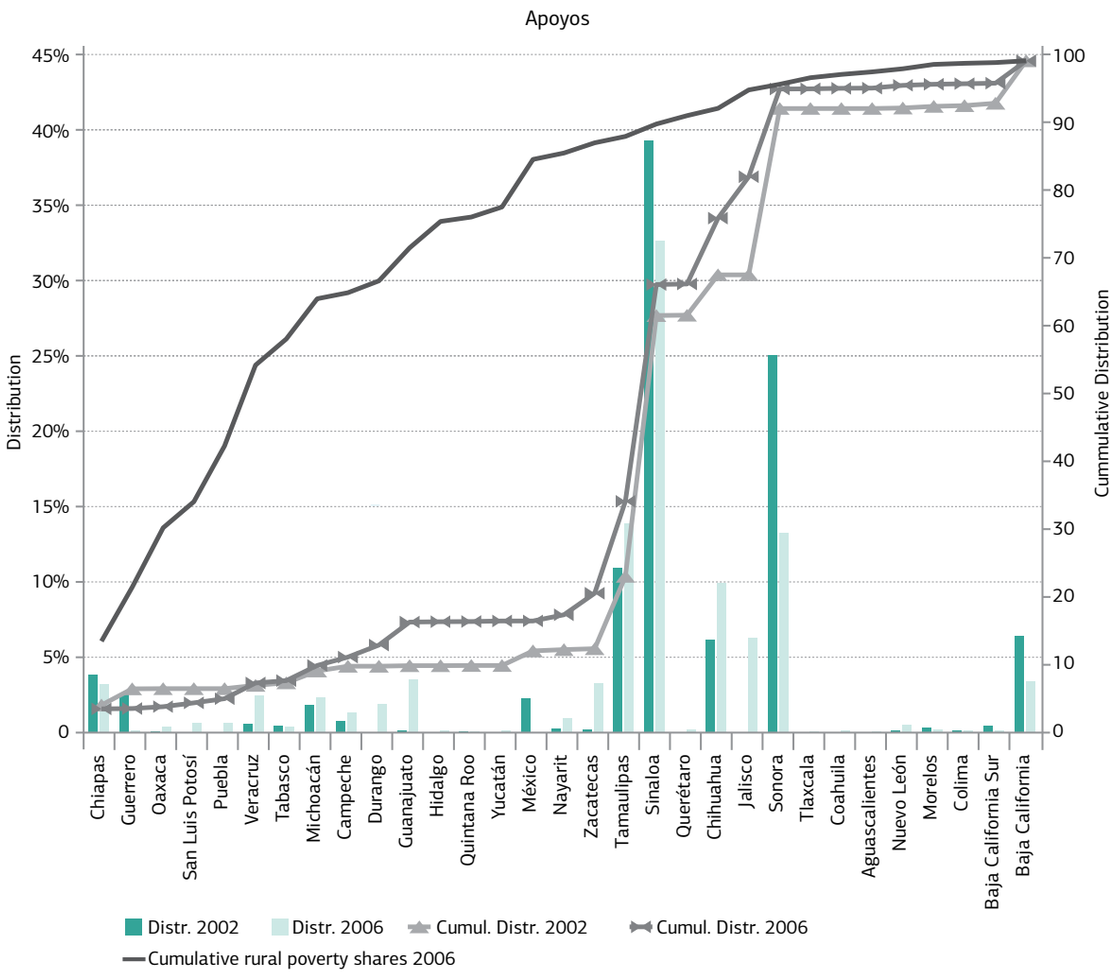
Graph 17
PUBLIC AND PRIVATE GOODS IN APE: 1996

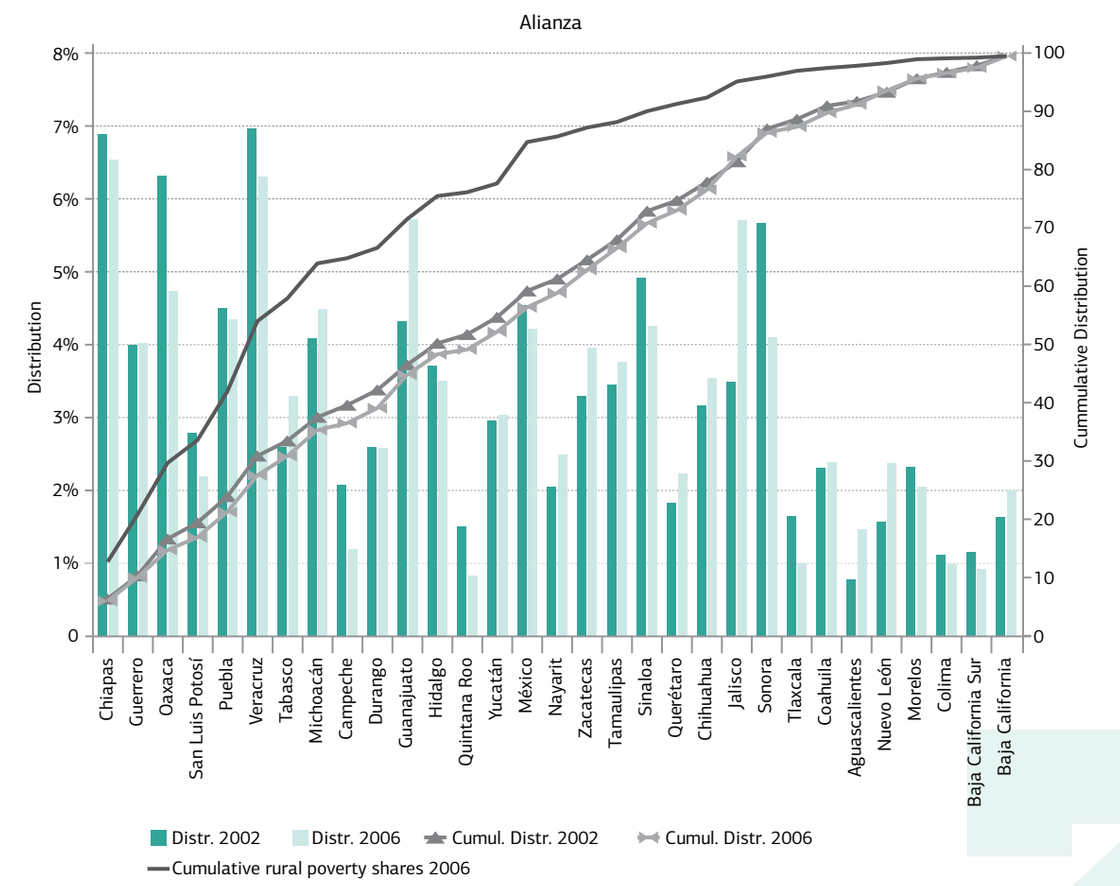


Source: author's elaboration using data from Oliver and Santillanes (2008).

Graphs 18a, b and c
DISTRIBUTION OF PROCAMPO, ALIANZA, APOYOS: 2002-2006
(PERCENTAGE SHARES AND CUMULATIVE OF NATIONAL TOTAL;
STATES ORDERED BY EXTREME POVERTY RATE)



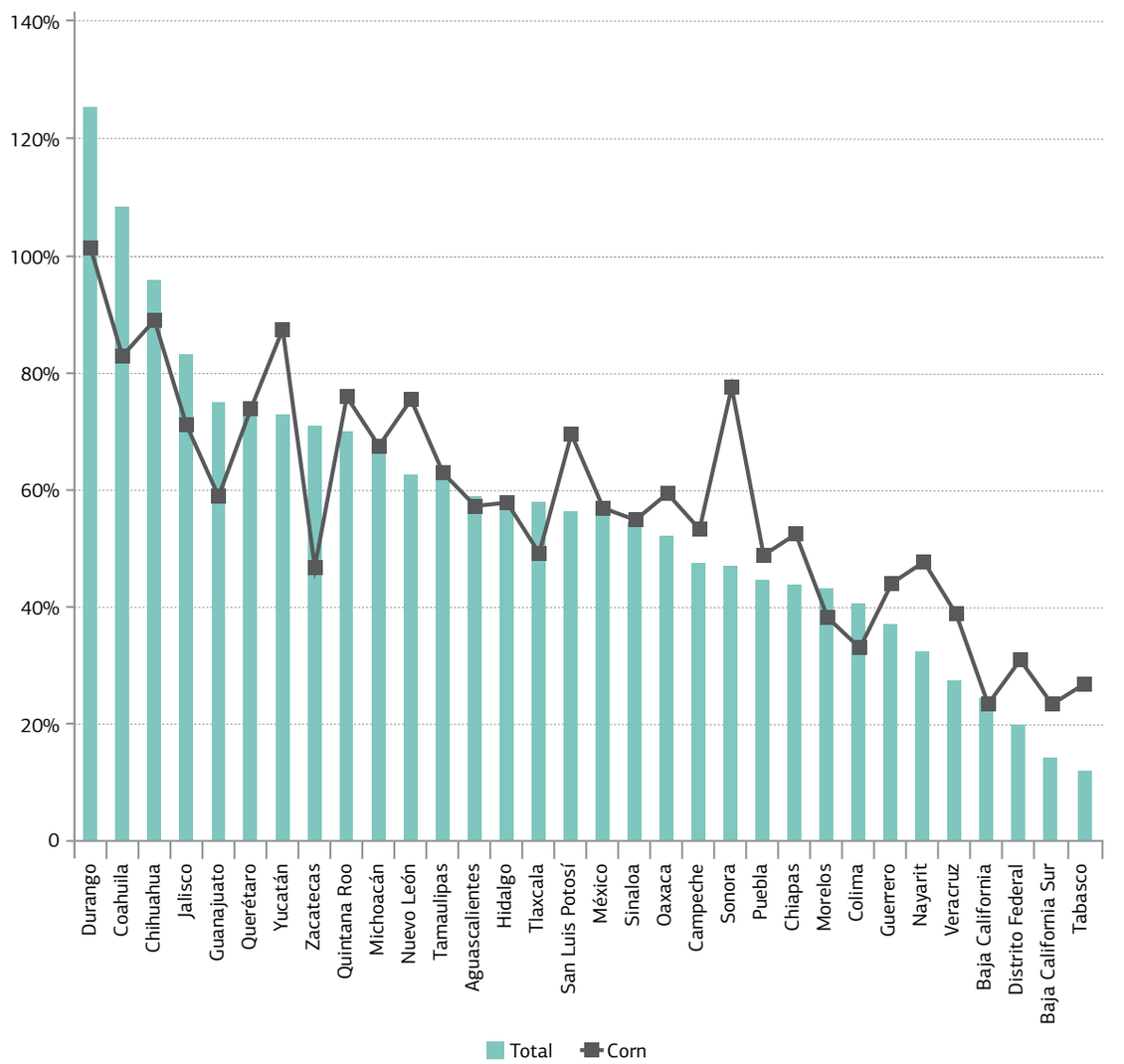




Source: author's elaboration using data from Oliver and Santillanes (2008); World Bank (2004).

Graph 19

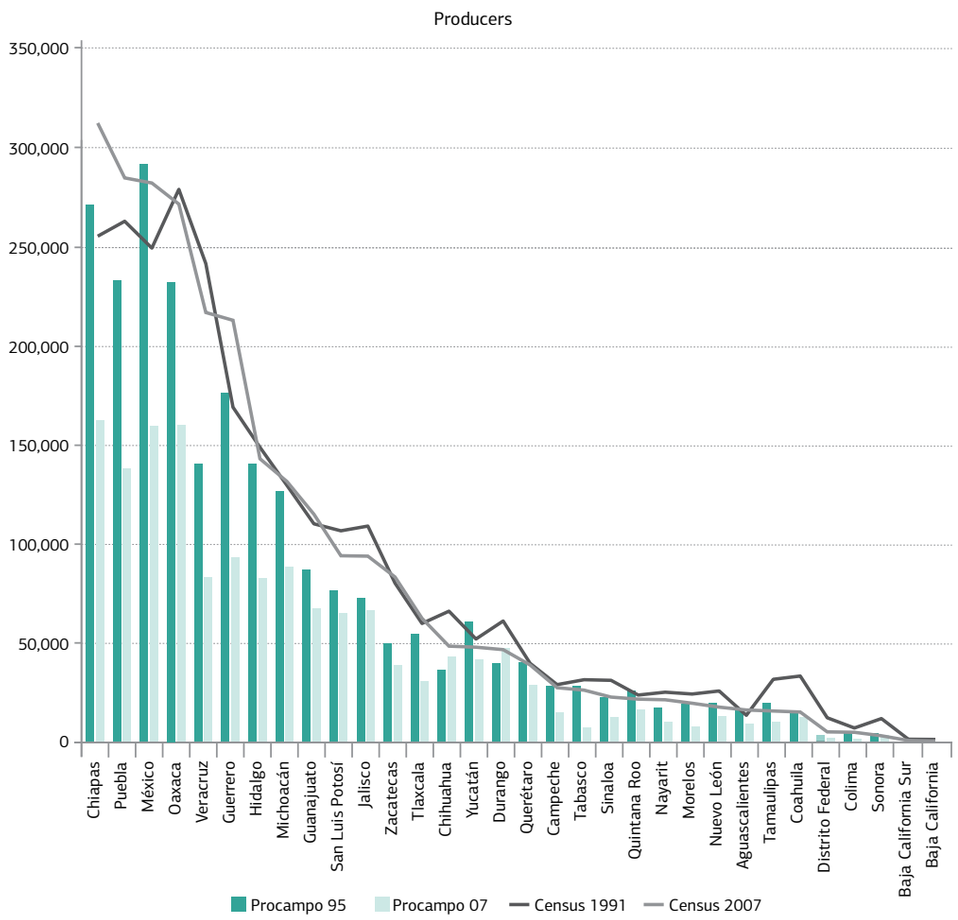
PROCAMPO COVERAGE OF ALL AND CORN PRODUCERS PV 2007
(BENEFICIARIES/PRODUCERS IN 2007 CENSUS)

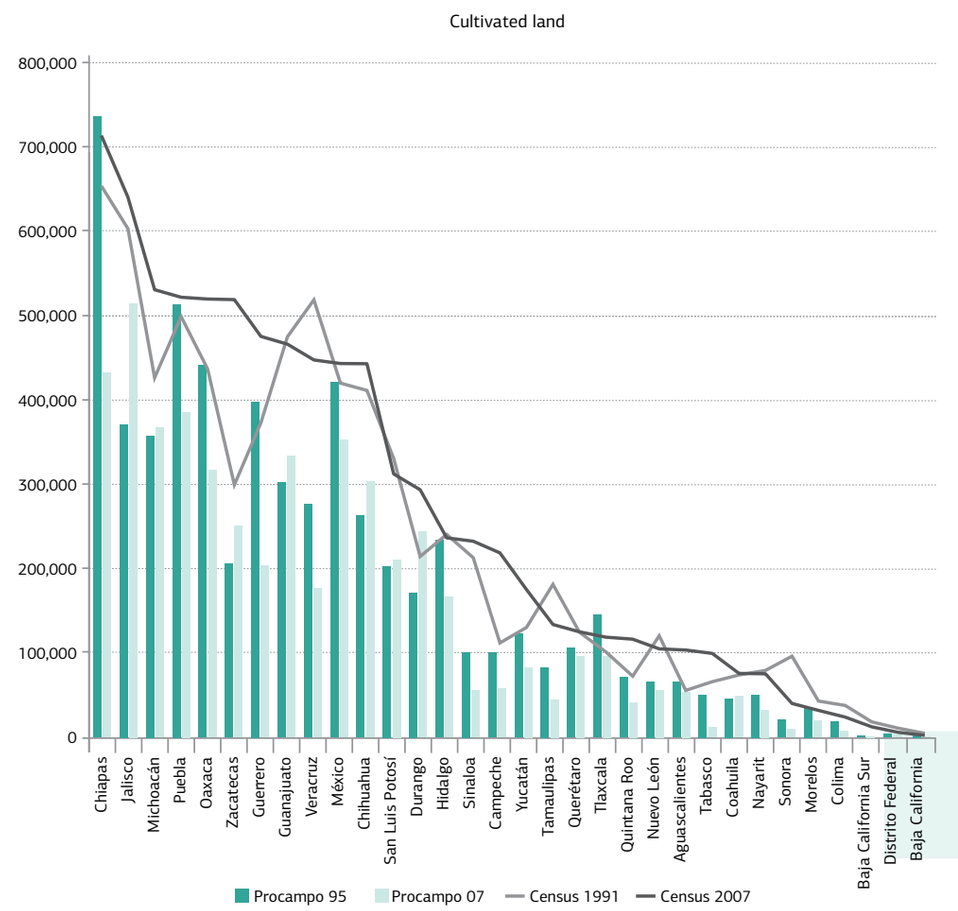


Source: author's calculations using ASERCA administrative data and 2007 Agricultural Census, INEGI.

Graph 20a and b

PROCAMPO COVERAGE OF CORN PRODUCERS AND LAND: PV 2007





Source: author's calculations using ASERCA administrative data.

5.2. Distribution of agricultural public expenditures across municipalities

We present an analysis of the distribution of transfers at the municipality level using administrative ASERCA data for *Procampo* and *Ingreso Objetivo* (the principal instrument of *Apoyos a la Comercialización*), and data on the municipal allocation of most of the other ARD programs included in PEC compiled by CEDRSSA (2009). Municipalities are ordered by acute rural poverty rates (pobreza alimentaria) estimated by CONEVAL.

Both *Procampo* and *Ingreso Objetivo* are regressively distributed, but the latter extremely so, with high per capita payments for a small fraction of municipalities, and no payments for most of the rest (graph 22a). In comparison, the Procampo benefits are densely distributed throughout. The poorest 50% of municipalities receive 40% of Procampo transfers, but less than 6% of Ingreso Objetivo, and in the latter case these resources are concentrated in a few municipalities so the great majority of the poorest half of municipalities (and all those in the poorest third) receive no transfers from *Ingreso Objetivo* at all.

The CEDRSSA (2009) data base allows for the first time an analysis of the distribution of a majority of the PEC programs, representing the bulk of federal ARD spending implemented in Mexico today. The data is for 2007 and covers 59 PEC programs with a combined budget of $104 billion pesos, representing close to 60% of PEC.

We analyze this data by ordering municipalities by rural poverty rates, partitioning municipality sets thus ordered to obtain rural population deciles, so that each decile represents 10% of the rural population (not 10% of municipalities). Excluding some small programs and redundancies, graph 23 presents the distributions of 32 individual programs, and graph 24 presents the distribution of the programs grouped according to the principal functional categories.

Two important caveats in interpreting the following results must be mentioned. First, the quality of the data may vary significantly between programs, as they originate in administrative records. Secondly, the analysis ignores intra-municipal inequalities so the results may differ from the analysis based on individual producer or household data presented below (section 6).

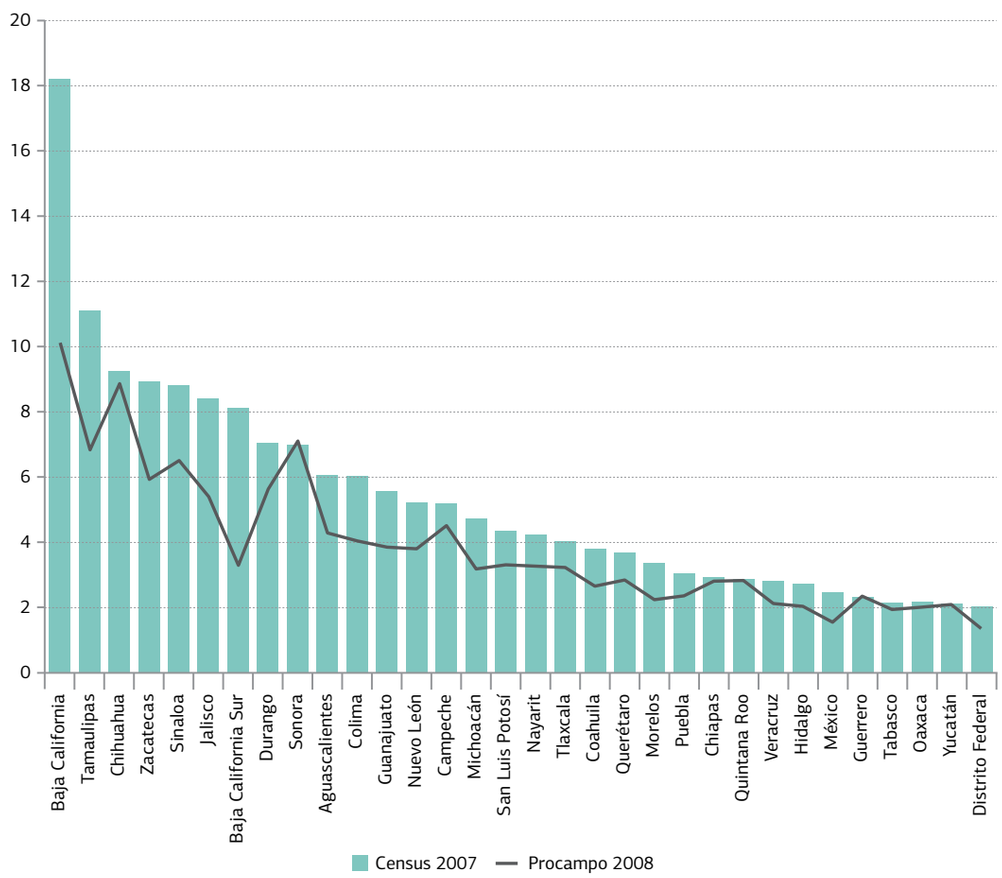
Considering the programs individually, we find a wide range between the most progressive, *Infraestructura Básica Indígena*, with more than 90% allocated to the poorest 40%, and the most regressive, with 90% of resources allocated to the richest 40%. As expected, Sedesol programs dominate among the more progressive, but we also find here indigenous (CDI), water (CAN), and transport (SCT) programs, as well as federalized funds (FAIIS) and *Procampo Capitaliza*. The regressive end is dominated by Sagarpa Apoyos and Alianza programs, as well as financing programs (FIRA, Financiera Rural), FORTAMUN, and Procampo Tradicional. The contrast between Procampo Tradicional and Capitaliza is surprising and requires further investigation.

The distribution by functional categories (graph 24) confirms these results: social and infrastructure spending are progressive overall, environmental programs are broadly neutral, while financial and "competitiveness" programs (as these are classified in the PEC), are highly regressive. There is an interesting contrast between the two federalized municipal funds (Ramo 33): the FISM, allocated in part through a poverty-based formula, is progressive, while FORTAMUN is regressive. The overall distribution of all the PEC programs analyzed here is broadly neutral.[13]

13 See additional data in the full working paper version of this study.

Graph 21a

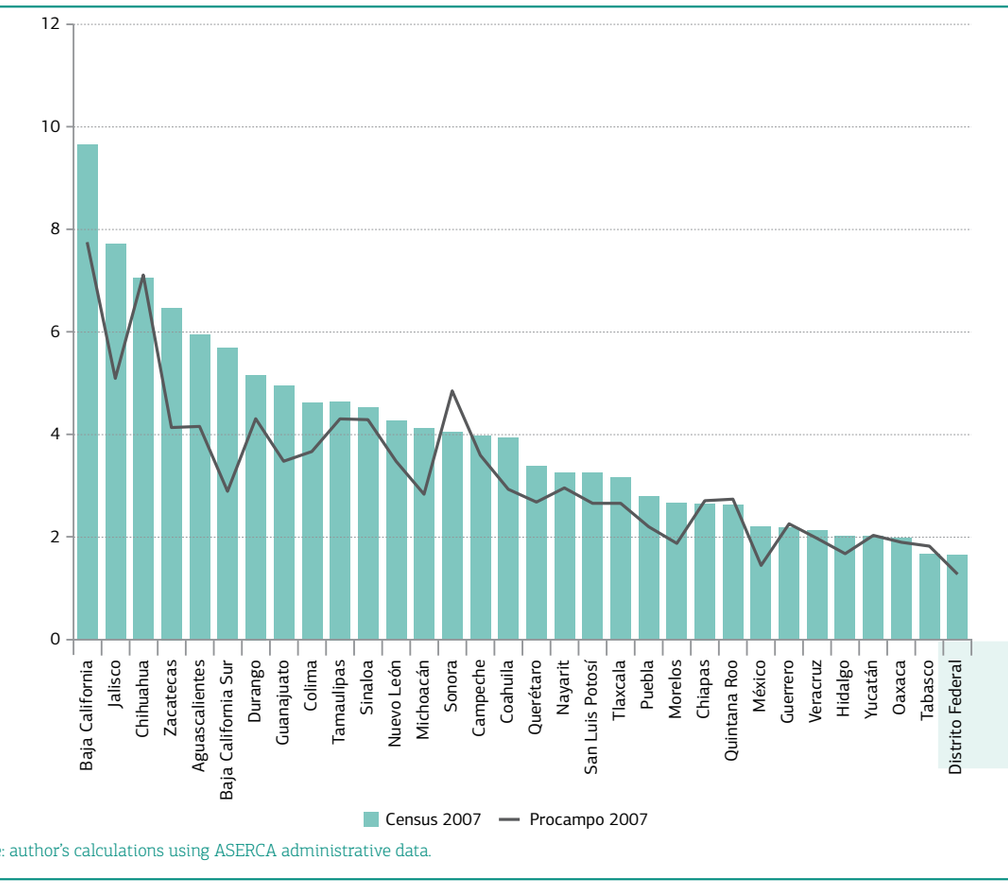
AVERAGE SIZE OF LAND HOLDINGS: CENSUS AND PROCAMPO



Source: author's calculations using ASERCA administrative data.

Graph 21b

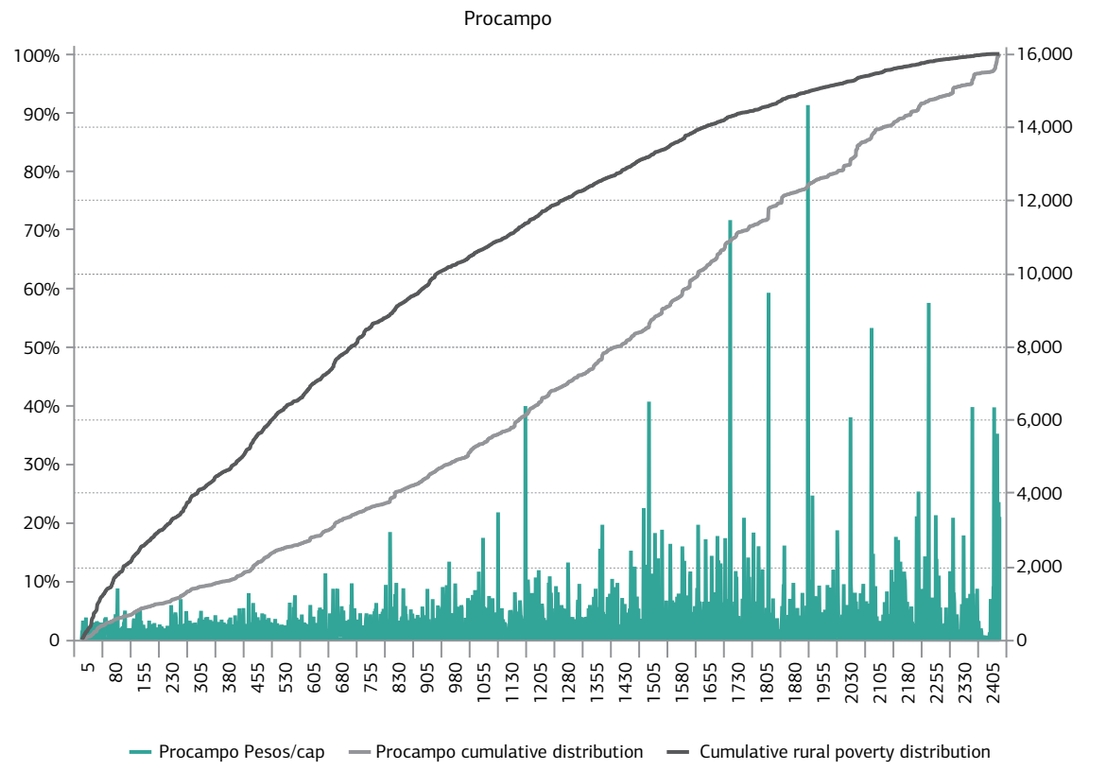
AVERAGE SIZE OF LANDHOLDINGS: CENSUS AND PROCAMPO (CORN PRODUCERS)

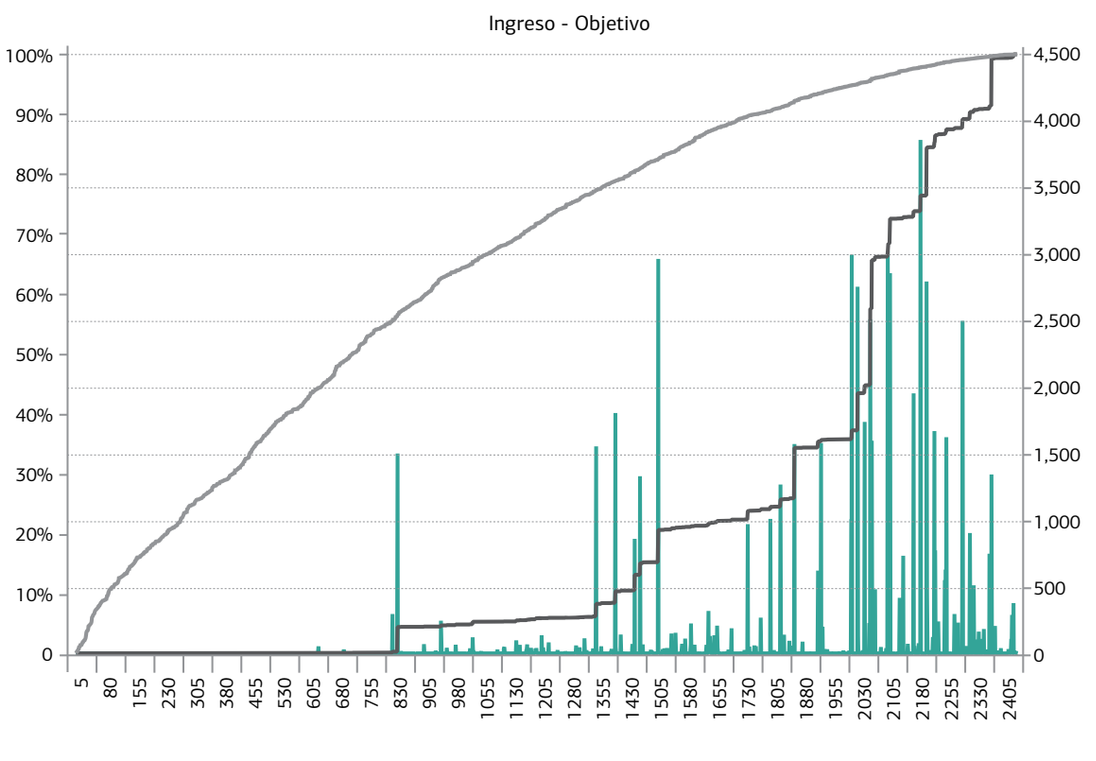


Source: author's calculations using ASERCA administrative data.

Graphs 22a and b

PROCAMPO AND INGRESO OBJETIVO TRANSFERS IN OI-2005 & PV-2006 BY MUNICIPALITIES ORDERED BY RURAL EXTREME POVERTY RATE (POBREZA ALIMENTARIA)

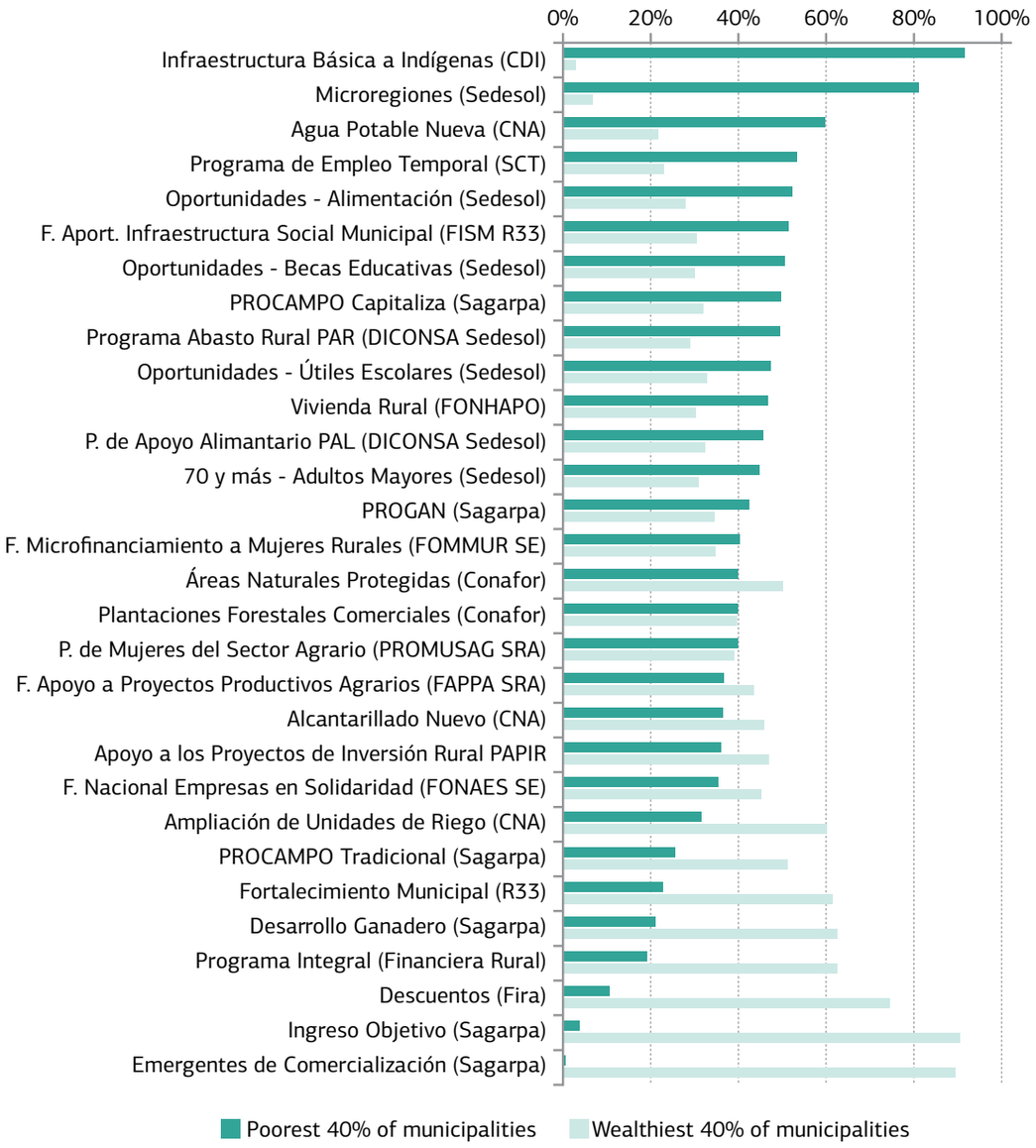




Source: ASERCA administrative data bases; CONEVAL municipal poverty measures.

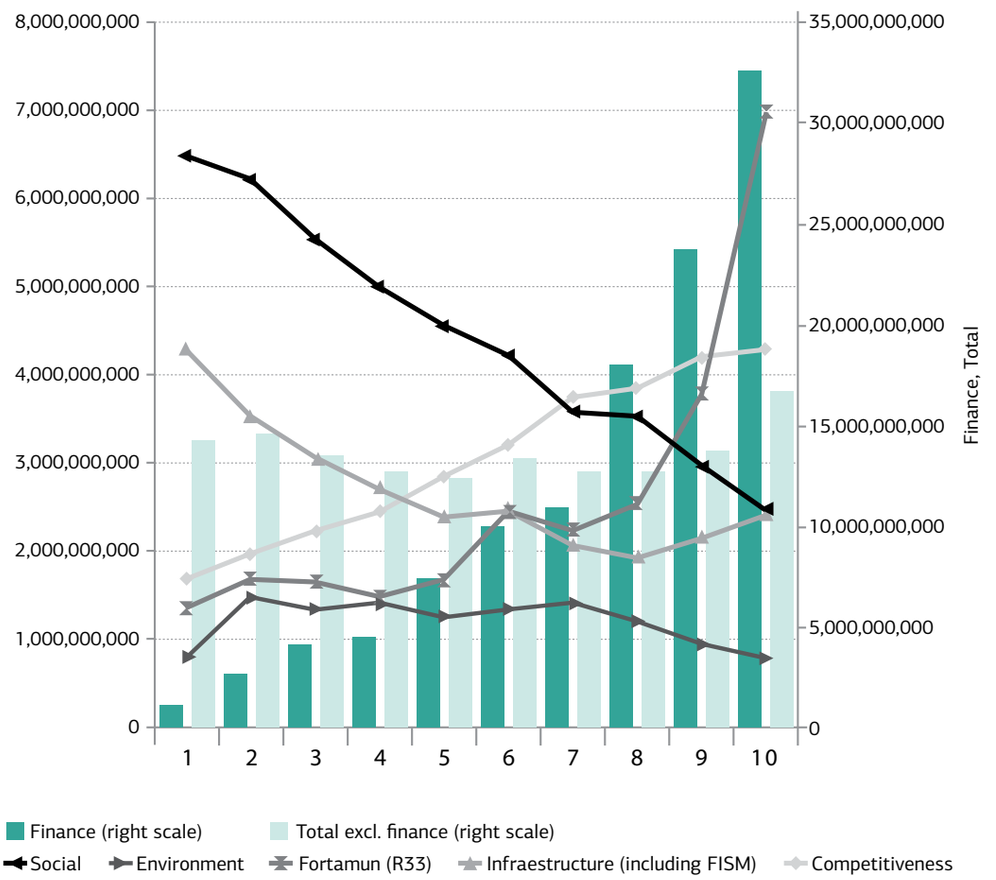
Graph 23

DISTRIBUTION OF RURAL DEVELOPMENT AND AGRICULTURAL PROGRAMS BASED ON POPULATION DECILES DERIVED FROM MUNICIPAL LEVEL DATA, ORDERED BY MUNICIPAL RURAL EXTREME POVERTY RATE (ALIMENTARIA)



Source: Author's calculation using data from CEDRSSA (2009).

Graph 24
DISTRIBUTION BY BROAD FUNCTIONAL GROUPS OF RURAL DEVELOPMENT AND AGRICULTURAL PROGRAMS BASED ON POPULATION DECILES DERIVED FROM MUNICIPAL LEVEL DATA, ORDERED BY MUNICIPAL RURAL EXTREME POVERTY RATE



Source: Author's calculation using data from CEDRSSA (2009).

5.3. Effects of farm subsidies on growth, productivity, employment and migration

The geographic concentration of APE in Mexico constitutes a unique natural experiment to test the impact of APE on agricultural growth. This analysis is of some policy relevance because the noted strategic allocation of agricultural subsidies to the largest agricultural states (see graphs 8, 15) is motivated on two assumptions: a) that the overall impact of APE is maximized by concentrating resources in the most productive states, and b) that the most productive states are the big northern agricultural states, accounting for the largest shares in national AGDP.

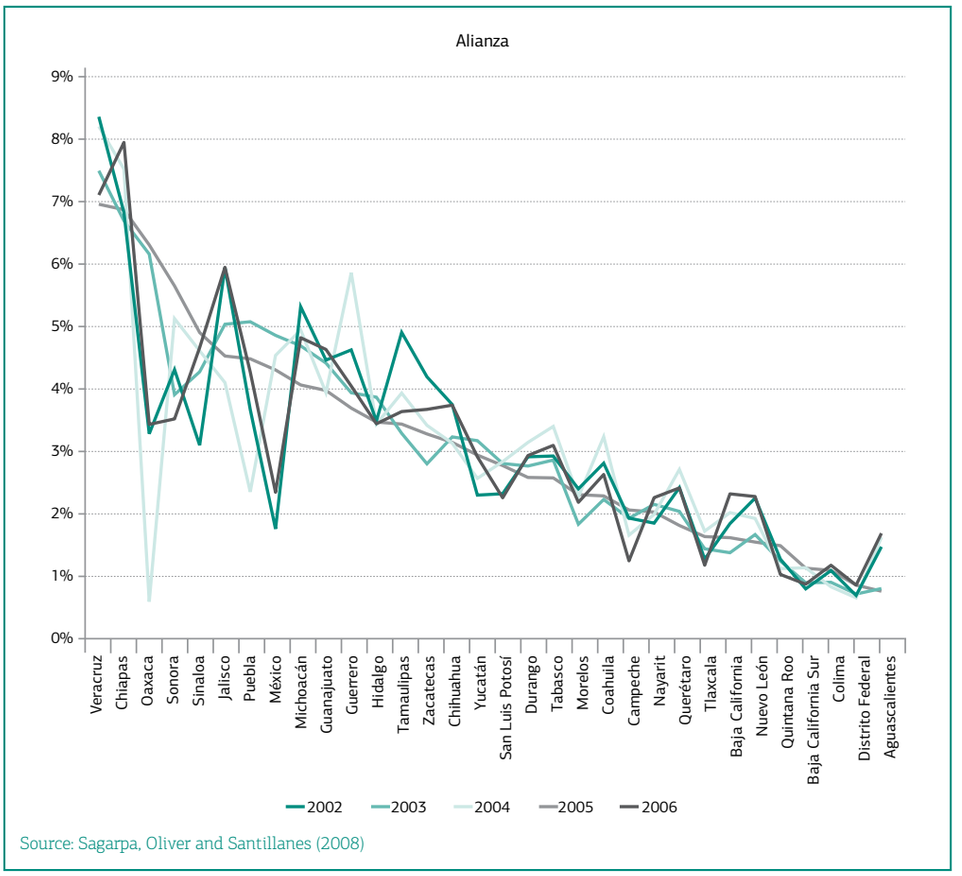
Though consistent data on the evolution of all APE at the state level is limited, what is available suggests that there is much historical inertia and little inter-temporal variation in the distribution of federal resources between states. This is obviously true in the case of Procampo, which established its historical entitlements in 1993 and has undergone only marginal changes in its rules since then, but also appears to be the case of the other mayor programs (graph 25). We therefore use the 2006 distribution of APE as an approximation to the distribution of APE over the last decade.

As documented above (graph 15), the distribution of APE is closely correlated with the distribution of AGDP. The largest recipients (Sinaloa, Tamaulipas, Chihuahua) are favored disproportionately even in relation to the size of their AGDP. The agricultural sector in the main beneficiary states might thus be expected to perform better than the rest. Graphs 27, 28 present annual growth rates for AGDP (1994-2004) and for land and labor productivity (2000-2004). As with the international data, there is no apparent correlation between APE and growth in AGDP. If anything, the relationship appears to be negative: except for Zacatecas, the states with growth levels significantly above the national average (Mexico, Durango, Queretaro, Nuevo Leon, Jalisco, Aguascalientes, BCS) are all in the lower half of the APE/GDP distribution (>10%), while the three top recipients of APE had below-average growth.

Labor and land productivity also appear to be uncorrelated with APE (graph 27). The four states with the highest APE/AGDP rates present the lowest land productivities among all states except two. On the other hand, productivity growth is roughly U-shaped: it is positive for some of the states with largest shares of APE, negative for most states in the middle and again positive for the states with the smallest APE shares.

Graphs 25a, b and C

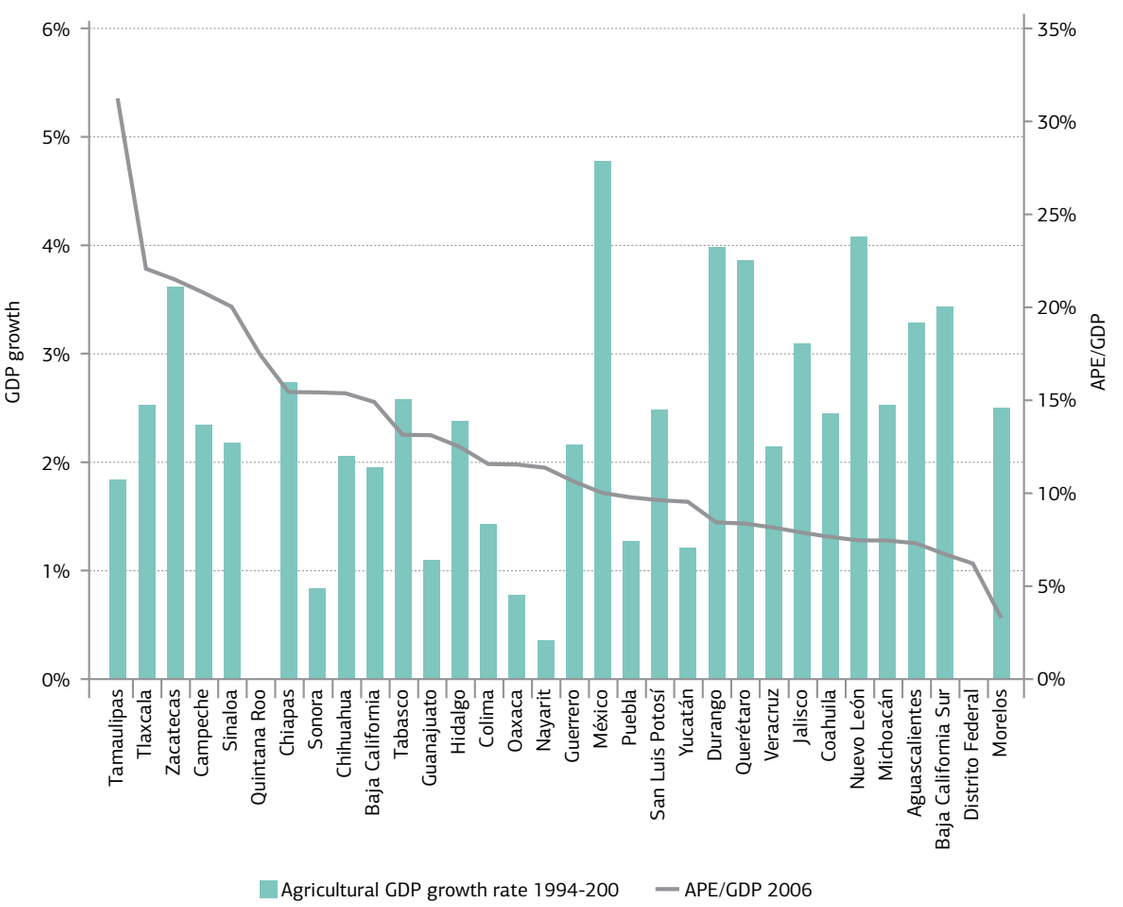
PERCENTAGE SHARE OF STATES IN PROCAMPO, APOYOS, AND ALIANZA TRANSFERS: 1995-2007 (ORDERED BY EARLIEST YEAR AVAILABLE)



Source: Sagarpa, Oliver and Santillanes (2008)

Graph 26

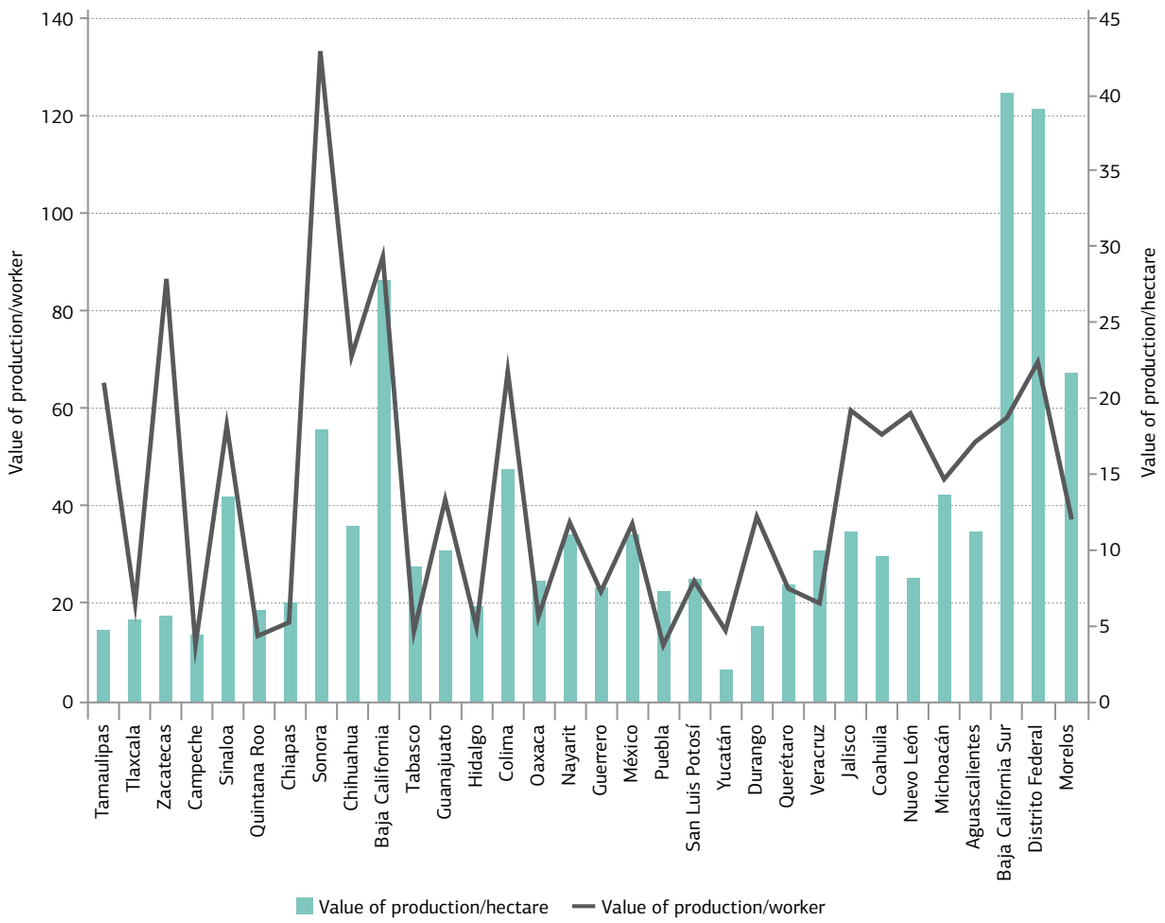
APE (% AGDP) AND AVERAGE YEARLY AGDP GROWTH RATES:
1994-2004 (STATES ORDERED BY APE/AGDP)

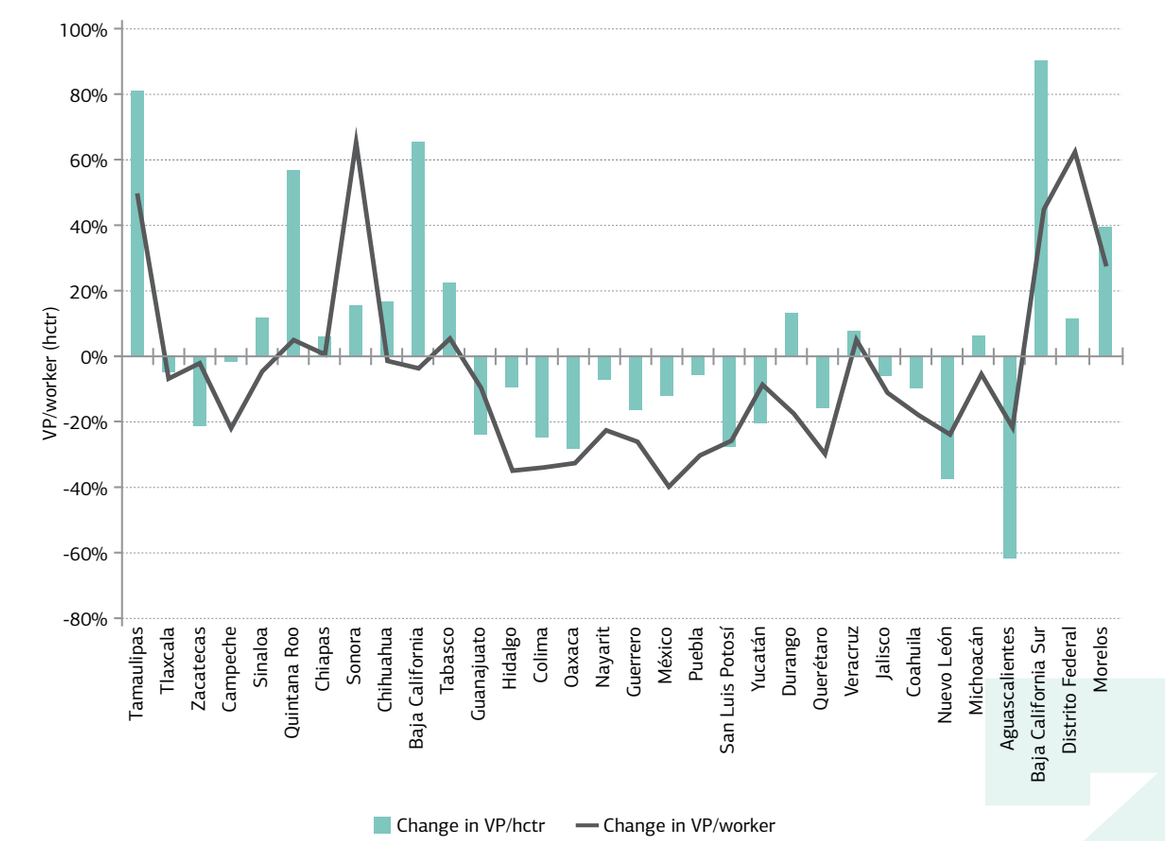


Source: authors calculations using data from SIAP (SAGARPA) and Oliver and Santillanes (2008).

Graphs 27a and b

AVERAGE VALUE OF PRODUCTION PER WORKER AND HECTARE (2000-2004, THOUSAND MP 2004) AND PERCENTAGE CHANGE IN LABOR AND LAND PRODUCTIVITY (2000-2004, %): STATES ORDERED BY APE/AGDP





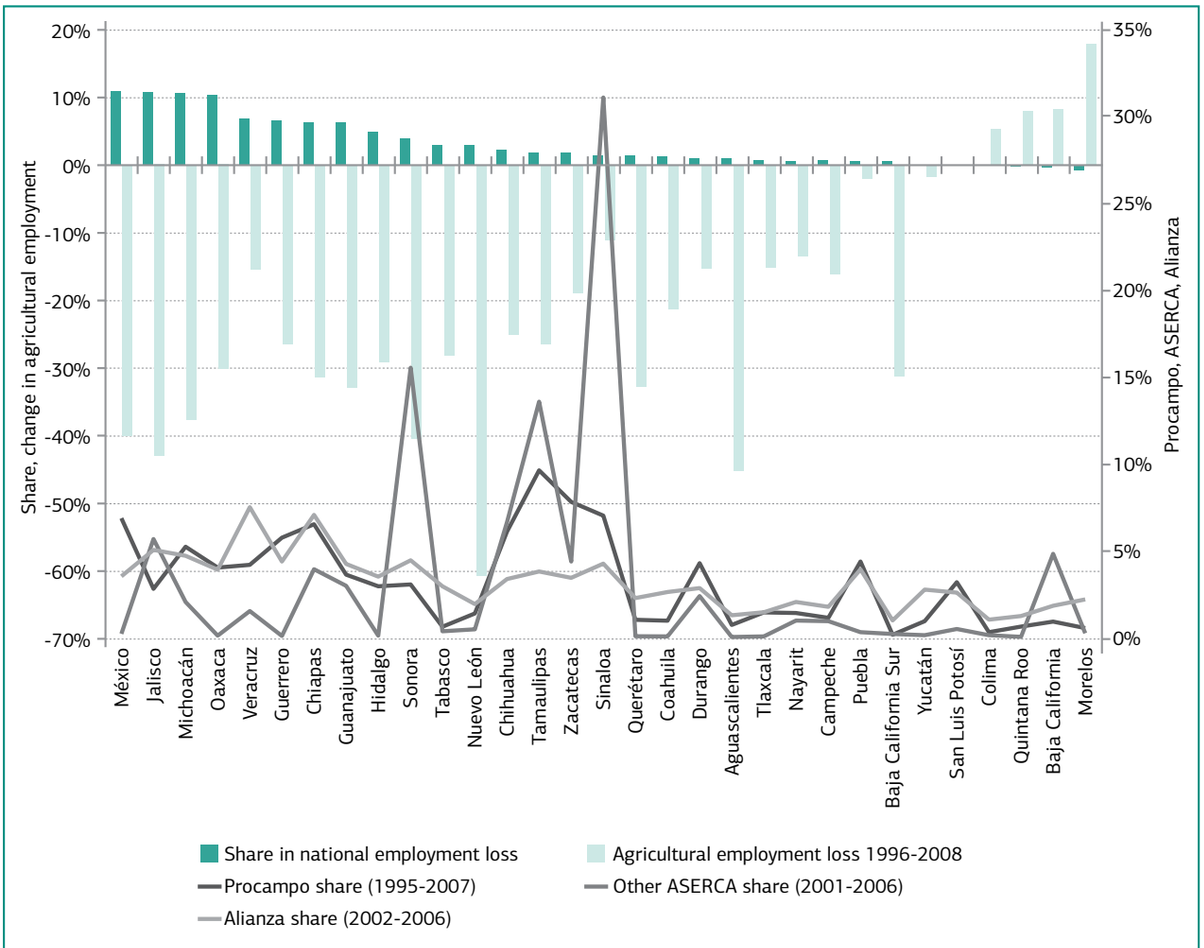
Source: authors calculations using data from SIAP (SAGARPA).

Finally, graph 28 compares the distribution of employment loss in agriculture over the last decade (1996-2008) with the distribution of the principal support programs, ordering states by their share in the total employment loss over the period. Again, we observe a negative correlation: the states with the steepest agricultural employment losses receive on average more support.

These results may seem counterintuitive, but can be explained by several factors. First, APE and infrastructural investments have been concentrated historically in the largest and most developed agricultural states, where additional growth potential and productivity gains may thus be smaller than in the less developed states where public investment has been scarcer. Secondly, as noted before, a large proportion of agricultural subsidies is directed at large-scale and capital-intensive maize and other grain production, with limited direct employment potential. Finally, the results may also reflect a limited productive impact of most agricultural subsidies at the farm level. Many of these subsidies represent compensatory transfers rather than productivity-increasing investments, and for the latter impact evaluations are available for any of these programs.

Finally, to obtain a preliminary sense of the correlation between Procampo transfers and migration decisions, we compare the distribution of *Procampo* beneficiaries at the municipality level with various census-based migration measures, including households receiving remittances (2000), households with migrants (2000), international migrants in 1995 and 2000, and the change in migrants between these two years (graph 35). This reveals a weak relationship between the distribution of Procampo and migration at the municipal level, at least in the case of poorer municipalities, as Procampo *beneficiaries* (in contrast to its transfers) are concentrated disproportionately in the poorer municipalities, while migrants come disproportionately from municipalities with lower poverty levels. This is consistent with the results of a careful econometric analysis on this issue in a companion paper to the present study (Cuecuecha and Scott 2010).

Graph 28
AGRICULTURAL EMPLOYMENT AND AGRICULTURAL SUBSIDIES



Source: author's calculations based on data from ENOE and Oliver and Santillanes (2008).

BOX 7:
DOES PROCAMPO LIMIT MIGRATION TO THE US?

Alfredo Cuechuecha and John Scott (CIDE)

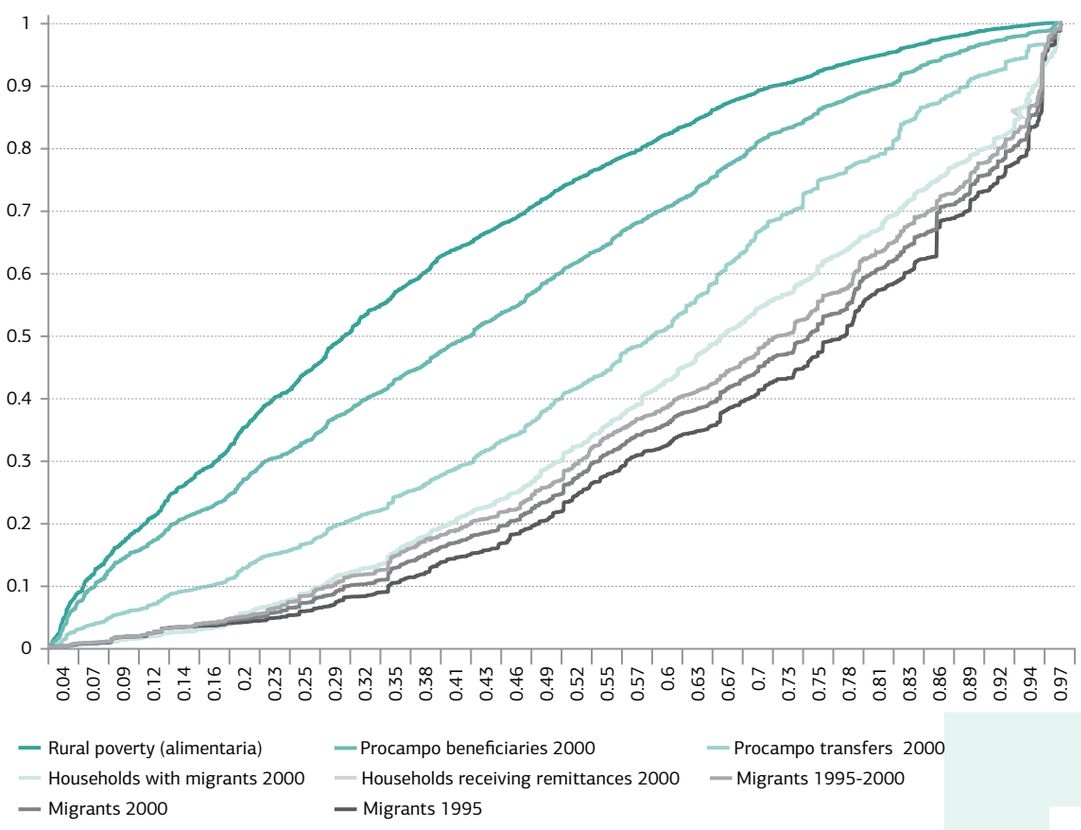
While rural citizens' decisions to leave the countryside are influenced by many factors, the availability of agricultural employment is certainly one of them. In principle, farm subsidies that are large enough to make agricultural production by small and medium-sized farmers economically viable should have the effect of discouraging migration, not only by the producers themselves, but also by those who they might employ locally. Research strategies included both analysis of the impact on local labor markets (at the municipal level), as well as household and individual level impacts, based on National Employment Survey 2005-2006 data (ENOE).

The study of local labor market impacts found that the increase in migration levels was highest where Procampo payments were lowest. At higher levels of Procampo payments, in contrast, there is a positive relationship with increases in municipal migration levels, which suggests the need for additional research. The study of individual and household responses allows for greater precision, and the econometric analysis focused on the effect of each additional peso of Procampo payments on migration flows at the family level (while holding many relevant variables constant). This analysis found that Procampo payments were associated with statistically significant, though modest reductions in migration levels. Procampo was also associated with retaining employment in the corn and bean sectors, and negatively associated with employment in fruits and vegetables.

Note: This box summaries the extensive findings presented in Alfredo Cuecuecha and John Scott, "The effect of agricultural subsidies on migration and agricultural employment," Woodrow Wilson Center, Mexico Institute, *Rural Development Research Report,* No. 3., January, 2010

Graph 29

MUNICIPAL PROCAMPO AND MIGRATION CONCENTRATION CURVES: 1995-2000



Source: author's calculations using ASERCA administrative data, CONEVAL municipal poverty measures, and 1995 Conteo and 2000 Censo de Población y Vivienda (INEGI).

6. DISTRIBUTION OF AGRICULTURAL AND RURAL DEVELOPMENT PROGRAMS AMONG HOUSEHOLDS AND PRODUCERS

In this section the distribution of benefits is analyzed at the level of individual producers and households. The availability of household and producer data bases reporting both agricultural support programs and a relevant measure of household/producer wellbeing or wealth is limited. This study uses three kinds of data sources, which are complementary but not strictly comparable: a) national household surveys including coverage of ARD programs (ENIGH 2006 and 2008, and ENIGH-Modulo Social 2006), b) evaluation surveys for specific programs (Alianza, Oportunidades), and c) administrative data of the programs (Procampo, Ingreso Objetivo). The national household surveys have the important advantages of being nationally representative and including high-quality data on income and other measures of welfare, but their sample size is not designed to capture specific transfer programs accurately, especially when these have limited coverage or concentrate a large share of their benefits in a relatively small proportion households. The other two sources are designed to capture the program beneficiaries and transfers accurately, but are not nationally representative and generally contain limited or no income data. The analysis obtained from the three sources must therefore be interpreted carefully and complementarily.

The distribution of benefits is analyzed using two different ordering criteria corresponding to the alternative data sources. In the case of administrative data, producers are ordered by land holdings, which is the only proxy of wealth/welfare available in this data. In the case of the national household surveys, benefits received are analyzed by population deciles ordered by total current income per capita.

Data Sources	
Data Source	Program
ENIGH 2006, 2008	Procampo, Oportunidades
ENIGH-Modulo Social 2006	Social and rural development programs
Oportunidades recertification and identification data base (ENCASEH 2004)	Oportunidades, Procampo
ASERCA beneficiary data base (2005, 2006)	Procampo, Ingreso Objetivo
Alianza evaluation data base – Evalianza (2005, 2006), FAO-Sagarpa	Alianza para el Campo

The household and producer data available allows coverage of the principal ARD programs, including the principal agricultural support programs (Procampo, Ingreso Objetivo, and Alianza), as well as the principal rural social programs, including *Oportunidades*, Adultos Mayores *70 y más*, and *Programa de Empleo Temporal*. We also estimate the distribution of hydro-agricultural and agricultural electricity subsidies (Tarifa 9) using the distribution of irrigated land as a (rough) proxy. The agricultural support programs covered in this incidence analysis represent approximately 75% of total APE in Mexico.

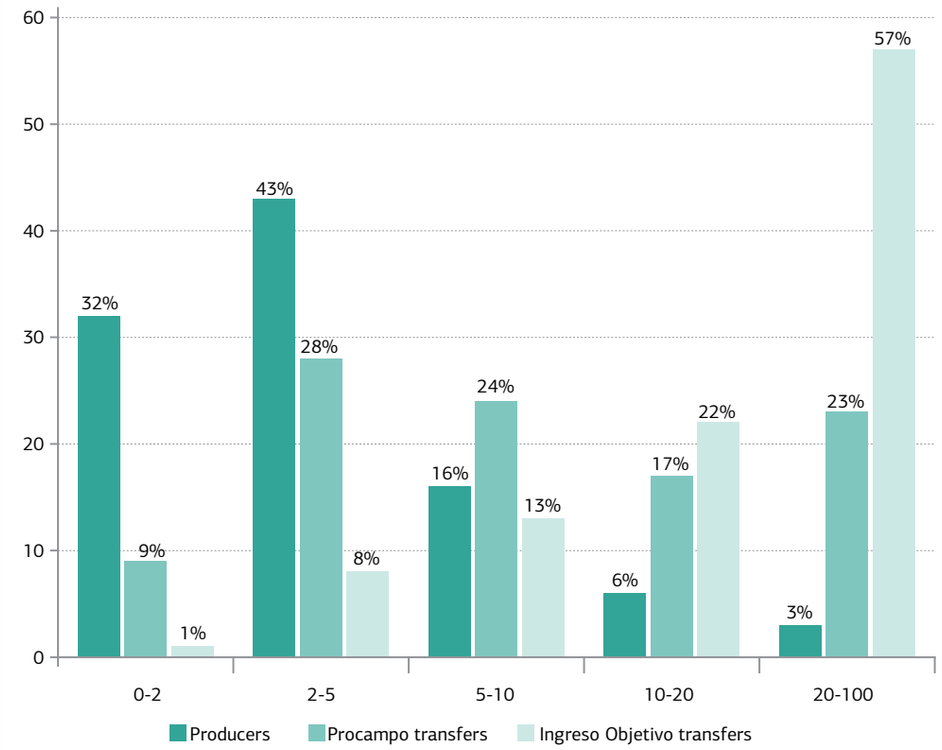
6.1 Resource distribution patterns among producers, by decile, ordered by land-holdings

Before analyzing the distribution of agricultural subsidies by producer deciles (ranked by land-holdings), we consider the distribution of producers grouped by average size of land-holdings. Using administrative data, producers with less than 5 has represent 75% of Procampo´s beneficiaries, but receive 37% of the program's transfers, reflecting their share in covered land (graph 30). Producers with 5-20 has represent 22% of beneficiaries and receive 41% of the benefits, while producers with more than 20 has represent 3% of the beneficiaries and obtain 23% of the transfers.

Is all the regressivity of Procampo explained by the distribution of land in Mexico, or is the program's coverage of producers also biased against smaller producers? Comparison between the Procampo data and the 2007 Agricultural Census in the aggregate suggest no such bias, neither at the state level (see graph 21a) nor at the national level (graph 5, above): coverage is highest among small 0-5 (66%) and medium (63%) producers. However, the evidence from poor rural localities presents a somewhat different picture (graph 31), with coverage declining with land size, to just 19% for 1-2 has and 7% for less than 1 ha. This issue requires further investigation. One possible explanation for the difference between the two sources might be that the Census might under-report smaller producer units.

Graph 30

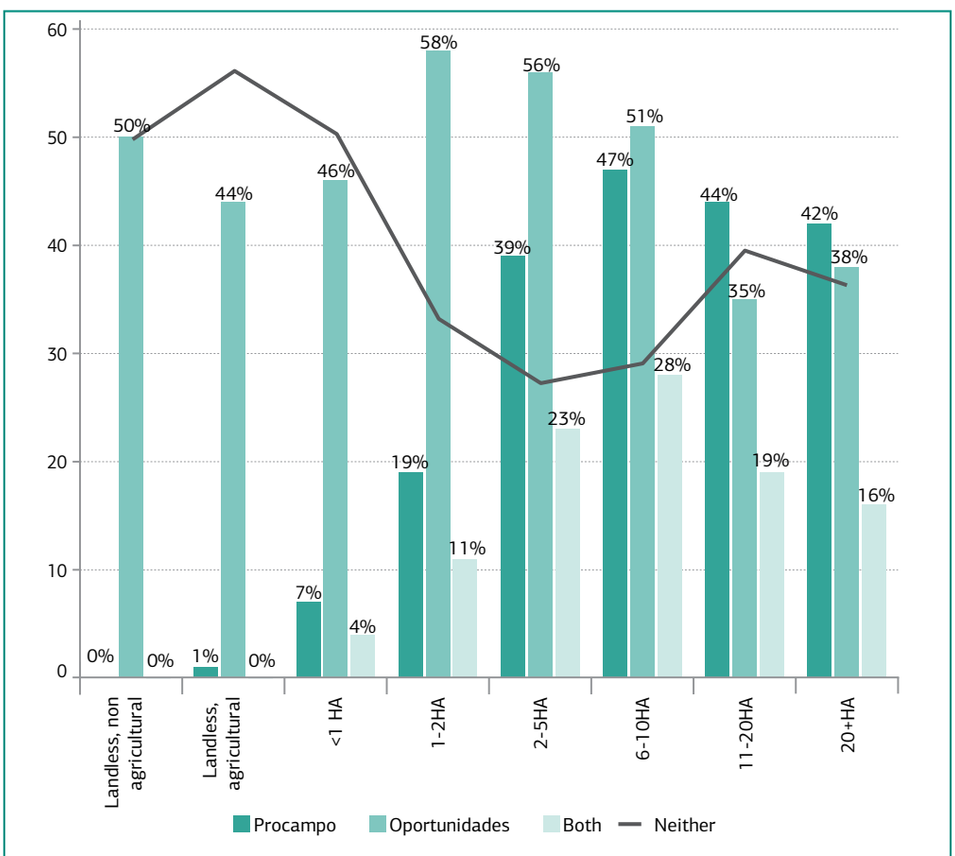
DISTRIBUTION OF PRODUCERS AND TRANSFERS FROM PROCAMPO AND INGRESO OBJETIVO BETWEEN PROCAMPO BENEFICIARIES (2006)



Source: author's calculations using ASERCA administrative data.

Graph 31

COVERAGE OF OPORTUNIDADES AND PROCAMPO AMONG HOUSEHOLDS IN POOR RURAL LOCALITIES, BY SIZE OF LAND OWNED OR USED (2004).



Source: author's calculations ENCASEH 2004 Oportunidades survey.

This data also allows us to contrast the coverage of Procampo and Oportunidades. As expected, Oportunidades coverage is relatively high throughout in these poor rural localities, but it is significantly higher for household with 1-5 has (58%), than among landless agricultural workers and households with less than 1 ha. (44% and 46%, respectively). It is also remarkable that in the poorest group in terms of land as well as income (see table 5 above), those under 1 ha., only 4% of households have *both* programs, while 50% have *neither*.

Despite its level of concentration, Procampo is by far the most pro-poor among the three principal agricultural programs. Barely 9% of the benefits from *Ingreso Objetivo* reach the smaller 75% of producers, while the top 3% of producers absorb 60% of the program's transfers.

More surprisingly, using individual producer data *Alianza* also appears to be significantly more regressive than Procampo, despite the comparatively progressive distribution documented above at the state level (graph 18). *Alianza* includes a broad set of farm investment programs financed through matching grants by both federal and state governments. These are classified into three principal groups, the *Programa de Desarrollo Rural* (PDR), the *Programa de Fomento Agrícola*, and the *Programa de Fomento Ganadero*. In contrast to the latter two, which have no explicit equity objectives, the rules of PDR explicitly target low-income producers. These require that at least 70% of its resources be allocated to Very High or High marginality localities (as defined by CONAPO's marginality index). However, the Alianza evaluation data reveal a failure to comply with these criteria: in 2004 only 32% of the expenditures associated with PDR were spent in these localities – less than 2% in Very High marginality localities.

In the context of a recent evaluation of the program, FAO (2005) used a survey and typology of beneficiaries based on socioeconomic and productive variables to evaluate the distribution of PDR benefits.[14] The FAO study found that 78% of PDR beneficiaries were of Types I and II, in contrast to 54% of total *Alianza* beneficiaries, and on this basis concluded that the PDR "is targeted to low income producers" (p 3). Unfortunately, however, this conclusion does not survive a careful analysis of the FAO data. First, the evaluation survey is representative of Alianza beneficiaries only, so their "low income" position is defined relative to this set of beneficiaries, not the rural populations at large. Secondly, the asset-based typology used in the FAO evaluations is not well suited to identify poorer producers even within this set (see table in footnote and graph below). To address the latter problem table 6 presents basic characteristics and transfers received by producer quintiles ordered by schooling level, using the *Evalianza* data. This simple alternative ordering brings out the extreme differences between the lower and upper groups: from 1 to 14 years of schooling, and from 7.5 (1) to 114 (10.5) rainfed (irrigated) Has. The two lowest strata, representing 40% of the beneficiaries, receive only 35% of PDR transfers.

To address the first problem, World Bank (2006, fig. 3.24) uses a rural household survey (ENHRUM 2002) to place these types within the national rural distribution. As shown in graph 33, this implies that almost 73% of PRD transfers are concentrated in the richest quintile of the rural population by Evalianza's asset index (Types II-IV, representing 22% of the population), while 35% of PRD beneficiaries and 45% of all Alianza beneficiaries are concentrated in the richest 2% of the rural population.

Table 6

CHARACTERISTICS AND TRANSFERS TO ALIANZA BENEFICIARIES:
BENEFICIARY QUINTILES ORDERED BY SCHOOLING (EVALIANZA 2005)

		1	2	3	4	5
Age		58	53	48	43	42
Schooling		1.1	4.1	6.0	8.4	14.1
Land	Rainfed	7.5	12.8	19.1	30.4	114.3
	Irrigated	1.0	1.6	1.3	3.3	10.5
Distribution of transfers	Total	13%	18%	17%	23%	30%
	Rural dev	16%	19%	21%	25%	20%
	Agriculture	13%	20%	14%	20%	33%
	Livestock	8%	11%	17%	24%	40%

Source: author's calculations using Evalianza 2005 data.

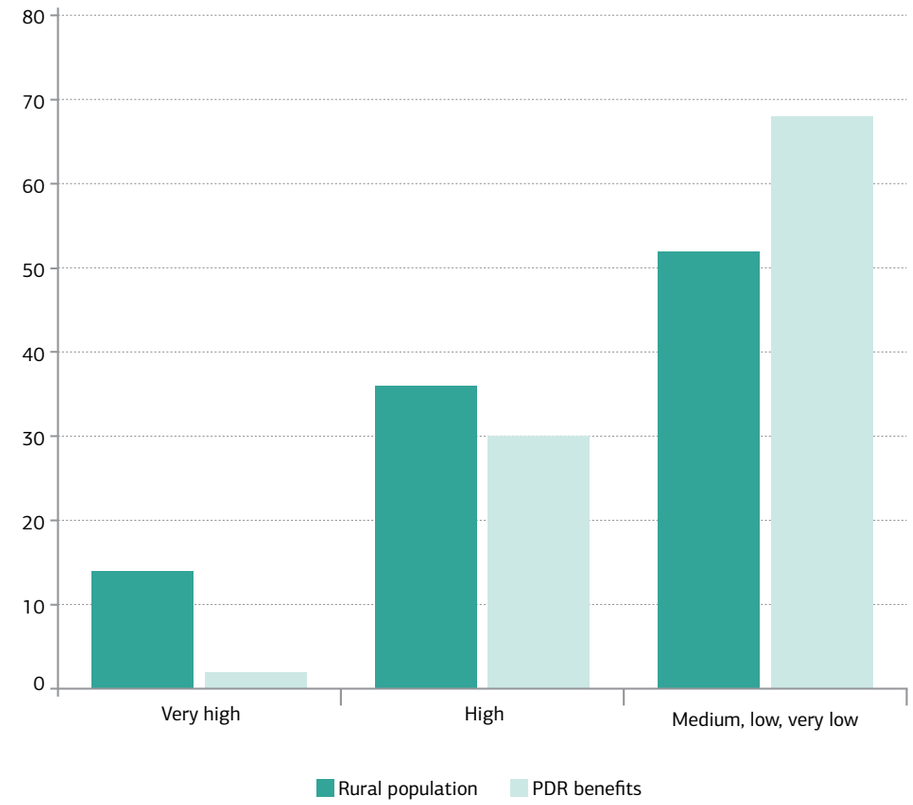
14 The table below reports the values of some of the principal variables in the FAO typology based on a survey of PDR beneficiaries.

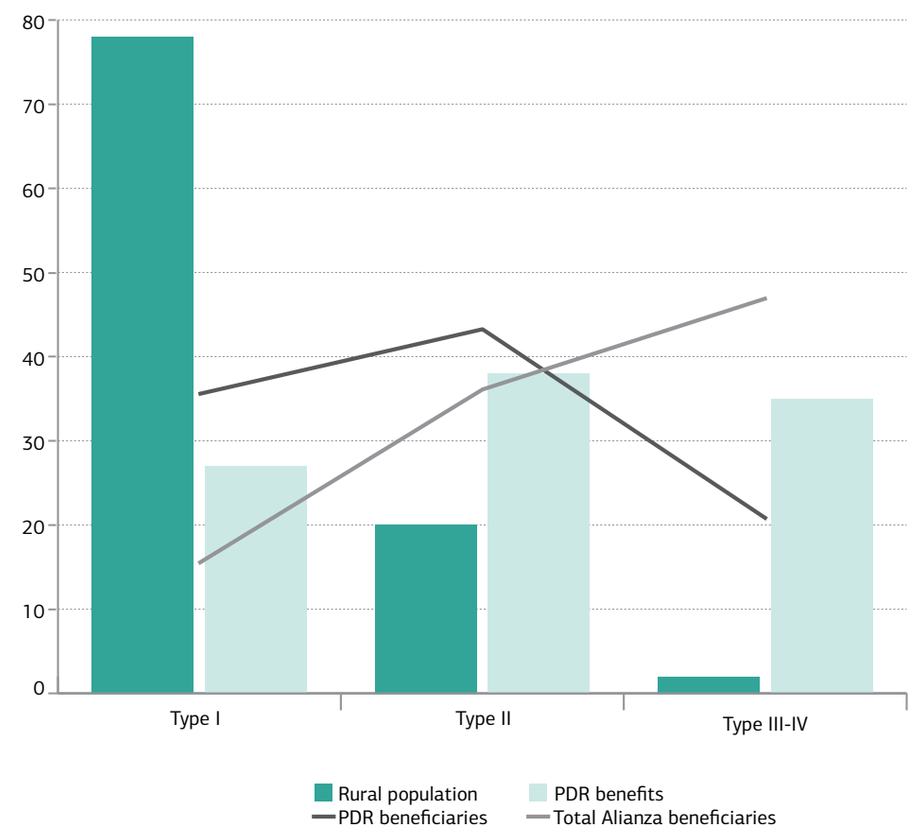
Typology of PDR Beneficiaries					
Selected variables	**I**	**II**	**III**	**IV**	**V**
Education (Years)	4.8	6.3	8.9	14.3	19.0
Value of Assets (MP)	1,799	56,557	208,853	662,765	512,000
Number of Equivalent Cattle Units	5.6	8.3	13.8	28.6	71.0
Irrigated land Equivalent (hectare)	0.8	3.0	11.1	33.1	10.0

Source: FAO (2005)

Graph 32 a and b

DISTRIBUTION OF BENEFICIARIES AND FUNDS OF THE *PROGRAMA DE DESARROLLO RURAL* BY MARGINALITY OF LOCALITIES AND SOCIOECONOMIC PRODUCER "TYPE": 2004





Source: FAO (2005) and World Bank (2006).

To compare the distribution of the principal APE programs on a common basis we present the distribution of benefits by producer deciles, and concentration curves based on producer percentiles, ranking producers by two alternative land measures:

(1) size of land holdings as reported in the administrative or evaluation data, and
(2) quality-adjusted land assets: as a more accurate proxy for producer income and wealth an approximation to the value of land assets obtained from the estimated value of production in each productive unit taking into account a) whether it is rainfed or irrigated, b) crop type, c) size of cultivated land, and d) average productivity and prices by State (using Sagarpa data).

Table 7 presents the distribution of Procampo and Ingreso Objetivo using the two concepts, and graphs 34-36 present concentration curves for these programs, for Alianza (fitted from the observations available from the FAO data presented above) and for energy and hydro-agricultural subsidies (proxied by the distribution of irrigated land). This analysis reveals extreme concentrations of benefits for all programs, except for Procampo in the quality-adjusted rankings. The poorest producer decile (in terms of both rankings) receives a tenth of a percentage point of *Ingreso Objetivo*, similarly insignificant fractions of energy/irrigation subsidies, and only 2-3% of Procampo. At the other extreme, the producers in the top decile receive transfer shares in the order of:

42% (33%) of *Procampo* (adjusted)
55% of the *Alianza PDR*,
60% of energy and hydrological subsidies,
85% (90%) of *Ingreso Objetivo*.

These distributions are of course mutually reinforcing. In addition to the large subsidies associated with irrigation, as graph 43 shows, the distribution of Procampo and Ingreso Objetivo are more regressive for irrigated than for rain-fed land.

It is interesting that the more accurate measure of producer wealth reduces the degree of regressivity in the case of *Procampo* but it increases it in *Ingreso Objetivo*. This suggests that many of the larger beneficiaries from Procampo given the size of their lands may be poorer once the land is adjusted for quality (and viceversa for smaller ones), while Ingreso Objetivo is not only concentrated on larger land-holdings but also on those with the more productive ones.

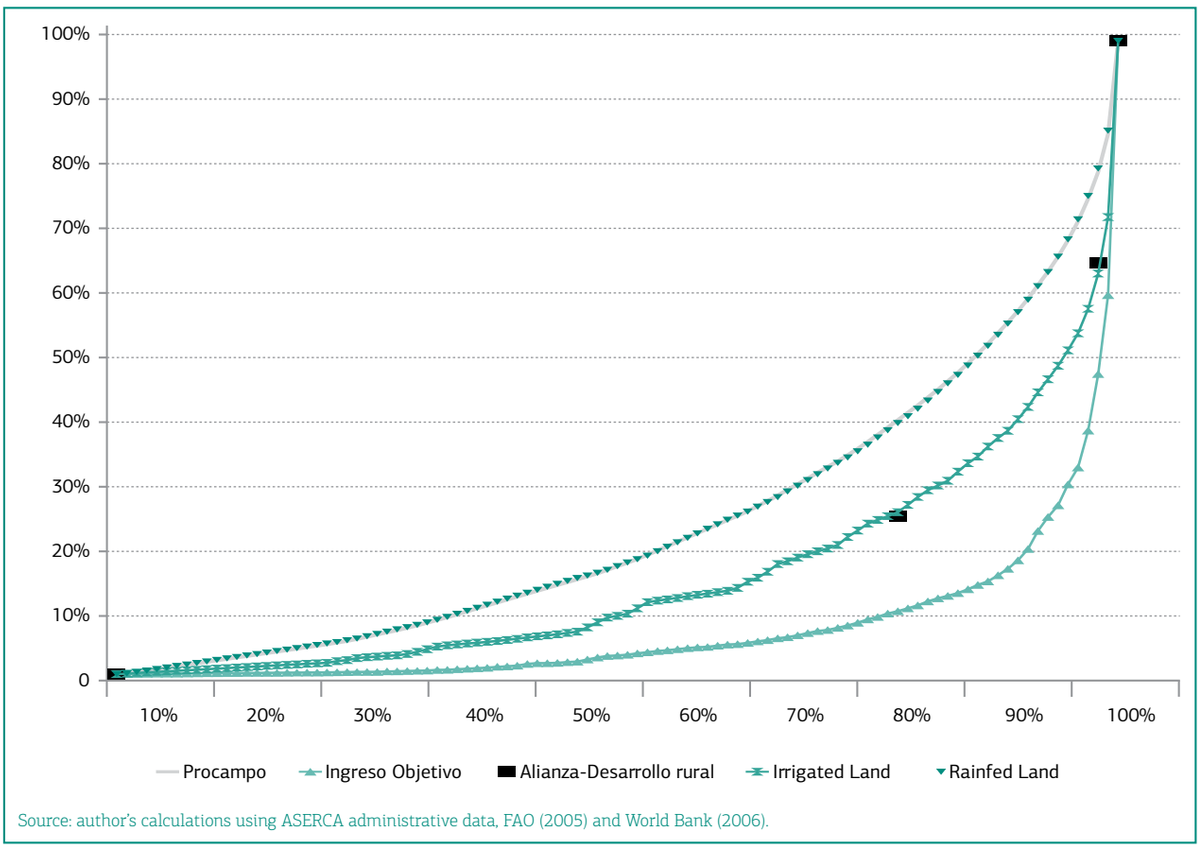
Table 7

DISTRIBUTION OF PROCAMPO AND INGRESO OBJETIVO TRANSFERS BY PRODUCER DECILES RANKED BY (1) LAND HOLDINGS AND (2) QUALITY-ADJUSTED LAND HOLDINGS (SPRING-SUMMER 2006)

Producer Deciles	Land (Has)			Distribution of transfers			
	Average	Range		Procampo		Ingreso Objetivo	
		Min	Max	(1)	(2)	(1)	(2)
1	0.93	0.01	1.00	2.2%	2.9%	0.1%	0.1%
2	1.00	1.00	1.00	2.3%	3.4%	0.1%	0.3%
3	1.39	1.00	1.75	3.2%	3.9%	0.3%	0.0%
4	1.98	1.75	2.00	4.6%	5.1%	1.0%	0.2%
5	2.12	2.00	2.50	4.9%	6.4%	2.6%	0.2%
6	2.90	2.50	3.00	6.7%	7.6%	1.4%	0.9%
7	3.62	3.00	4.00	8.3%	9.9%	2.0%	0.8%
8	4.75	4.00	5.79	10.8%	12.1%	2.6%	1.3%
9	6.99	5.79	9.00	15.2%	15.8%	5.0%	6.8%
10	20.48	9.00	1957.5	41.8%	33.0%	85.0%	89.6%
Percentiles							
90-97		9	20	17%		23%	
98-100		20	1957.5	25%		62%	

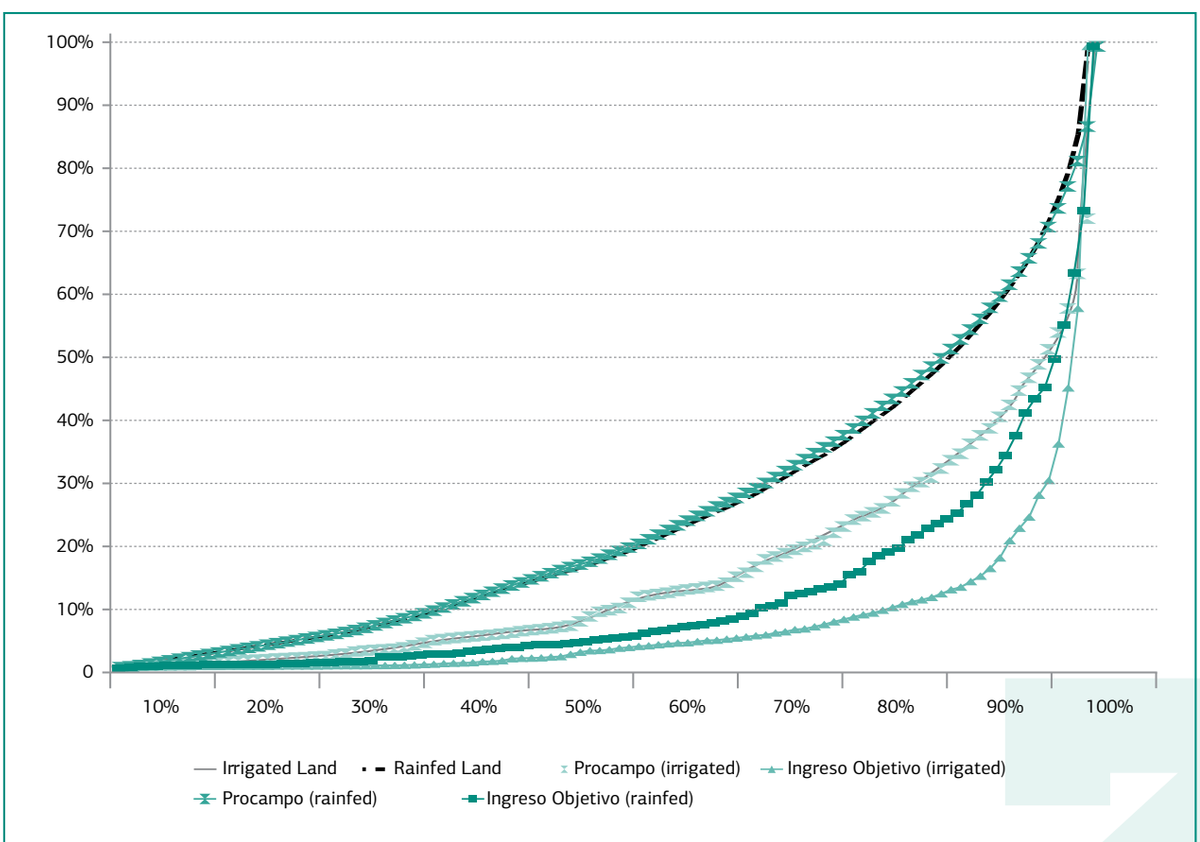
Source: author's calculations using ASERCA administrative data.

Graph 33
PROCAMPO, INGRESO OBJETIVO, ALIANZA (DESARROLLO RURAL), AND LAND CONCENTRATION CURVES: ORDERED BY PLOT SIZE



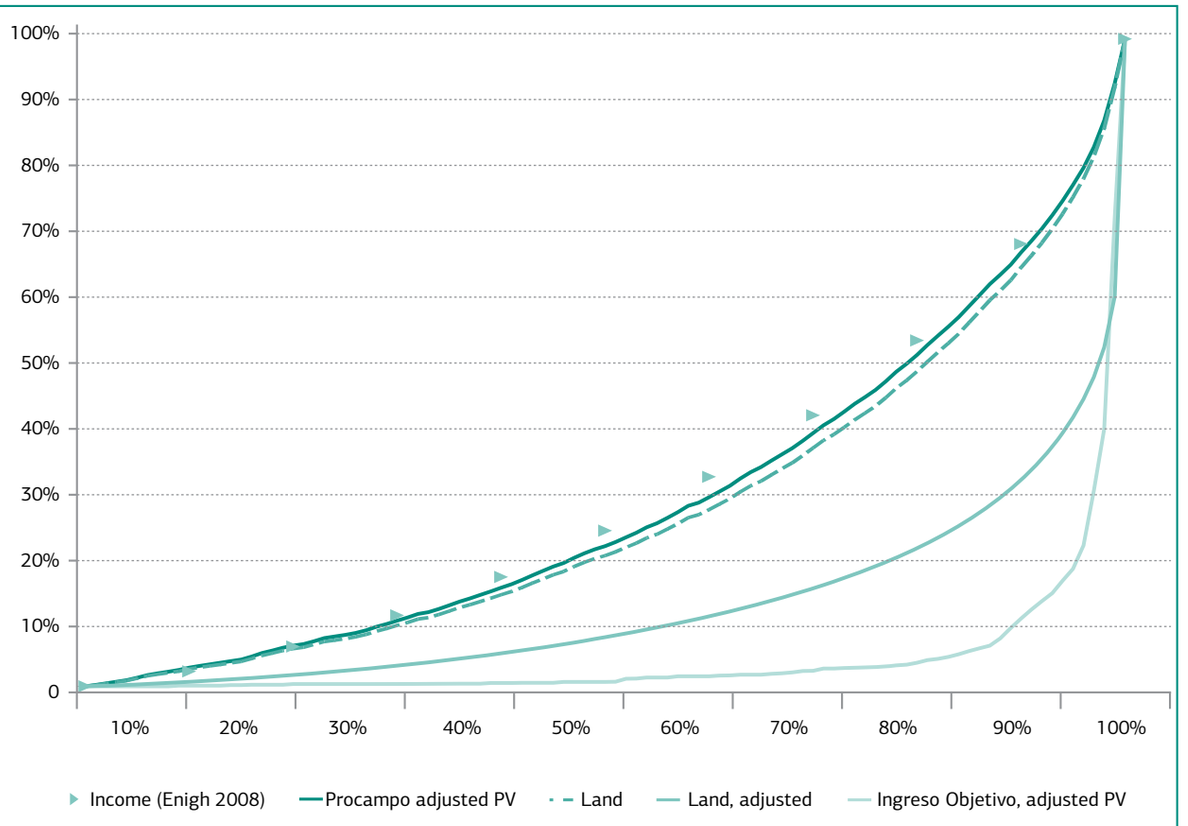
Source: author's calculations using ASERCA administrative data, FAO (2005) and World Bank (2006).

Graph 34
PROCAMPO AND INGRESO OBJETIVO CONCENTRATION CURVES: RAINFED AND IRRIGATED LAND



Source: author's calculations using ASERCA administrative data.

Graph 35
PROCAMPO, INGRESO OBJETIVO AND LAND:
ORDERED BY ESTIMATED LAND VALUE/PRODUCER INCOME



Source: author's calculations using ASERCA administrative data, FAO (2005) and World Bank (2006).

6.2. Resource distribution among households, by deciles ordered by income per capita

To put these distributions in the context of public rural spending on social programs as well as the national and rural income distribution, and to estimate the distributive impact of these resources, in this section we analyze the distribution of Procampo and the principal social programs using the ENIGH 2006 survey (and its associated "Modulo de Programas Sociales"). In the case of Procampo, the only agricultural program reported in this survey, these results must be interpreted with some care, as the survey is not designed to be representative of individual transfers, especially when a large proportion of their resources is concentrated on a small fraction of the population in the top decile, as we have just seen is the case of Procampo.[15] Despite this, the ENIGH data confirm a concentration of benefits in the top decile (graph 36), where 4.5% of Procampo's beneficiaries receive 27% of the program's transfers, while the poorest income decile accounts for 20% of beneficiaries but 8.7% of benefits.

The contrast between the principal social and agricultural programs, Oportunidades and Procampo, is evident from their concentration curves in income space, both nationally and within the rural sector (graph 37).

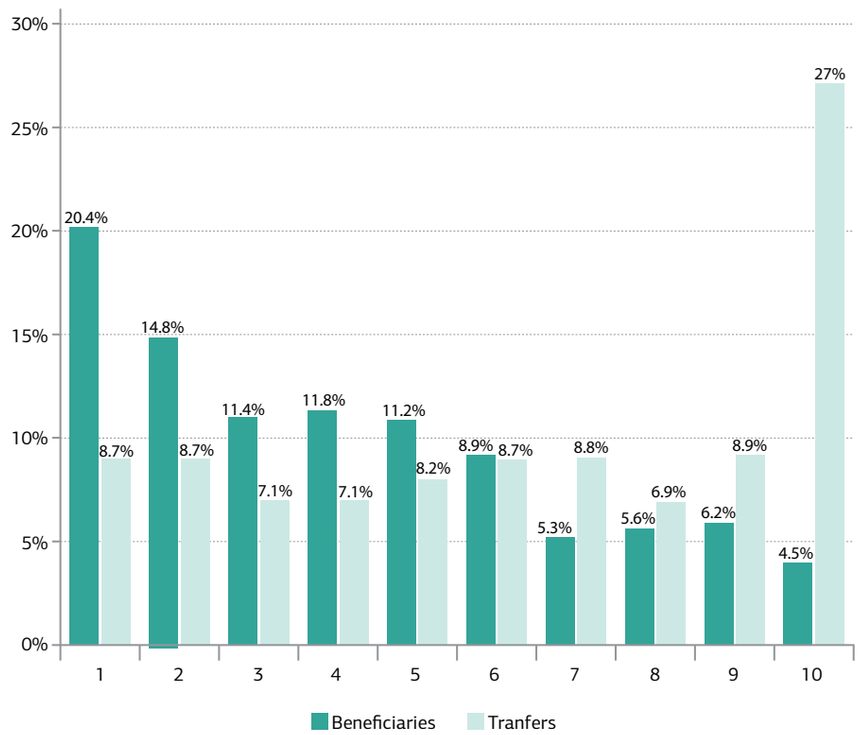
A critical issue in this analysis is the position of the APE concentration curves with respect to the (pre-transfer) income Lorenz curve, as this determines whether these programs are simply ineffective as redistributive instruments, or actually contribute to *increase* income inequality (below the Lorenz curve). The noted data limitations in both the ENIGH and the administrative data preclude a direct and unambiguous settlement of the issue. It seems reasonable to con-

15 The analysis above based on administrative data has shown that a quarter of the program transfers are received by the top 3% of producers. As is well known the ENIGH survey does not capture HH incomes at the upper extreme of the income distribution very well, for three principal reasons: a) the low statistical probability of selecting this small set of HHs in the sample, b) these HHs are less likely to participate once selected, an c) even if they are selected and agree to participate, they are more likely to underreport their income. The sizable measured underreporting of aggregate incomes and spending in the ENIGH in relation to the National Accounts is attributed in part to this truncation, and is the principal reason why the official methodology to measure poverty in Mexico does not adjust income to National Accounts. See Leyva-Parra (2005) and Scott (2005). This seems to be the main explanation for the large difference in the degree of estimated regressivity for Procampo using ENIGH (0.12) vs. administrative data (0.50).

clude that Procampo (and perhaps Alianza's PDR) is probably progressive in relative terms: its concentration curve is well above the income Lorenz curve generated by the ENIGH data (graph 37), but similar to the latter when using administrative data (graph 35, 38).

Graph 36

DISTRIBUTION OF PROCAMPO BENEFICIARIES AND TRANSFERS BY NATIONAL POPULATION DECILES (ORDERED BY PRE-TRANSFER INCOME PER CAPITA): 2006



Source: author's calculations using ENIGH 2006.

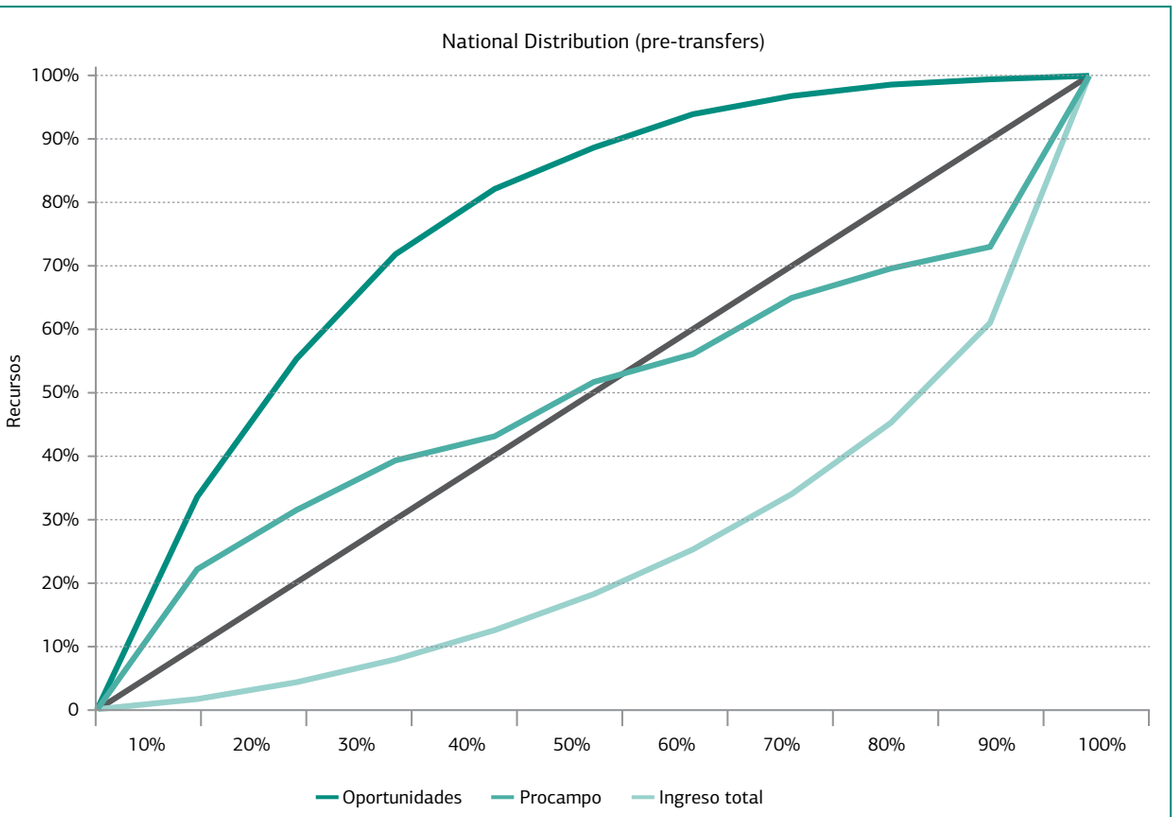
But Procampo is probably the exception among (non-targeted) agricultural subsides. The concentration curve for agricultural land and perhaps even quality-adjusted land may reasonably be interpreted as an *upper bound* for the concentration curves of *non-targeted, input- or output-linked transfers and subsidies,* generally: a large part of the rural population (at least the poorest 50%) is excluded from such programs simply because they are either landless or have plots which are too small to be reached by such programs (except for a decoupled program like Procampo), and in the upper half of the land distribution there are probably strong economies of scale (and land quality) in the capacity to attract agricultural support resources (unless some explicit targeting is applied, as in the case of the PDR). This applies clearly to the case of input support programs like the energy subsidies (diesel agropecuario and tarifa 9). This implies that the majority of agricultural support programs, and APE overall, are regressive in relative terms, and thus a contributing cause of rural income inequality.

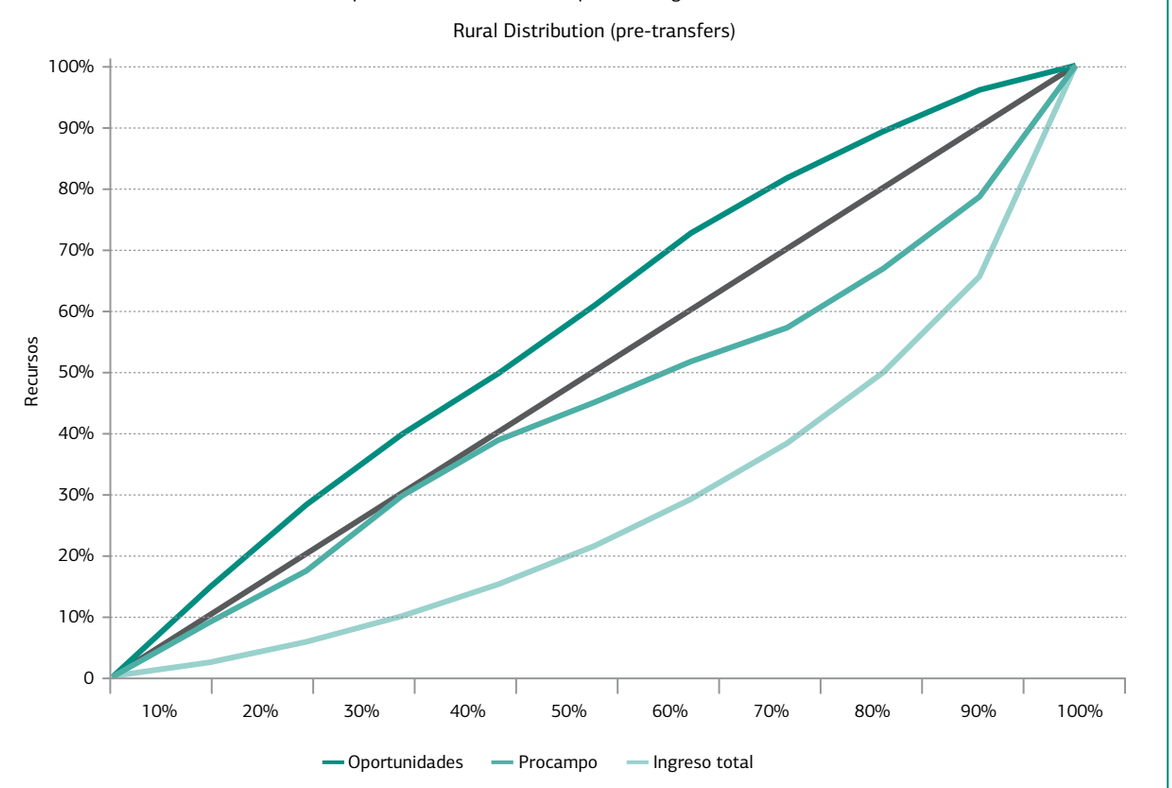
These estimates of course only consider the direct, first-order incidence of the benefits from APE. In a general equilibrium setting, agricultural workers and small land owners may share some of the benefits from the agricultural support transfers obtained by large commercial producers, through higher wages and land prices. However, there are at least two reasons to doubt that such "trickle-down" effects would be sufficient to reverse the first-order effect. First, as we have seen, the large, grain-producing commercial farms in the northern states benefiting from these transfers tend to be capital- rather than labor-intensive. Secondly, by further increasing the cost-advantage of large-scale producers, these transfers undermine the capacity of small (potentially) commercial producers to compete in these markets. Note that the argument to support these smaller but viable farmers is exactly analogous to the argument often used in favor of supporting the larger commercial producers to compensate them for unfair competition due to international subsidies.

To compare the equity of APE more systematically in the context of RD expenditures, and assess the global impact of ARD expenditures on rural income inequality, we can compare the APE programs analyzed above with the social and rural development programs reported in the ENIGH 2006 and a special "Social Program Module" commissioned by Sedesol with the ENIGH 2006. The following graphs compare two synthetic indicators: concentration coefficients (CC) and the shares of transfers received by the poorest/richest quintile.

Graphs 37 a and b

DISTRIBUTION OF OPORTUNIDADES AND PROCAMPO TRANSFERS AND PRE-TRANSFER INCOME BY NATIONAL AND RURAL HOUSEHOLD DECILES (ORDERED BY PRE-TRANSFER INCOME PER CAPITA NET OF TRANSFERS):

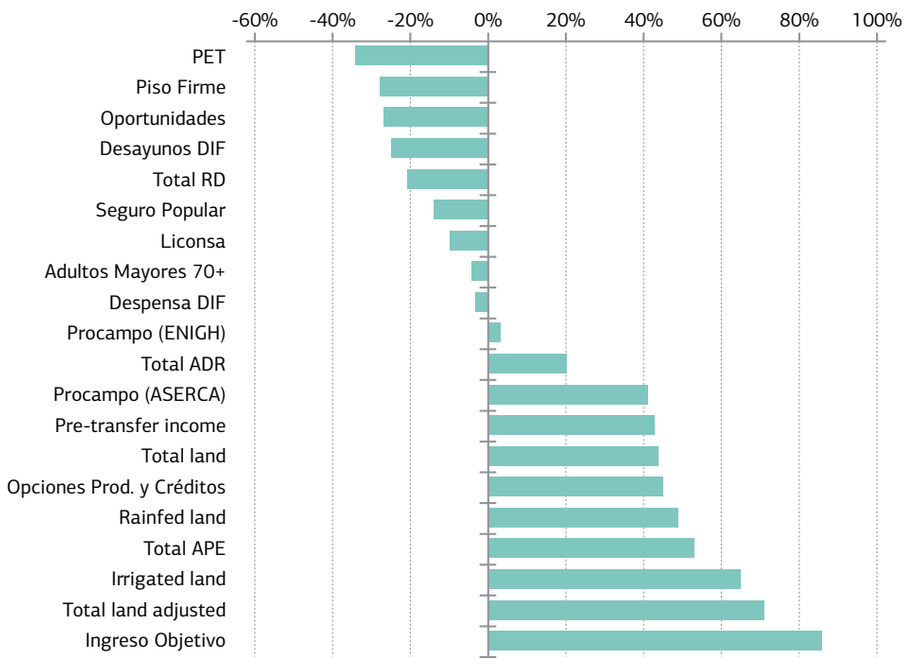




Source: author's calculations using ENIGH 2006.

Graph 38

CONCENTRATION COEFFICIENTS OF ARD EXPENDITURES, INCOME AND LAND: 2006, 2008
(RURAL HOUSEHOLDS ORDERED BY PRE-TRANSFER INCOME PER CAPITA)



Source: author's calculations using ENIGH 2006, Social Module of ENIGH 2006, ENIGH 2008 (Oportunidades, Procampo) ASERCA Beneficiary data bases (Piso Firme, PET, Deasyunos and Despensas DIF, Opciones Productivas, and Crédito); and Cuenta Pública 2006.

Though as noted above, the coefficients obtained from administrative data (based on quality-adjusted land-orderings) are not strictly comparable with the ENIGH-based indicators, the contrast between the social and rural programs (Oportunidades, Piso Firme and the Programa de Empleo Temporal, the most progressive) and agricultural programs (Ingreso Objetivo and irrigated land-based programs, the most regressive) is clear from the gap of the estimated concentration coefficients (graphs 38, 39).

To obtain an estimate of the distribution and incidence of overall RDE and APE expenditures and their distributive effect, we make the following assumptions:

The social and rural development expenditures (RDE) we have not been able to estimate directly (40% of the total) is distributed on average as those we have. This probably overestimates the progressivity of RDE, given the weight of Oportunidades in our estimates.

The APE programs whose distribution we have not been able to estimate (37%) are assumed to be distributed as total (rain fed & irrigated) cultivated land, as reported in the ASERCA data bases, except for the energy and hydro agricultural expenditures, which are proxied through the distribution of irrigated land. This is probably a lower bound for the regressivity of APE.

Given the important degree of underreporting of household income in ENIGH when compared to the National Accounts, to obtain a realistic estimate of the incidence of ARD expenditures we adjust household income by the relevant factor (1.87). Since it is reasonable to assume that underreporting in Mexico is more significant at the top than the lower end of the income distribution, we report both adjusted and unadjusted estimates.

Despite the comparability issues, total APE appear to contribute to increase rural income inequality in Mexico, while the RD expenditures considered here are progressive (pro-poor) in absolute terms, with the notable exception of Sedesol´s small productive programs, including *Opciones Productivas, Apoyos a la Palabra*, which are reported here together with other credit programs. The poorest quintile of rural households receive 31% of RDE, but just 4% of APE, while the richest quintile receive 9% of RGD but 60.7% of APE. Total ARD are regressive in absolute terms, but still progressive relative to the distribution of pre-transfer income.

Total APE transfers represent a fifth (20.7%) of the adjusted average income of the richest decile (almost 40% if unadjusted to NAs), but just 7.6% for the poorest (14% unadjusted) (table 8). On the other hand, RDE add 53% (almost 100% unadjusted) to the poorest deciles pre-transfer income, but barely adds to the income of the top decile. Adding these transfers to-

gether, the distribution of public ARD expenditures is flat for the poorest 40%, at close to $400 pesos per capita per month, but increases sharply in the tenth decile, where rural households obtain on average more than $3000 pesos monthly per capita.

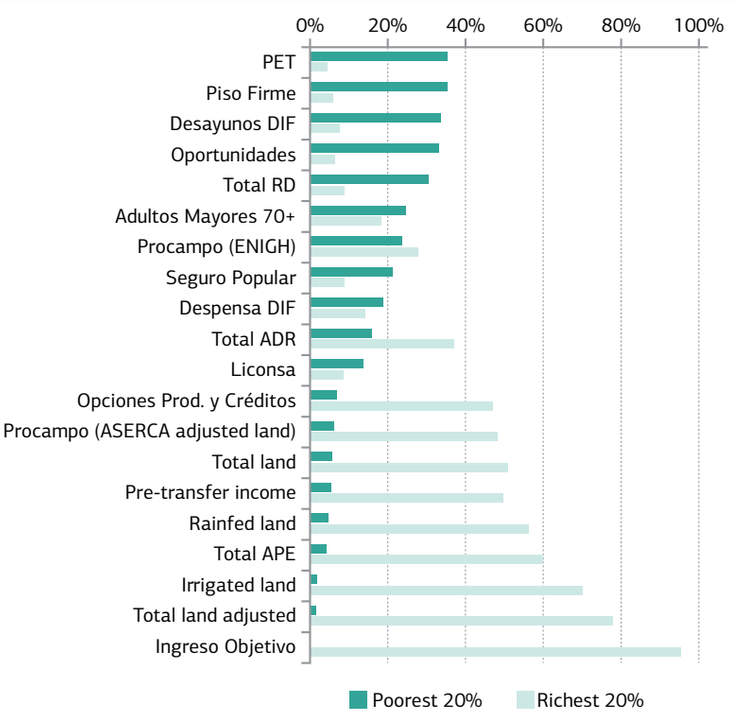
In purely accounting terms, APE *increases* the rural Gini coefficient by 6.7% (11.5% unadjusted), while RDE *decreases* it by 14% (24.8% unadjusted), with a net reduction of 6.5% associated with total ARD. In other words, APE appears to cancel more than half of the redistributive impact of RDE on relative inequality, measured through the Gini coefficient (though not, of course, on poverty reduction).

While the recognition and concern for the inequity of APE in Mexico has grown in recent years, partly as a result of the increasing availability of the type of evidence reviewed in this study, reform efforts to address these inequities have so far been timid and have clearly been effectively blocked by large producer interest groups and agricultural states. For example, following the recommendations of a number of special advisory groups on Procampo reform set up by Sagarpa and the President's Office, as well a the numerous national and international reports cited before, there was apparently a genuine intention on the part of the federal government to limit Procampo transfers to small and medium-sized farmers, but this was effectively blocked by the noted interest groups. The result was a marginal reform of the Procampo rules which increased transfers to small (rainfed) farmers, while limiting maximum benefits per producer per cycle to 100,000 pesos. Graph 43 shows the results of a simulation of this reform applied to the ASERCA data base, revealing a negligible distributive impact.

A more recent reform effort is contained in the federal budget proposal for 2010, which proposes mayor cuts in perhaps the most regressive APE instrument of all, *Ingreso Objetivo*. It will be interesting to see if this proposal survives the legislative negotiation.

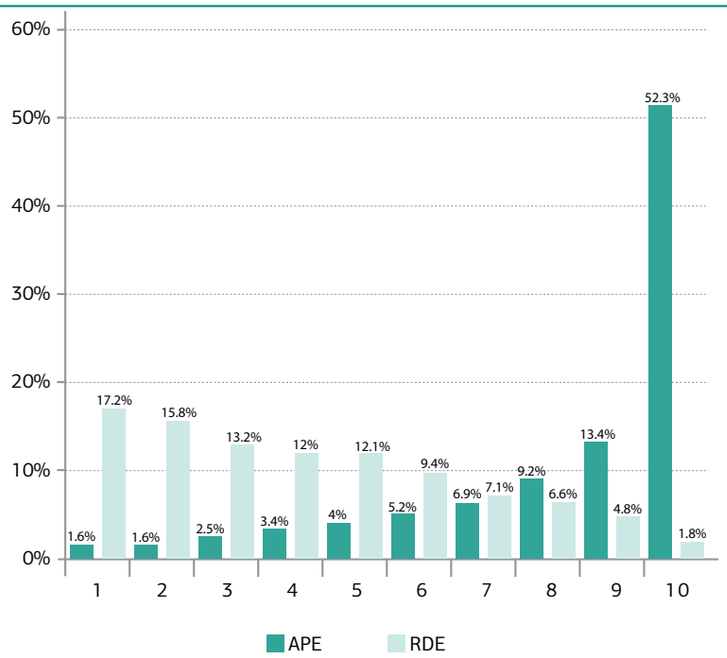
Graph 39

RELATIVE SHARE OF POOREST 20% OF RURAL HOUSEHOLDS IN OF ARD EXPENDITURES, INCOME AND LAND: 2006, 2008 (RURAL HOUSEHOLDS ORDERED BY PRE-TRANSFER INCOME PER CAPITA)



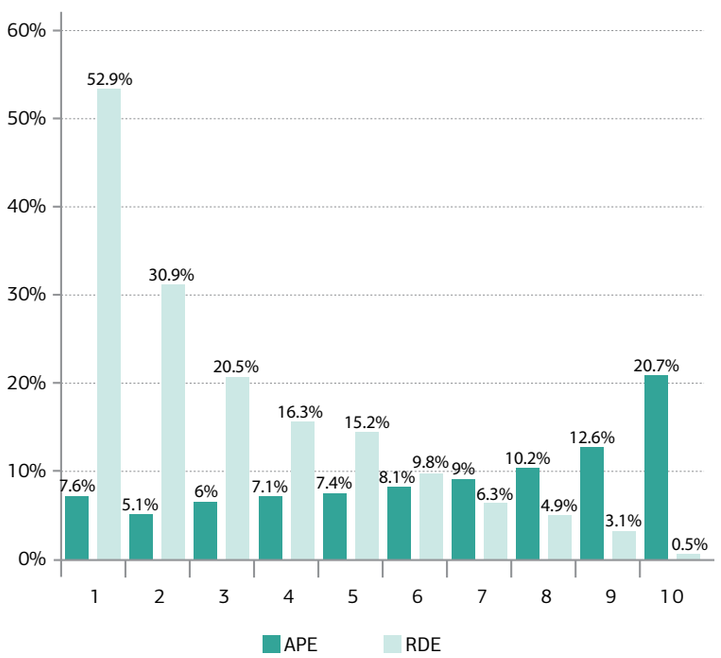
Source: author's calculations using ENIGH 2006, Social Module of ENIGH 2006, ENIGH 2008 (Oportunidades, Procampo) ASERCA Beneficiary data bases (Piso Firme, PET, Deasyunos and Despensas DIF, Opciones Productivas, and Crédito)..

Graph 40
DISTRIBUTION OF APE AND RDE
(RURAL HOUSEHOLD DECILES ORDERED BY INCOME PER CAPITA BEFORE TRANSFERS)



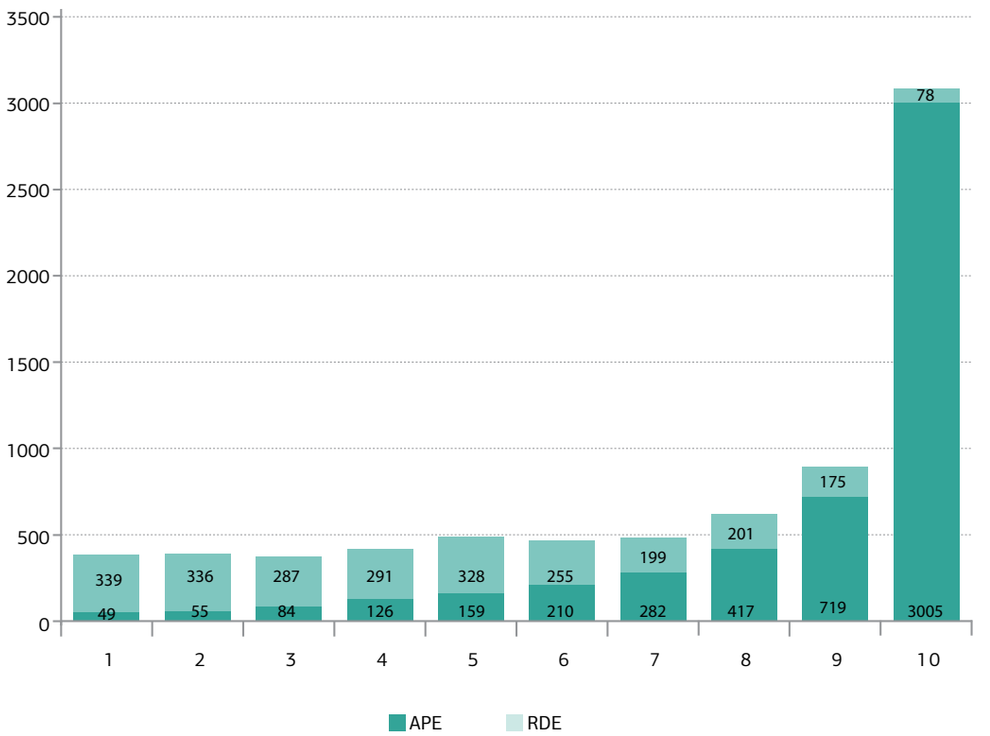
Source: author's calculations using ENIGH 2006, Social Module of ENIGH 2006, ENIGH 2008 (Oportunidades, Procampo) ASERCA Beneficiary data bases (Piso Firme, PET, Deasyunos and Despensas DIF, Opciones Productivas, and Crédito); and Cuenta Pública 2006.

Graph 41
INCIDENCE OF APE AND RDE IN RURAL HOUSEHOLD INCOME: TRANSFERS
AS % OF PRE-TRANSFER INCOME
(HOUSEHOLD DECILES ORDERED BY INCOME PER CAPITA BEFORE TRANSFERS)



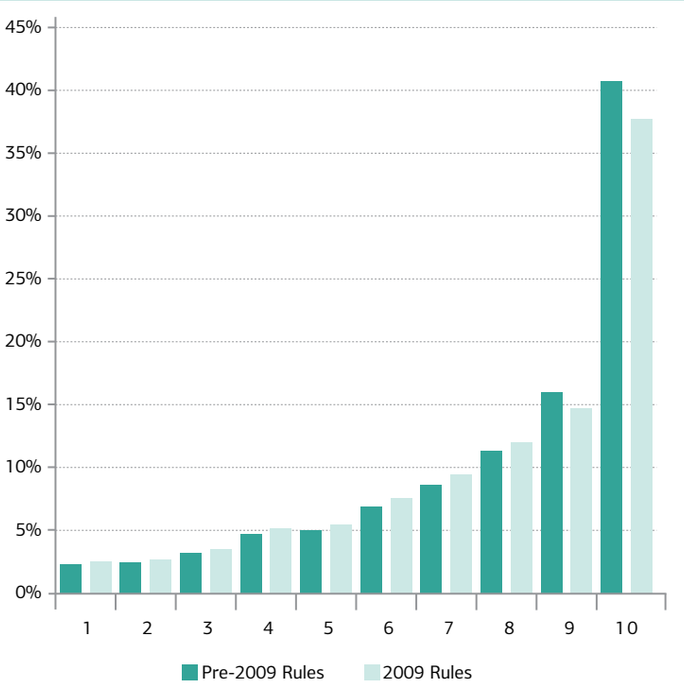
Source: author's calculations using ENIGH 2006, Social Module of ENIGH 2006, ENIGH 2008 (Oportunidades, Procampo) ASERCA Beneficiary data bases (Piso Firme, PET, Deasyunos and Despensas DIF, Opciones Productivas, and Crédito); and Cuenta Pública 2006.

Graph 42
ESTIMATED AVERAGE MONTHLY TRANSFERS PER CAPITA TO RURAL HOUSEHOLDS FROM APE AND RDE
(RURAL HOUSEHOLD DECILES ORDERED BY INCOME PER CAPITA BEFORE TRANSFERS)



Source: author's calculations using ENIGH 2006, Social Module of ENIGH 2006, ENIGH 2008 (Oportunidades, Procampo) ASERCA Beneficiary data bases (Piso Firme, PET, Deasyunos and Despensas DIF, Opciones Productivas, and Crédito); and Cuenta Pública 2006.

Graph 43
SIMULATED EFFECT OF THE 2009 PROCAMPO RULES ON THE DISTRIBUTION OF PROCAMPO TRANSFERS AMONG PRODUCERS ORDERED BY ESTIMATED LAND VALUE/PRODUCER INCOME



Source: author's calculations using ASERCA Beneficiary data base.

Table 8
REDISTRIBUTIVE EFFECTS OF AGRICULTURAL AND RURAL EXPENDITURES

HH Deciles	Distribution						Transfer Incidence		
	Transfers		Pre-transfer income	Post-transfer income					
	APE	RDE		+ APE	+ RDE	+ APE & RDE	APE	RDE	Total
Income: Unadjusted (Million MP)	108,572	76,925	467,957						
1	1.6%	17.2%	2.9%	2.7%	4.9%	4.4%	14.2%	99.0%	113.2%
2	1.6%	15.8%	4.4%	3.9%	6.0%	5.3%	9.5%	57.9%	67.4%
3	2.5%	13.2%	5.5%	5.0%	6.6%	5.9%	11.2%	38.3%	49.5%
4	3.4%	12.0%	6.5%	6.0%	7.3%	6.7%	13.2%	30.4%	43.7%
5	4.0%	12.1%	7.1%	6.6%	7.8%	7.2%	13.8%	28.4%	42.2%
6	5.2%	9.4%	8.5%	8.0%	8.7%	8.2%	15.1%	18.4%	33.5%
7	6.9%	7.1%	10.0%	9.5%	9.6%	9.2%	16.8%	11.8%	28.6%
8	9.2%	6.6%	11.6%	11.2%	10.9%	10.6%	19.1%	9.2%	28.3%
9	13.4%	4.8%	13.7%	13.8%	12.5%	12.7%	23.6%	5.8%	29.3%
10	52.3%	1.8%	29.7%	33.5%	25.8%	29.7%	38.7%	1.0%	39.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	23.2%	16.4%	39.6%
G/CC	**0.5839**	**-0.2652**	**0.3486**	**0.3887**	**0.2620**	**0.3118**			
Change in G				11.5%	-24.8%	-10.6%			
Income: **Adjusted** (Million MP)			875,291						
1			2.9%	2.7%	4.0%	3.8%	7.6%	52.9%	60.5%
2			4.4%	4.1%	5.3%	5.0%	5.1%	30.9%	36.0%
3			5.5%	5.2%	6.1%	5.8%	6.0%	20.5%	26.5%
4			6.5%	6.2%	7.0%	6.6%	7.1%	16.3%	23.3%
5			7.1%	6.8%	7.5%	7.2%	7.4%	15.2%	22.6%
6			8.5%	8.2%	8.6%	8.3%	8.1%	9.8%	17.9%
7			10.0%	9.7%	9.8%	9.5%	9.0%	6.3%	15.3%
8			11.6%	11.4%	11.2%	11.0%	10.2%	4.9%	15.1%
9			13.7%	13.7%	13.0%	13.1%	12.6%	3.1%	15.7%
10			29.7%	31.9%	27.5%	29.7%	20.7%	0.5%	21.2%
Total							12.4%	8.8%	21.2%
G/CC			0.3486	0.3721	0.2990	0.3259			
Change in G				6.7%	-14.2%	-6.5%			

7. CONCLUSIONS AND POLICY RECOMMENDATIONS

This report has analyzed the distributive incidence of the principal agricultural and rural development programs implemented in Mexico in over the last two decades, in the context of an ambitious effort to modernize the agricultural sector and address rural poverty. This "second agrarian reform" included the 1992 *Ejido* reform, the opening of agricultural markets through the *North American Free Trade Agreement* (1994-2008), the shift to more efficient and equitable agricultural support instruments, especially the delinked *Procampo* transfers. A similarly ambitious and complementary reform effort in rural social policies included the introduction of effectively targeted rural programs, notably *Progresa/Oportunidades*, and a more general pro-rural reallocation of social spending, reversing a strong historic urban bias in the allocation of anti-poverty programs, food subsidies, basic education and health services for the uninsured.

While an evaluation of the impact of these reforms on agriculture and rural poverty in Mexico is impossible in the absence of the relevant counterfactual, especially given the broader economic context of instability and stagnation characterizing this period, the evidence on the instruments and outcomes of these policies reviewed in this report suggests that the principal challenges motivating the reforms remain in place. We will not attempt to summarize this extensive evidence here, beyond emphasizing a few basic observations:

a) Today as two decades ago, a third of the rural population live in extreme poverty (pobreza alimentaria) and despite a gradual urbanization process the rural sector still accounts for a majority of the extreme poor.

b) While there is some evidence of the incipient development of rural labor and land markets, these are still hampered by structural restrictions and the lack of adequate access to other productive inputs, including credit, human capital, technology, transport and other infrastructure.

c) Despite some evidence of growth in productivity and crop diversification in line with Mexico's geographic and factor comparative advantages (labor-intensive fruits and vegetables), the grain-based dual structure of agriculture has survived practically unchanged.

d) Perhaps the most dramatic transformation of the rural economy over this period is the decline of agriculture as a significant source of income and labor opportunities for most rural households, with public transfers, remittances, and non-farming rural activities filling the void.

Looking into the policy implications of the above analysis, it is important to note that despite its ambitious agenda the "second agrarian reform" may not have been ambitious enough in its implementation, failing to support agricultural development were it was most needed, by providing critical inputs to middle-sized farmers with significant but constrained productive (and employment-generation) potential. We may identify some basic components of a "third agrarian reform", directed at the three principal producer strata:

a) Considering middle-sized producers, in addition to the noted "efficiency vs. equity" conceptual framework, an important practical restriction explaining the lack of significant productive support programs reaching small to medium producers is the large heterogeneity of such producers, making the identification, implementation and monitoring of specific support "packages" difficult. This will require the development of innovative and flexible support instruments as well as the development of a detailed producer data base (an effort of the latter kind is currently under way at Sagarpa in collaboration with the IADB and World Bank).

b) In the case of the precarious social insurance function of subsistence farming, this should give way through the construction of effective and universal non-contributive social insurance schemes in the rural sector, liberating land resources to their most productive use.

c) In the case of the larger commercial producers, a case is often made in favor of maintaining or increasing support as a response to international support for competing producers and the idea of food security ("soberanía alimentaria"). But this must be carefully and explicitly weighted against competing considerations, including i) the high opportunity cost of fiscal resources in a country with low fiscal capacity, high inequality and historically low public investment, and ii) the availability of better (less distorting and inequitable) instruments to ensure domestic stability in food prices and supply while exploiting the very considerable benefits to domestic consumers from international productivity gains and subsidies. On the other hand, a case may be made for shifting support resources targeted at this producer group from private transfers to public goods, though as has been documented here such investments are already heavily concentrated on these producers.

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Why look a gift horse in the mouth?

Beneficiary perceptions of the Procampo program

Mauricio Maldonado Sánchez-Aldana[1]
Instituto Tecnológico y de Estudios Superiores del Occidente

1 This report is based on a much more extensive study, which was completed in July, 2009 and includes both a synthesis and state level reports (Maldonado 2010). For their collaboration with the field research, the author thanks Celina Solís Becerra; Juan Enrique Velazco Ortiz; Martiniano Hernández y David Maldonado Sánchez Aldana. This chapter was edited and translated by Jonathan Fox.

This study presents the findings of a pilot survey, designed to see how participants in Procampo perceive the program, with an emphasis on transparency and accountability issues. This agenda includes understanding the determinants of access to the program, perceived transaction costs involved in dealing with the program, the degree to which program operations are transparent to participants, as well as the availability and use of formal accountability processes. The survey involved extensive interviews with more than 100 smallholders in five states, including Jalisco, Guerrero, Chiapas, Oaxaca and Puebla. Within a universe that included both members and non-members of producer organizations, surveyed individuals were selected from different strata at random from Procampo beneficiary lists. Regional peasant organization leaders were also interviewed, as well a small sample of non-participants. Official program evaluations provided useful background, and surveyed very large samples of participants, but the evaluation agenda did not focus on program transparency and accountability issues. While this survey's sample is not large enough to be representative, the findings nevertheless raise issues that more ambitious surveys might take into account.

Most producers surveyed see Procampo payments as a discretionary offering by the government, not linked to participation or co-responsibility. The term most widely used to refer to the subsidy was "a support" ("*un apoyo*"). Producers knew just the basics about program operations, often responding that they had to "present their election registration card and copies of their land documents." In the absence of a consistent flow of information from the agency, producers only see the final link in the chain of program decisions, and the rest is left to their imagination. In this context, most program participants were either unaware of or did not engage with its official transparency and accountability processes, and in practice they addressed their concerns with program performance through pre-existing channels, such as their producer organization or their *ejido* leadership. The main exception to this pattern is found in indigenous regions, where Procampo's main official channel for beneficiary representation and program oversight, the spokesperson ("*vocal*"), has been incorporated into existing community service structures.

1. PROGRAM ACCESS

Most producers did recall the original signup process, and their testimonies help to account for Procampo's uneven coverage of ostensibly eligible producers. At the time, few had a clear sense of the program or its goals; the information that reached potential beneficiaries was at the discretion of the government outreach officials. In some regions, such as the municipality of La Unión, Guerrero, the program provoked mistrust at first: "at first, many thought it was a program to support the PRI, but even though it wasn't many did not agree to sign up..." Another producer reported "Lots of folks didn't sign up because they thought they were going to take away their land." At minimum, there was a high degree of disinformation about the program, its requirements and its goals.

Many reported that Procampo did not do its own community outreach when creating the original registry. Instead, *ejido* leaders were called to meetings, and they in turn encouraged producers to sign up, but without informing them about the program, which created mistrust and led many to not believe that it would work. According to producers in La Union, Guerrero, some *ejido* leaders reportedly signed up lands that were not in production, and other signed up many relatives. Producers surveyed did not report widespread open electoral use of the program in its early years, but they did report that access was at the discretion of *ejido* leaders and Agriculture Secretariat regional staff. Because access to Procampo registration was soon frozen, this discretional access at first ended up having long term impacts.

Producers often mentioned that many people enrolled plots in Procampo that were not theirs and they received checks for years without working the land. In some regions, this later changed. As some mentioned "Now they check and this situation was put in order." In other regions, however, the issue persists.[2] As one campesina in Nochixtlan, Oaxaca put it:

> They list whoever they want... There are people who don't even plant, I went to the meetings, I know, I know them. How is it possible that they give them a pile of money? Only to their friends! That's why I don't get involved, I'm so old now, it's better not to... Those crooks have so much land...

In Chiapas, some of those who did sign up reported that the original measurements of plot size were too small, sometimes 30% less than their actual holdings, but they have accepted the situation.

2 As one of the Guerrero producers put it "even the dead get their cash... the family keeps getting the check with a copy of his voting card." However, since Procampo payments are tied to the plot and not the person, inheritance is allowed. Yet the comment suggested both a lack of familiarity with this basic principle of Procampo, as well as a more general perception that anything was possible in the program.

In Cuetzalan, in the Sierra Norte of Puebla, the process of initial incorporation into the program differed in important ways, according to a producer who served as a *vocal* for almost six years. He reported that the registration process took place in two ways simultaneously. Up in the mountains, the indigenous peasant producers came down to the county seat to register their plots, including some who were signed up "on the recommendation of the CNC," some of whom claim that deals were made in the state capital to sign up certain lists of people, including some who farmed little of their land but got paid for all of it. In the lower areas, the registration process was more precise, and the agricultural technicians went directly to the communities.

Thanks to support from the "Tosepan Titataniske" cooperative, the peasants learned about the program and followed the registration procedures, to the point where almost all the farmers, whether landowners or renters, signed up plots. According to the former vocal, "there was social justice, the whole hectare was registered and no one was excluded, everyone got it, there were even compañeros who said "you're an idiot" if you didn't go in…". But the following year "recriminations" began, and they caught people who had signed up to 24 hectares but really only had 13, so there were cuts – though no sanctions…" These recriminations can mainly from the peasant communities themselves, since they detected these plots and the producers who were being paid for more land than they had, or worked. Their sense of injustice led to pressure on the *vocales*, who reported the charges to the Agriculture Secretariat's local offices.

An advisor to the Tosepan cooperative, who worked for years to support producer access to the Procampo program, explained that it made sense for producers to sign up, even if they were renters, because in their view, the subsidy was supposed to benefit those who produced: "we used to say if there are going to be subsidies, they should be for those who work…" But this access didn't last, because as of the second year they program began to require documents that proved either ownership or use-rights to the land, and since many renters didn't have them (especially the small-scale producers who were coop members). They were gradually dropped from the rolls, a process described locally as being "delisted." This was widely seen as unjust, to be cut off for administrative reasons. According to the advisor, today less than 30% of Tosepan coop members are included in the program; "so now, [Procampo] supports the haves, and the have-nots are marginalized… For coop members, Procampo raised expectations, but as they got pushed out over time, seeing how it worked, they got demoralized." Yet this increased enforcement of administrative requirements was very unevenly applied, since "even today there are folks with 20 hectares who already sold their land and they still get paid. There are cases where houses have been built on the land and the current owners don't have any idea that their lands are still drawing Procampo checks." Producers in the Frailesca region of Chiapas reported a similar situation.

In Guerrero, a representative of the UNORCA explained that in order to help their members to deal with Procampo, they "have organized regional training events for our 90 member groups, to explain the rules of operation." In their view, the Agriculture Secretariat staff at the local level "doesn't give out information, they just announce the opening and closing dates of the agricultural season, and when the checks are ready." He reported some political conditionality of access to the program in its early years, but not any more. Indeed, the survey found no reports of recent electoral conditioning of access t Procampo payments. In addition, hardly any of the producers interviewed reported direct corruption in accessing their payments, though some make voluntary contributions to local agricultural officials: "whatever one feels like for their expenses, because they have to come all the way out here…," according to a producer from Atengo, Jalisco.

2. PRODUCER-PROCAMPO INTERACTIONS

There is a general sense that "whatever comes is good." Yet dealing with the agricultural bureaucracy produces mixed feelings among Procampo participants. Even producers in Tuxpan, Jalisco who have a great deal of experience with and knowledge of the program report: "you have to wait for the CADER [agricultural officials], they decide when to see you…" For the members of the Tosepan cooperative in Puebla, "the problems are at the level of the Rural Development District [local offices of the Agriculture Secretariat], because they have a different mentality… It's our impression that they feel that it's their money and they have to control." They feel a distance because "for an [nonpartisan] organization like Tosepan, if you don't have party colors, then each party treats you like you're with the other one." Vegetable growers in Texmelucan also have problems with treatment by agricultural officials: "we're in their hands… there is an implicit understanding: they act like they are providing services to us and we act like we are filling out the paperwork." In Guerrero, a CNC representative reported that they "have not received any benefit as an organization [from Procampo]," agricultural officials "don't provide any information to the organization, it's an operation of the bureaucracy." Indeed, the program was designed to reach individual producers directly, and local agricultural officials often do not approve of producer organizations helping their members deal with administrative issues; their

contribution is limited to providing information to their members. Nevertheless, some organizations are interested in promoting alternative approaches. In the case of UNORCA – Guerrero, for example, "the program's main benefit would be for producers to appropriate it to capitalize themselves, to increase productive capacity and yields with more integrated projects."

Procampo imposes costs on participants, such as transportation, food and the travel time involved in going back and forth from government agencies. Yet most producers did not experience these transaction costs as onerous, regardless of the amount they received from Procampo. At the same time, less than half reported that it was "easy" to deal with the program, a plurality reported dealings as "so-so" ("*regular*") and a small minority considered it "difficult." When asked whether program benefits were worth the time and energy involved, a majority reported "more or less" ("*regular*"). An indigenous producer from Majosik, Chiapas put it this way: "I think that the program requires a lot of paperwork, but I think it's fair for the government to ask for it. They ask for 5 documents. Maybe the only change there should be is for the support to come down in March or April." Indeed, the issue of delayed payments came up often. As a producer in San Martin Texmelun, Puebla observed "before they gave the support in April, now in October or November... By that time it's only good for a few beers, instead of a bag of fertilizer... The payment should arrive in time, or it gets diverted." The ex-vocal from Cuetzalan, Puebla noted that "before, a lot of the money ended up in the bars, but not any more. Sometimes it's late, though it comes quickly in election years... Sometimes you get it in May, sometimes in October. It's great when it comes at the beginning of the harvest. It's a matter of planning."

Another producer from Tenejapa, Chiapas added "In spite of the lateness and so much red tape, we expect it because it's income for the family. We're worried because we don't have much income. Something is something." Yet for some families, fulfilling the Procampo requirement to keep the plot in production is a losing proposition. As one producer from San José del Progreso, Oaxaca, put it: "You have to put so much in, and we don't get back even a quarter of what the crop cost to produce." As a producer in Atengo Jalisco, put it, "damn it, the payments they give us are so tiny, just enough to not get too depressed, only a consolation prize."

Almost 90% of those interviewed expressed interest in the program's operations, but the vast majority of those interviewed did not know their official Procampo producer number, nor the number of their plot. Most recalled how much they received in the past, but not how much or when their next payment was coming. More than 40% reported that they only learn about changes in the amount of their payment when the check comes. Only 40% reported having received official communications from the program, what information they receive is usually verbal or from the *ejido* leader or agriculture ministry staff. Lower-income producers were more likely to receive only verbal information. Indigenous producers were more likely to receive information from their *vocalías.* When asked whether they knew how to request information about how program resources are handled, 82% said no. When asked whether they considered program operations to be transparent and accountable, only 30% said yes, 60% said no, and the rest didn't know.

In Guerrero, the UNORCA representative reported that Procampo participants "have not had access to information about Procampo operations... [the program] is not very transparent. We know about it from magazines or publications; one finds a "patrimonial" attitude toward program information." The Guerrero CNC leader agreed: "the program is carried out only by officials, they don't provide information about how it operates in Guerrero. They just inform when the payments are ready, nothing else."

3. COMMUNITY OVERSIGHT: VOCALES

In principle, Procampo's system of community oversight committees and producer liaisons is supposed to encourage both transparency and accountability in program operations. However, official Procampo program evaluations have not addressed the question of to what degree the *vocalías* actually exist in practice, nor the degree to which they are able to comply with their mandate.[3] The results of this survey indicate that in practice, the system has fallen far short of its potential.

In many areas the community oversight body, represented by the *vocal*, did not exist in practice, especially in areas with predominantly private property. Producers there had little community involvement, and did not recall ever having discussed program changes with other program participants. If they wanted program information, they went personally to the regional office of the Agriculture Secretariat, or asked *ejido* or municoal leaders. Some mentioned that Procampo *vocales*

3 Officially, ASERCA defines "*vocalías*" as having apparently extensive power: "The producers are involved in the definition and implementation of the program's substantive activities and oversee the allocation of resources through control and oversight committees and Procampo's social control *vocalía.* These representatives ratify the destination of the payments after confirming that the authorized applications comply with the requirements stipulated in the Procampo regulations." *Claridades Agropecuarias*, No. 121, Sept. 2003, p. 20. See also Hevia (this volume)

were named at first, in the *ejidos,* but that the position was generally assigned to existing *ejido* and private farmer leaders, who handled the program at their discretion without informing participants.

In indigenous communities, in contrast, all of the producers interviewed knew who their *vocal* was and knew something of their mission. This pattern was found in indigenous regions of Chiapas, Oaxaca and Jalisco, and had been the case in indigenous region of Puebla until the *vocales*' lack of efficacy led organized producers to lose faith in them. Yet producers' willingness to serve in this program oversight and liaison role does not mean that they have the information and power necessary to exercise an oversight role effectively. One Procampo *vocal* from an ejido in Chiapas reported:

> As a vocal of my committee I attend meetings frequently in the Tenejapa county seat, but they give us little information about the procedures. Afterwards we meet as a committee with all the members here in the community.

Participants complaints, which are sometimes channeled through *vocales*, tend to involve the delayed delivery of payments.

In Puebla, an ex-*vocal* reported that the initial selection process worked democratically, at least in the indigenous region of Cuetzalan. The program oversight process was incorporated into the pre-existing participatory sub-municipal village governance structure, the municipal "auxiliary boards." Both *ejido* members and small farmers proposed candidates, voted and named the *vocales.* The representative of the Tosepan cooperative recalled that "the *vocales* were chosen in an assembly, and in some ways Tosepan contributed to this.... Over time, though, they began to irritate the Agriculture Secretariat, and those who had vested interests." For example, in the early years Tosepan organizers and *vocales* reviewed the large private plots that were signed up, even though they were not in production. "When we delivered the results, in the Rural Development District offices they looked the other way."

> In the experience of the vegetable producers in Oaxaca, their *vocales* were also named "in front of the community," but they added that "they never rotated, nobody should be in a position permanently, only Porfirio Díaz, and then they never call a meeting." At the same time, they admitted "sometimes producers are apathetic, and that is convenient for the government." A member of this organization added that the *vocales* "are no more than formalities... nothing happens with the official channels, just with one's buddies... [that's why] we have had to get mobilized, we've achieved the supports we've gotten through [state level] mobilizations" (though they clarify that they neither blockade nor occupy government offices. The CNC leader in Guerrero made a similar point: "as an organization we are pluralistic, there are groups from all the political parties, and we have to support them so that they get attention from the Agriculture Secretariat... [what we have to do is] to pressure the officials so that they deliver the resources on time."

4. PERCEPTIONS OF INEQUALITY

The unequal distribution of Procampo's benefits is very transparent to participants. This is logical, given the nature of the program's per hectare payments, but many producers also gave the impression that they perceived a certain injustice, insofar as large landowners received large checks, while smallholders had to make do with payments that were too small to change their structural condition. From their perspective, Procampo did not contribute to addressing their poverty, while it helped those who already had resources to concentrate even more capital. As a producer in San Martin Texmelucan, Puebla, put it:

> it's good for the landowner, for those who have as much as 200 hectares, just imagine how much they get. They'll say 'with my Procampo payment I'll get me a tractor' and will still have some left over. And the guy who's screwed, when? He stays screwed.

This perspective was shared by the representatives of producer organizations. In the case of UNORCA-Guerrero, they mentioned Procampo's goals, observing that the program "meets its goal of supporting the production of corn, but the peasants aren't able to reach the program's other objectives." The CNC representative in Guerrero noted that

> Procampo is good, but it has not met its goals, above all those involving the organization of production and marketing... The extra money from Procampo helps with subsistence, but doesn't influence production, changing crops, or organizational development... it's a minimal support for the peasants' basic needs, but it's not enough to get beyond subsistence.

The representative of the Unión Nacional de Fomento, Producción y Comercialización added that Procampo "doesn't benefit the small producer who has one or two hectares, it doesn't pull them out of the hole, and doesn't improve their way of life... for the small producer it's a lot of red tape for very little money."

BOX 8:
THE EXPERIENCE OF WIXARITARI (HUICHOL) INDIGENOUS COMMUNITIES IN JALISCO WITH PROCAMPO

Mauricio Maldonado (ITESU)

Three Huichol communities in Jalisco have engaged with the Procampo program in their own way. They registered for the Procampo as a group, received a block payment and then distribute the funds among members of their agrarian communities. These indigenous communities hold group land rights, and the members ("comuneros") are not individual owners of specific parcels. Members do hold individual private property, however, and in practice each family's plots are clearly assigned, often with fences.

These communities share more than land rights, they also share a broader sense of community membership (communality) in an ancestral domain. Land is not seen only as a factor of production. Their idea of shared territoriality is captured in the Huichol term *ta kiekari*, meaning our home, our home for everyone.

Members meet every three months in general assemblies to discuss shared concerns, especially those related to land tenure and government programs. In this context, the Procampo payment becomes a public issue for community discussion. Participation in the program is therefore registered either under the name of the entire agrarian community or under the name of the elected agrarian commissioner at the time. For example, the Procampo registry lists 843 hectares under "Indigenous Community of San Andres Cohamiata." This is just as legal as the registration of private firms under Procampo, though less common. Their own name for their community is "Tatei-Kie" (which means "la casa de nuestra madre").

The commissioner, together with the rest of the agrarian community leadership, is responsible for convening the assembly in which the resources are shared among community members. This assembly is one of the most celebratory and well-attended of the year. Resources are distributed equally to members in good standing, without the conventional verification of whether each plot had been planted that year. In the days before the assembly, local merchants stock up, in preparation for increase consumer demand for beer and food.

5. CONCLUSIONS

Producers tend to have a very pragmatic attitude toward the program. It is seen as beneficial, small but useful. Rather than being seen as a compensatory entitlement, the payments are seen as depending on the discretionary goodwill of the government. This generates a pattern of dependence on government, agricultural agency staff in particular, most often delinked from shared processes that could bolster producer participation and co-responsibility. In many regions, "beneficiaries" did not see value in the official channels for transparency and accountability. As long as their checks kept coming, few producers were interested in these formal procedures. They did express interest in being "up to date" on the program, at least in terms of dates and amounts of payments. In practice, for these practical reasons, they did express interest in transparency and accountability – but primarily understood in terms of their own informal practices or pre-existing channels for representation. Notably, where producer organizations represent their members, they also transmit not only information, but also provide advice, explain the context and encourage producer discussion about Procampo.

The main official channel for producer voice in issues of program transparency and accountability, the *vocalía*, was often either ineffective or non-existent. Instead, *ejido* leaders were often charged with dealing with Procampo follow-up on behalf of their constituencies. In several indigenous regions, in contrast, engagement with the program was incorporated into pre-existing institutions of community self-governance, most notably through their active appropriation of the *vocalía* as a producer interface with the program. In these communities, where the role of the *vocalía* was widely-understood, producers also knew more about program operations, suggesting greater access to information than in communities without active *vocalías*.

These findings show that the program does not strengthen citizenship, in the sense of exercising rights through participation in or oversight of the use of public resources. Instead, the program tends to weaken social capital, encouraging each individual to focus on their small individual annual check rather than on how to bolster the program's accountability and transparency more generally. This leads producers to look the other way, tolerating certain irregularities in order to avoid jeopardizing their access to the payment. Indeed, in the process of interviewing Procampo participants, they often expressed fear that expressing themselves could lead their payments to be reduced or even cut off.

Procampo is often referred to as "a support," or "a help," in the sense of a gift from the government. Notions of how gifts are received, inherited from Mexico's cultural legacy, are associated with dependence on the goodwill of elites and a lack of rights. This context helps to explain why, in many different regions, Procampo was described in terms of widely-used folk proverbs, such as *"¿A quién le dan pan, que llore?,"* [Who cries for being give bread?] or *"a caballo regalado no se le ve el colmillo"* [don't look a gift horse in the mouth]. These phrases reflect attitudes directly related to accountability and transparency – that one should thank the government for doing the favor rather than complain. As one Agriculture Secretariat advisor put it, "we are creating a culture of beggars."

The field research did not find any evidence of institutional interest in encouraging greater transparency or accountability. Officials use these terms, but they do not emphasize actions on the ground, such as encouraging the filing of complaints. The closest agricultural program link to producers is the CADER, and staff are very pragmatic, complying with minimum program rules.

These producer interviews indicate that Procampo has only partially met some of its goals. It has delivered direct payments, decoupled from the volume of production and type of crop, but many plots were left out, and most importantly, many producers. For many participants, the resources are insufficient to support the program's other goals. The program contributed to family income, but did not change their situation of poverty. Moreover, landless farmworkers and many small-scale renters were not included. Only in a few cases did the program encourage rural organization, and then only because pre-existing representative groups engaged, often in spite of the opposition or indifference of the regional representatives of the Agriculture Secretariat.

The findings of this pilot survey suggest at least two main issues for future research, in order to inform a more strategic approach to transparency and accountability.

1. Study ways of revitalizing and strengthening the role of the vocalía, throughout the country, not only in its current official role in terms of social oversight, but also, following the model from indigenous communities, as a formal liaison between organized producers and the agency responsible. This would open up two-way channels of communication, information and dialogue, and in the process could change everyday practices so that transparency and accountability would make sense to producers. This would involve a change in the government's approach, since currently the vocalías exist mainly only on paper.

2. Analyze ways to encourage agency collaboration with regional organizations to design and launch alternative approaches to promote both information flow and more effective investment of program resources. The current program design channels resources primarily to individuals. Yet social organizations could be encouraged to generate proposals for social oversight, transparency, or more effective use of the resources, adapted to the specifics of each region in order to build on existing social capital.

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Farm subsidy recipient lists:

A case of clear or opaque transparency?

Libby Haight
University of California, Santa Cruz
International Budget Partnership

Jonathan Fox
University of California, Santa Cruz

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Mexican law requires that federal agencies publicly disclose basic information about their operations, including their rosters of subsidy recipients.[1] In principle, this mandate allows citizens to detect possible anomalies in how public funds are distributed through these programs, both at the level of individuals and in terms of broader distributional patterns. In this way, governmental transparency creates the potential to encourage public sector accountability.

Public access to the official lists of recipients of Mexico's main agricultural subsidy programs has put this hypothesis to the test through an intense public debate, triggered by press coverage and a civil society project called "Mexican Farm Subsidies." This project, located online at www.subsidiosalcampo.org.mx, is hosted by the public interest group Fundar, Center for Analysis and Research and also involves academics and peasant organizations. The project is based on the official databases of the Procampo and Ingreso Objetivo farm subsidy programs (publicly available thanks to the Federal Transparency and Public Information Access Law, LFTAIG) and presents the data in a much more accessible format (for reasons that will be explained below). The presentation of the official data in this format makes it possible to do searches, and allows the public to learn details about these subsidy payments, showing who receives how much, where and for what. The website's analysis of the official data also reveals the payments' distribution patterns. The data shows, for example, that even Procampo, the Agriculture Ministry (Sagarpa) program that is the most pro-poor, has a very unequal distribution of payments.

This website project, together with Mauricio Merino's analysis (this volume), attracted media interest in knowing more about the distribution of these public resources. The discussion was led by the national newspaper *El Universal* in July, 2009 and again in February, 2010, and was taken up by other national and local media.[2] This coverage led to questioning and independent assessments of the actual distribution of Procampo and Ingreso-Objetivo subsidies – though the first of these two programs has been operating for 15 years. Analysis of the current beneficiary lists raised the question of whether these programs were fulfilling their original goals.

The journalists' investigation produced a series of influential reports that revealed that the official program beneficiary lists included the names of well-known agricultural sector policymakers, as well as the names of relatives of alleged drug dealers. [3] This led to media discussion of the ways in which Procampo and Ingreso-Objetivo have really been operating during all these years, and members of Mexican society began to ask whether these programs were using public resources in the most appropriate way.

Following the institutional commitment to the timely publication of certain data on the distribution of official subsidies, this significant advance towards open government leads quickly to a "second generation" of questions, largely involving the *quality* of transparency. Some information disclosure strategies generate more public access than others. Indeed, some open government measures are so limited that they lack the combination of accessibility, consistency and reliability that are needed for transparency to fulfill its potential to encourage accountability.

The media coverage of the celebrity beneficiaries of Procampo and Ingreso-Objetivo subsidies included discussion of the relationship between transparency and accountability, especially from the perspective of the limits of the official information. As will be seen below, the official data do not present enough information to confirm whether a name on the list really refers to the specific person that it apparently identifies. In other words, the fact that the name of the current Secretary of Agriculture, Francisco Mayorga, comes up as a Procampo beneficiary does not necessarily mean that it is actually the Secretary himself, because it could refer to another person with the same name. In this case, when the media reported the substantial amount of government funding that the current Secretary and his family received during his period of service as a public official in the agricultural sector, Mayorga confirmed that the name on the list was indeed his (Hernández 2010, Arvizu 2010). He went on to defend his right to be a program beneficiary, arguing that government officials have the right to subsidies if they are farmers (in spite of the rules that prohibit conflicts of interest). According to the Secretary, "I don't think there is any reason to give them up, not even for ethical reasons" (Arvizu 2010). In contrast, Merino cites "the absolute prohibitions in the Agriculture Ministry's rules of operation, published in December, 2007, and those which appeared much earlier in Article 8 of the Federal Law of Administrative Responsibilities of Public Servants" (Merino 2010). Merino further contends that "although there are legal ins and outs to avoid sanctions for receiving subsidies, from the ethical point of view, this is evidently a reprehensible position"

1 Article 7 of the Federal Transparency and Access to Information Law (LFTAIPG in Spanish) clearly details the information subject to mandatory disclosure requirements. Beneficiary lists for federal subsidy programs are specified under this clause for pro-active disclosure. In other words, this information must be made public by any federal agency operating a subsidy program on their website, without requiring that an interested party file an information request.
2 Notably, see the work of Evangelina Hernández and Ignacio Alvarado, of *El Universal's* Investigative Unit.
3 See the two series in *El Universal* at: http://www.eluniversal.com.mx/graficos/especial/EU_procampo/historico.html (for July 2009 coverage), and http://www.eluniversal.com.mx/graficos/especial/EU_procampo (for the February 2010 coverage).

(Hernández 2010).[4] Meanwhile, Merino observes that the Secretary of Public Administration "prefers to turn the issue over to the state government's oversight agencies" (Merino 2010).

Meanwhile, as one might imagine, when the media pointed out the presence of relatives of alleged drug dealers on the Procampo subsidy lists, it was not possible to get the same kind of de facto confirmation in the form of public statements by the "accused." As a result, one cannot claim with 100% certainty that the names on the list correspond to the specific individuals who appear to be identified. However, the fact that there could be doubts about the precise identities of subsidy beneficiaries is a clear example of the limits of what appears to be transparency, as well as its disconnect with accountability.

This raises important issues for the broader debate about the potential for a more transparent public sector to lead to full accountability. First, one must recognize that the media coverage (though limited by the emphasis on exposing scandal) opened up to debate the issue of how subsidy programs distribute public resources, simply by asking whether the current beneficiaries are those who should really be receiving these funds. Second, these revelations and discussions could be a step towards a broader public debate regarding government officials who receive public subsidies from programs in their own sector – the issue of conflict of interest. Third, the debate over who is on the subsidy lists triggered larger questions about the programs' performance. This points to the narrow agendas of the official evaluations of Procampo and Ingreso Objetivo, insofar as these programs' evaluations have not addressed their lack of transparency, nor their real impacts in Mexican society. Moreover, the case of the public debate over Procampo and Ingreso Objetivo shows that although transparency can inform the discussion of the impact of governmental programs and where public funds go, this debate has yet to be informed by the involvement of other institutions, such as the judiciary and the congress, which could begin the long transition to accountability.

In this context, this study presents the results of detailed independent analysis of the nature and quality of public data in the lists of recipients of Mexico's main farm subsidy programs, including but not limited to Procampo and Ingreso Objetivo. The study is based on a series of public information requests sent to ASERCA, formal appeals of denials of information requests, and analysis of official data made possible through the new, independent on-line database, www.subsidiosalcampo.org.mx. Beyond determining whether the names on the beneficiary lists correspond to specific individuals, the goal is to establish, though an independent evaluation of public programs, the degree to which official transparency is meeting its goal of providing the public with quality, reliable information.

In summary, this assessment found that ASERCA's disclosure measures for its two main farm subsidy programs appear to be very transparent at first, but upon closer examination they are quite opaque. In addition, many of Mexico's other farm subsidy programs fall short of even the appearance of transparency. In general, all of ASERCA's subsidy programs share two cross-cutting problems, involving the quality of public data: inconsistency in the presentation and lack of precision regarding who the beneficiaries are and how much they receive.

- One key institutional constraint is that each government agency—and each program within each agency—organizes and disseminates their recipient information differently. The federal transparency law (LFTAIPG) does not set minimum standards for quality and consistency of official data. Farm subsidy policy is more transparent than it was before open government reforms, but the inconsistency in the presentation of the data continues to prevent external observers from determining exactly who gets what from more than one program.

- In addition, farm subsidy data does not consistently reveal how much money individuals or enterprises receive from each program. Even the two most transparent subsidy programs, Procampo and Ingreso-Objetivo, present data that show the amount of each payment to each registered recipient. Yet individuals or enterprises can be registered more than once, which means that the public data *understates* the concentrated distribution of subsidy payments. At the same time, the official registration system allows groups of producers to register together as one recipient (as in the case of the Rural Production Societies, for example), which would lead the data to *overstate* the degree of concentration of payments. In other words, this way of presenting the data on who receives subsidies is distorted in two opposite directions at the same time. As a result, it is not clear whether, on balance, the official data overstates or understates the concentrated patterns of distribution of farm subsidies. Until official farm subsidy databases disclose how much public money goes to each individual, it will not be possible for the public to know who gets what in farm subsidy payments.

4 For additional details, see Merino (this volume).

1. PUBLIC ACCESS TO FARM SUBSIDY DATA

The mandatory disclosure of recipient lists required by the federal transparency law (LFTAIPG) has increased public access to information about who is getting what from ASERCA's two largest farm subsidy programs, Procampo and Ingreso Objetivo. More information is currently available online than ever before about each program's subsidy recipients, at least for those specialists with the skills necessary to navigate official databases. However, the federal transparency law includes no requirements regarding how each agency, or each program within each agency, organize and present their information. The law requires agencies to publish *whatever* information is currently in their possession regarding subsidy recipients, however that information may be organized or presented. They are not required to *generate* information that is not currently in use by the agency.[5] This lack of minimum standards and consistent format is an obstacle to public scrutiny of these public expenditures.

Because of institutional limitations, though many farmers and agribusinesses receive subsidies from multiple programs at the same time, the current information disclosure system prevents observers from knowing exactly who gets what from more than one program. The cause of this opacity is that each of the different agricultural agencies and programs use their own lists for keeping track of subsidy recipients. In addition, most programs assign subsidy recipients their own separate individual identification number, which prevents analysis of who gets what from more than one program. Policymakers have suggested that they plan to address this issue, but as of early 2010, tangible changes have yet to be seen. This combination of the lack of a universal subsidy recipient identification number or a centralized beneficiary list that includes all the relevant programs greatly complicates the extent to which current open government reforms can bolster accountability in farm subsidy programs.

Most programs present their information about farm subsidy recipients with a high degree of internal homogeneity, as will be discussed below. In the best cases, programs assign farmers an identification number specific to that program, which remains somewhat consistent over time and therefore allows some tracking of subsidy payments to farmers across years within that program. However, this is not always the case, and independent analysis of beneficiary lists found examples of direct-payment subsidy programs whose recipient lists do not include unique farmer identification numbers, and therefore do not even allow tracking of payments across years within the same program.

Overall, it is currently impossible to know the aggregate amount of subsidies that any one farmer receives across programs for any year with any certainty. Since, at best, the ID number assigned to a farmer is unique only to one specific program at a time, it is quite possible that a farmer has dozens of different ID numbers when receiving funding from multiple programs, and/or several payments within a given program. Since programs are not currently required to publish information that identifyies each individual farmer, there is no way to know with certainty whether the same name, either within a program or across programs, is indeed the same person or a case where two different people have identical names.

This issue has gained significance, as government responses to public information requests have consistently argued that additional information permitting the identification of farmers beyond the publication of their names is either unavailable, or not subject to official transparency requirements.[6] While it is important that individuals' private personal information be protected, if it is true that identifying information on individual farmers is *unavailable* (meaning that government has not gathered this information, regardless of whether publishing it violates privacy clauses), this would imply that even the government is unaware of how much funding any one farmer is receiving from the whole range of farm subsidy programs.

The following section presents the results of an independent assessment of public access to recipient data for each of Mexico's main farm subsidy programs,

- **Procampo, Mexico's largest direct payment agricultural subsidy program representing over 60% of ASERCA's budget (over 20% of Sagarpa's total budget), publishes by far the most comprehensive farm subsidy information available.** Currently, ASERCA publishes and frequently updates the full recipient lists for Procampo online, for all of the over 2 million registered beneficiaries of the program since its inception in 1994.[7] This information is easily downloadable in Excel, and includes detailed data on each recipient's name, the state and municipality where their land is located, their crop, the amount of land funded by the payment, and the payment amount (among other details provided).

5 Article 42 of the LFTAIPG clearly states that agencies are only required to give out information already in their possession.
6 Interview held in SAGARPA's offices with Graciela Aguilar, Director of ASERCA and Alberto Cárdenas, then Minister of Agriculture, August 11, 2009. See also information request number: 0810000021607. Note that official public information requests are available for consultation through the IFAI's *Zoom* search engine, at http://buscador.ifai.org.mx/buscador/bienvenido.do
7 Available at http://www.aserca.gob.mx/artman/publish/article_1424.asp

Files are presented by year, season, and state. Within the Procampo database (and over time), each recipient is assigned a Procampo Farmer ID for their payments. As will be discussed in further detail below, this Farmer ID permits multiple registries and is not sufficiently unique to distinguish between farmers with similar names.

- **Ingreso Objetivo, Mexico's 3rd largest subsidy program, part of ASERCA's Marketing Supports programs which represent over 18% of the agency's budget, and just under 10% of the overall Sagarpa budget, also makes available highly comprehensive information on recipients.** Originally, to qualify for Ingreso Objetivo payments, a potential recipient was required to be registered in the Procampo database. As a result, the information registered for Ingreso Objetivo beneficiaries closely resembles the public Procampo data, and on some occasions uses the same Farmer ID to identify payments administered through Ingreso Objetivo (though not always). The databases publicly available on ASERCA's website for this program are also easily downloadable in Excel, and provide equally disaggregated information on each payment, including farmer name, Farmer ID, geographic information, crop, tonnage subsidized, and payment amounts (among other data).

- **Beneficiary lists for Mexico's 2nd largest agricultural subsidy program, The Program for Acquisition of Productive Assets (El Programa para la Adquisición de Activos Productivos, previously known as Alianza para el Campo), which represents around 18% of Sagarpa's budget, are much more difficult to obtain and are highly inconsistent.** Funded by the federal Agriculture Ministry but administered by state and municipal governments, the umbrella investment subsidy program long known as Alianza para el Campo does not currently publish a single national database of program recipients. While there are certain national eligibility guidelines established each year at the Federal level, state and local governments are ultimately responsible for determining who will receive funding from the programs in their state or region. Therefore, each state maintains its own recipient lists, whose organization and accessibility vary widely. As a result, it is very difficult to verify the degree to which federal eligibility standards are respected in practice.

  Monitoring is also complicated by the umbrella program's division into involves numerous components and sub-programs within the federal Agriculture Ministry (Sagarpa). Funds for the program are a combination of federal, state and municipal budget transfers, all of which are concentrated into state government public trust funds (*fideicomiso* in Spanish).

  Together, these factors effectively block public access to information about who is receiving funding- and for what- from the Alianza investment support programs. The overall amount of money that is being spent for these programs in each state is very difficult to uncover, as access to information about *fideicomisos* is a grey area in the current LFTAIPG, and each state has its own local transparency laws, which are very uneven in their scope and accessibility. [8] The fact that each state or municipality also chooses who will effectively gain access to these programs also means that the construction of a national recipient list depends entirely on the timeliness in which each state makes their recipient information available (if at all), and the quality of each state's program data.[9]

- **ASERCA's remaining subsidy programs, now known as Compensatory Supports (formerly known as Marketing Supports) continue to be opaque.** Ingreso Objetivo is only one element of a larger package of marketing subsidy programs. ASERCA currently operates an additional 10 sub-programs operating under this umbrella subsidy program, all of which are garnering increasing budget allocations since direct payments to support corn prices to farmers through Ingreso Objetivo have fallen since 2006. Recently, ASERCA has begun publishing recipient lists for the remaining Marketing Supports programs, though these files are not located in the "Recipient Lists" section of their website, and instead are to be found within the descriptive information available about each sub-program.[10]

  Information about recipients of the Marketing Supports subsidies (with the partial exception of Ingreso Objetivo) is presented in such a way that it makes it very difficult to truly understand who is receiving funding, where, for what reason, and for how much—despite the fact that these programs provide very large payments to recipients, often for many millions of pesos at a time.[11] Access to this data is difficult because each sub-program posts a series of files, often in PDF or in a series of disjointed Excel files, which contain minimal information on the recipients of each sub-program, if recipient information is available at

8 For more information on the complexity and opacity of state government budgets, including their limited agricultural spending information, see the work of the state budget transparency project, led by Juan Pardinas of the Instituto Mexicano para la Competitividad (IMCO), at http://imco.org.mx/finanzaspublicas/

9 For analysis of how these investment subsidy programs allocate resources, see Palmer-Rubin (this volume).

10 Files are scattered throughout the information available in the "Our Programs" section, at http://www.ASERCA.gob.mx/subhomes/NuestrosProgramas.asp.

11 See Box 5 in Fox and Haight (this report) for examples of transnational corporations that receive millions of pesos in payments through the Marketing Support sub-programs.

all.[12] Additionally, not all files for a given program during a consistent period of time are available in the same on-line location. This study found a number of cases where recipient lists for export or storage subsidies are embedded within the recipient information for an entirely different program.[13]

Most of these sub-programs do not include any type of ID number attached to recipients, and for those that do have a unique number corresponding to a specific recipient, this number varies from year to year because it reflects the number attached to their application for funding rather than assigning a number to the recipient themselves. In other words, most sub-program recipient lists are either lists with no identifying information attached to each recipient, or if they do attach an "identifier", it is the number of that year's application and not a consistent ID that can be tracked across time.

Some sub-programs do not specify even the state in which the recipient is located. Instead, the files refer to a group of states without specifying which recipient received funding in which state in the group. Some sub-programs' recipient lists refers to a region rather than to state or municipalities.

Overall, ASERCA's organization and presentation of subsidy data for most of the Marketing Supports sub-programs makes it very difficult to compare the distribution of payments either over time within the same sub-program, or across sub-programs for the same year. The presentation of these recipient lists is chaotic at best, and even after a significant research effort to organize the data in a way that would permit comparisons across programs within the same year (a monumental task unto itself), the incompleteness of the information provided makes it extremely difficult to know with any degree of certainty the aggregate amount of Marketing Supports subsidies paid to any one farmer, organization or company.

The public interest group, Fundar, has made repeated attempts to access greater levels of detail on the payments made through these programs.[14] While limited progress has been made in a small minority of cases, unfortunately the predominant ASERCA response has been that the information currently available on their website is the "best that they can do" in terms of providing detail about subsidy recipients. Some officials claim that the nature of the program in question does not permit the collection of greater detail on who receives payments. Others claim that providing any additional information would violate the private personal information of the recipients. Others simply claim that despite their best efforts, the agency cannot be responsible for gathering the level of detail that Fundar has requested, and since they are not required to *generate* information in response to an information request, since the information requested is not already being gathered in the format requested, they are not required to provide it.

Overall, the case of the Marketing Supports sub-programs (other than Ingreso Objetivo) shows that despite ASERCA's formal compliance with the official mandate to pro-actively publish recipient lists, the agency is far from transparent about these direct marketing subsidy programs' actual distribution of payments.

- **Similarly, recipient lists for ASERCA's fuel and other subsidies are nominally available, but they provide insufficient information and are difficult to decipher.** ASERCA formally complies with LFTAIPG mandates, insofar as all of the programs it directly operates provide at least nominally public recipient lists through their website—including its "commercial strengthening" and fuel subsidy programs. However, as is the case with the Marketing Supports sub-programs (apart from Ingreso Objetivo), the availability of these recipient lists for the remaining subsidy programs does not necessarily facilitate independent monitoring or analysis of subsidy recipients.

  In the case of the fuel subsidy programs, which include 3 subprograms designed to subsidize the cost of fuel used in tractors, other farm machinery and fishing boats, recipient lists are published in PDF format, presenting information in a .txt format that is extremely difficult to read.[15] The information is not presented in a table, rather it is a list of text divided by a series of vertical lines (that vary for each entry in the list) indicating the state, district, subdistrict, name and payment amount. No identification number for each recipient is presented.

  Separate files indicate, for each state, the overall consumption (in liters) for a given time period, as well as price variations. However, even if one compares these files with the ac-

12 For example, the sub-program *Apoyo a la Inducción de Patrones de Producción de Oleaginosas* currently had no recipient information available online as of December 14th, 2009.
13 Information in varying harvest cycles, and sub-programs related to transportation and export subsidies, are often embedded in files claiming to pertain to storage subsidies, for example.
14 See information requests cited above.
15 See http://www.aserca.gob.mx/artman/publish/article_1234.asp

tual recipient list, it is impossible to relate how many liters, and at what price, each individual recipient consumed and therefore what exactly was subsidized. After deciphering the difficult presentation of the recipient data, we know the amount that ASERCA paid each recipient, but it is impossible to determine how many liters were covered and at what price per liter.

Because of the nature of the presentation of this information, in addition to the limits on comparing the multiple files available, it is extremely difficult to perform an independent analysis of who is receiving these fuel subsidies, where, and why. The files are thousands of pages long for each year, they are password protected (limiting the possibilities of viewing the documents in any other format). Even when printed, they are extremely difficult to read, let alone compare across states even within the same year. Comparing subsidy distribution over time is an equally difficult task, limited also by the lack of a unique identification number for each recipient.

- **While Procampo's recipient lists date back to the beginning of the program (1994), information about Compensatory Supports (Apoyos Compensatorios) prior to 2000 is very difficult to obtain.** The currently available databases for Procampo provide detailed information on the history of subsidy payments since the first checks that were issued under the program. In contrast, however, the programs now operating under the umbrella program, Apoyos Compensatorios (or Apoyos a la Comercialización), which have been in place since 1991, do not disclose historical payment data.

  What began as essentially a package of subsidies designed to also compensate crop purchasers as agricultural markets were increasingly "opened", since then has undergone a series of sub-divisions breaking out each funding line into different sub-programs, each with their own rules, and therefore also their own recipient lists (as discussed above).

  The notable exception is Ingreso Objetivo, whose publicly available recipient lists are not only the most complete of all the Marketing Supports sub-programs, but also provide information for payments made since the program was implemented as such (files go back to 2000).

  However, the remaining sub-programs—many of which provide very large payments of many millions of pesos to small numbers of recipients—have gone through a series of reconfigurations making the historical reconstruction of exactly which programs were operating in which years very difficult to decipher. Most of the currently publicly available recipient lists are much more recent; 3 sub-programs only provide information starting in 2008, 1 goes back to 2007, 3 to 2006, 1 to 2004, and only 1 program provides details from 2002 forward.

  An information request submitted to obtain data about recipients of Marketing Supports payments from the program's inception to date produced a response providing information from 1999 forward. [16] The file provided was a Word document containing a series of photos (.jpg files) of tables of recipients, making the comparison of recipients over time very difficult, especially for those programs whose recipient lists publicly available online do not go back very far in time.

  These difficulties in the organization and presentation of the data publicly available for recipients of the Marketing Supports sub-programs (with the notable exception of Ingreso Objetivo), combined with the lack of reliable and accessible information on the historic distribution of the program, make an overall understanding of how these funds have been spent, where they've gone, and why, a very difficult task. Given that these programs provide substantial amounts of funding to those who are able to access them, it is notable that formal compliance with transparency requirements does not provide sufficient information to understand how the payments are distributed.

  Overall, on the one hand, ASERCA offers a high degree of detail available in its Procampo and Ingreso Objetivo recipient lists, which provide more comprehensive information on the real distribution of subsidy payments than any other agricultural program. On the other hand, however, ASERCA is simultaneously responsible for some of the most opaque recipient lists in their Marketing Supports, fuel and other subsidy programs.

16 See information request 0810000040808.

2. CONSISTENCY AND RELIABILITY OF OFFICIAL DATA ON SUBSIDY RECIPIENTS: THE CASE OF PROCAMPO

Transparency is a necessary—if insufficient—condition for accountability. We have seen that for many of Mexico's major agricultural subsidy programs, formal compliance with mandatory disclosure requirements does not necessarily bolster transparency, since the data presented is ways that render the information largely inaccessible. In other words, for programs such as the Marketing Supports subsidies and the Alianza investment programs, "disclosure" does not even imply "transparency".

In the case of those ASERCA programs that *are* more transparent, such as Procampo and Ingreso Objetivo, taking the necessary steps to move further along the path toward accountability depends on a number of additional factors. On one hand, interested parties would need to take advantage of government transparency in order to perform independent analyses that inform public debate about program operations. In other words, watchdog groups, program evaluators, the media and academics can use greater degrees of transparency to bolster accountability when they adequately utilize the information available to evaluate program performance, generate alternative proposals, and hold government officials to task for compliance with existing regulations.

However, independent actors' capacity to act on newly transparent information depends also on the *quality* and *reliability* of the data provided. Though the government's official subsidy recipient registries are now publicly accessible, this new level of transparency does not address problems of data quality. This complicates the degree to which transparency can promote accountability. In the case of ASERCA's most transparent and comprehensive recipient lists, for Procampo and Ingreso Objetivo, independent analysis shows that the information publicly available is insufficiently reliable to ensure that the data actually reveals who is getting what from these direct payment programs. The principal weaknesses in data reliability are detailed below:

- **The publicly available recipient lists for Procampo report information on individual *payments*, not individuals**. Procampo payments are technically tied to the land parcel that is receiving funding, not necessarily to the farmer or enterprise that is cultivating it. When the land is registered in Procampo it is assigned its own parcel ID number (*folio de predio* in Spanish). However, this land-identifier is not currently available in the publicly accessible recipient lists. What is available is an ID number assigned to the farmer who is receiving the payment (*clave de productor* in Spanish). However, any one individual farmer may have multiple Farmer ID numbers within the Procampo registry, even during the same harvest cycle. Essentially, every time Procampo issues a payment to a program recipient, that payment is recorded according to the Farmer ID for the individual or organization receiving the payment, which may not necessarily be the only Procampo Farmer ID they have been assigned. Therefore, any one individual may appear several times in the Procampo registry. While information about the municipality in which the land is located, and the number of hectares receiving funding is included, none of the payment information is linked to the original land identifier.

- **Many individuals have multiple producer numbers in the Procampo registry, for reasons that are not clear.** It is both possible and legal that a farmer could register more than one plot of farmland upon signing up for Procampo. Therefore, a farmer could understandably be associated with several different land identifier numbers (*folios de predio*) registered with the program. However, there is no clearly defined relationship between the Farmer ID number that Procampo assigns to individuals, and the land for which they are receiving the payment.

  ASERCA has not provided any official explanation as to how Farmer ID numbers have been assigned to individual Procampo recipients over time, and no additional identifying information on individuals is provided. Currently, what this implies is that there is no way to know with certainty whether the multiple appearances of identical names under different Farmer ID numbers are indeed the same person, or whether they are different people located in the same place who happen to have identical names.

  One possible explanation for assigning multiple Farmer ID numbers to the same individual could be explained by the practice of land rental. Procampo's operating rules permit rental of farmland, and the program has encouraged rental throughout its history, which may explain why some farmers have been assigned multiple ID numbers. It could be the case that when an individual rents someone else's land for a given season, the land owner cedes

their Procampo payment to the renter as part of the rental package. In this case, if the renting farmer also has their own land registered in Procampo, it is possible that in the case of the rental transaction, the farmer was assigned a new ID number.

Procampo's director reported that as much as 80% of the payments issued during the Fall-Winter harvest cycle are paid to renters rather than to landholders.[17] If it is the case that some of the multiplication in Farmer ID numbers is due to extensive land rental, then it is still unclear whether or not the rental Farmer ID has remained consistent over time, or is also constantly changing.

ASERCA has yet to clarify how Farmer IDs are assigned to individuals or to organizations, which greatly limits the capacity of independent analysis to document distributional patterns in subsidy payments. Since there is no clear association between names that coincide and ID numbers, and in the absence of an official explanation as to how the Farmer ID is assigned, there is no way to know with certainty either who is receiving these payments, or the aggregate amount of funding that an individual farmer or organization might be receiving.

To underscore the scale of this problem, the publicly available recipient lists for just the "Tradicional" component of Procampo indicate that there have been over 5.3 million distinct Farmer ID numbers assigned to individuals and/or organizations over time.[18] However, the official number of "producers benefited" by Procampo recipients in 1995 was 2.9 million, according to the *Informe de Gobierno* (apparently referring to individual producers). The number of "producers benefited" was still 2.8 million in 2002, but fell to 2.4 million in 2008.[19] In other words, the number of Farmer ID numbers that have been assigned to individuals or organizations over time is considerably higher than the official count of the total number of farmers participating in the program (especially in recent years).

- **The Procampo plot number is the only reliable identifier that has not changed over time.** However, this information is not currently publicly available, and the current Director of ASERCA indicated that the sensitivity of this information (arguing that its release would permit the localization of program beneficiaries) prohibits its release to the public.[20] If this information were made publicly available, one would be able to track the overall amount of payments that have been made to each plot of land enlisted in the program. However, this would still not resolve the issue of how to confirm who has been receiving payment for working a given landholding.

Access to the ID numbers for specific landholdings would permit an analysis of the degree to which that parcel (or portions thereof) have been subject to rental. One could ostensibly see the variety of Farmer ID numbers that have been issued payments for each parcel of land, and whether or not the land has been funded in its entirety or sub-divided. However, access to this kind of data would not solve the problem of knowing whether or not the potentially multiple Farmer ID numbers related to a parcel pertain to the same person or different people with identical names.

Researchers interested in gaining greater detail about the absolute number of distinct individuals receiving Procampo subsidy payments filed information requests to ASERCA asking for greater specificity in the information about the Procampo registry. The official responses revealed that ASERCA does actually have in its possession information permitting the distinction between multiple Farmer IDs, similar names, and distinct individuals. Such additional information, when pertaining to individuals rather than organizations, includes Mexico's national universal population registry number (CURP in Spanish) assigned to individuals when their birth is registered. Since this code contains potentially sensitive personal information, its release would violate privacy clauses in the transparency law, but the fact that ASERCA does indeed appear to have this number in its records implies that they *are* able to associate multiple IDs with distinct individuals. At the very least, the fact that ASERCA does have the capacity to relate ID numbers to individual names with greater certainty implies that the creation of a more consistent Farmer ID number is not inconceivable.

At the same time, in the interest of protecting private personal information, another additional piece of information that could be useful for discerning between individuals with identical names could be the inclusion in the publicly available databases of the locality where the individual's payment is issued. While this would not provide total certainty that the listing of more than one person with the same name in the registry indeed refers to the same individual, the currently available information only provides data on the *municipality*

17 Information provided by then-Procampo Director Gustavo Adolfo Cárdenas Gutiérrez, June 19th, 2009 in the Procampo offices.
18 See www.subsidiosalcampo.org.mx
19 Gobierno Federal (2009) and Information request No. 0810000025509, available for public consultation through the IFAI's *Zoom* search engine, at http://buscador.ifai.org.mx/buscador/bienvenido.do.
20 Meeting with Graciela Aguilar, Director of ASERCA and Alberto Cardenas, then Minister of Agriculture, held in SAGARPA's offices, August 11, 2009.

where payments are issued (comparable to a county). It is much less likely that different individuals with identical names reside in the same *locality* than if producers had the same names within a *municipality*. While this approach would not provide 100% certainty as to whether the multiple Farmer IDs attached to an identical name are indeed the same person, it would decrease the likelihood that repeated names refer to different individuals.

- **The clarification of the relationship between Procampo's Farmer ID number and individuals would still not resolve the simultaneous issue of payments to organizations that distribute subsidies to their members.** Procampo's rules also permit a cooperative, organization, *ejido*, or other collective enterprise to register for subsidy payments as a group. This implies that the different land parcels associated with such an organization are grouped together in the payment process, and only one check (or deposit) is issued to the organization as a whole (rather than directly to the individuals involved in the organization). The organization then distributes this lump sum payment among its members.

  Procampo's registry also assigns Farmer ID numbers to organizations. There are cases where the same organization is assigned multiple ID numbers, for reasons that are just as unclear as in the case of the same practice with individuals. Currently, it is impossible to know how many individual farmers are involved in a registered organizations, or within their membership, how many will receive a portion of the Procampo payment for any given harvest cycle. Information requests to ASERCA, in addition to direct conversations with ASERCA staff, indicate that even ASERCA does not know how many individuals will receive portions of a payment that is made to an organization.[21]

  ASERCA claims that since local Sagarpa offices (CADERs) are responsible for receiving Procampo applications, there is no way that the central offices can control the quality of the data. Additionally, ASERCA claims that gathering such a high level of detail on each individual in the program (much less such detail on members of organizations), considering that there are over two million beneficiaries, and given that it would involve coordinating with so many local government offices.

- **For these reasons, the Procampo registry simultaneously *over-counts* the total number of individual recipients, and at the same time *undercounts* the number of distinct farmers receiving funding as members of organizations.** The net effect of these two distortions on the total overall number of Procampo beneficiaries is not clear. In the Federal Audit Agency's review of ASERCA's 2006 performance, they found 2.56 million producers and 3.48 million parcels on the rolls (ASF 2008: 428). According to ASERCA data reported in Presidenti Calderon's annual state of the nation report (*Informe de Gobierno*) for the same year (2006), there were 2.32 million farmers enrolled in the program.[22] ASERCA's response to an information request that specifically asked for a response indicating the "total number of unique individuals" receiving payments through the program reported that, in 2006, there were approximately 2.75 million farmers enrolled in the program.[23]

  These inconsistencies, only for the case of 2006, are not minor, since they represent differences of between 190,000 to 430,000 farmers. This latter variation corresponds to the difference between the two figures that ASERCA provided in the total number of program beneficiaries. Other than the formal response to the information request, neither the *Informe de Gobierno* nor the ASF Audit Report clearly define how they reached their conclusions about the distinct number of individual farmers participating in the program. In other words, for the two official published reports, we do not know if they simply added up the total number of Farmer IDs (simultaneously *over-counting* of individuals with more than one ID during 2006, and *undercounting* because of the members of organizations included), nor whether they used some other methodology to address questions raised by the data (such as whether identical names refer to the same person or not). The fact that these two counts vary implies that they must have used different criteria to establish what "'counts" as an individual in determining their overall quantities of program beneficiaries.

  In ASERCA's response to the information request cited above, officials reported that they solved the problem of over-counting individuals by claiming that the numbers provided were calculated after associating each individual with additional identifying information (such as their name, CURP, birthday, birthplace, and other information). However, they openly stated that in the case of organizations, each one was only counted once according to its corresponding Farmer ID.[24] Therefore, it is remarkable that this particular calculation

21 Interview with Graciela Aguilar, then Director of ASERCA and Alberto Cárdenas, then Minister of Agriculture, SAGARPA, August 11, 2009.
22 Gobierno Federal (2009: 196) (en el archivo correspondiente a "Economía competitiva")
23 See information request 0810000025509
24 Information request No. 0810000025509. The exact text of the response to the information request states the following, "Note: Because a producer can have more than one Farmer ID, to count the individual producers one groups together the father's last name, the mother's last name, the first name, the date of birth, the state of birth, CURP and Electoral Registration number for physical persons, and in the case of moral persons [enterprises], they are only counted by Farmer ID." (sic)

of the number of beneficiaries in Procampo is the highest of the 3 official sources available, since methodologically the issue of over-counting individuals with multiple ID numbers was ostensibly resolved, and we are left with the problem of undercounting the number of distinct individuals that may be sharing a single Farmer ID through their organization.

The undercounting issue is highlighted by the fact that the largest payments made through Procampo are issued through organizations. The top 14 recipients over time of Procampo Tradicional are all groups rather than individuals, including mostly private enterprises, but also a large indigenous *ejido* in the state of Jalisco (see Maldonado, this volume).[25] In fact, there are only 7 individuals in the list of the top 50 recipients of the Procampo Tradicional program between 1994-2008.[26]

- **This ambiguity as to who exactly receives what from Procampo makes it impossible to carry out a consistent analysis of the distributional patterns of subsidy payments, or to monitor compliance with existing rules.** The absence of the parcel ID number from the publicly available recipient lists means that payments cannot be accurately tracked to the specific land that is being funded. At the same time, the insufficiently precise Farmer ID number, both for individuals and organizations, and the lack of an official explanation as to how the Farmer ID is assigned, means that tracking payments at the individual level is impossible to achieve with precision. The only accurate analysis of distributional patterns that can currently be carried out would be the distribution of payments at the municipal level over time. While this analysis would allow one to see where the money has been going, and the degree of concentration in the geographic distribution of payments, an analysis of the degree of concentration in payment distribution at the individual level (i.e.: who gets exactly what, in comparison to what others get) will be imprecise as long as the Farmer ID problems persist.

  Another important independent analysis that is currently impossible to perform with precision, which is important from an accountability perspective, would be an independent evaluation of the degree to which Procampo payments respect the program's established operating rules. When Procampo was first created via Presidential Decree, it was established that payments would be limited to 100 hectares of irrigated land, or its equivalent in rainfed land (noting also that these are the landholding limits established in the Constitution following the agrarian reform). However, it is unclear whether, in practice, any authority was ever tasked with ensuring compliance with this ceiling, at least before 2009 (see Box 1). These provisions did not address land rental, which left open a space for discretionary action. The payment ceiling of 100 hectares of irrigated land was reiterated in 2004, when Congress included these restrictions on Procampo payments in its Budget Decree. In April, 2009, the Agriculture Ministry and ASERCA agreed to further limit Procampo payments to individuals, publishing in Procampo's operating rules a limit of $100,000 pesos per farmer per harvest cycle (US$8,000).

  These official limits on Procampo payments restrict the amount of funding that any one individual is allowed to receive. However, since there is currently insufficient information publicly available to track with certainty payments at the individual level, it is impossible to independently verify whether these legally established limits are being respected.

  For example, even after the April 2009 changes in the operating rules, some producers continued to receive amounts that considerably exceeded the established ceilings. As shown in Box 1, which is by no means a complete list of the violations of the rules, ASERCA's own data revealed that the made payments of more than $100,000 pesos each to many individuals producers for the spring-summer 2009 crop cycle. [Editor's note: One year later, however, Procampo payment ceilings appeared to be respected for the first time (see below), possibly in response to increased public scrutiny.

25 www.subsidiosalcampo.org.mx
26 www.subsidiosalcampo.org.mx

BOX 9:
NONCOMPLIANCE WITH PROCAMPO RULES OF OPERATION: INDIVIDUALS WHO RECEIVED MORE THAN M$100,000 (SPRING-SUMMER 2009)

Ana Joaquina Ruiz Guerra (Fundar)

According to Procampo's Rules of Operation, no individual is allowed to receive more than 100,000 pesos in subsidies, starting with the Spring-Summer 2009 crop cycle. Nevertheless, these rules were not strictly applied. Here follows a table which shows the beneficiaries who received more than 100,001 pesos for the Spring-Summer 2009 crop cycle.[27]

ASERCA Subsidy recipients listed who received more than M$100,00 from PROCAMPO Tradicional – Spring-Summer Crop Cycle 2009				
Producer Name	State	Area funded (hectares)	Amount of funding (pesos)	Ciclo
HANUN JORGE JORGE ALFREDO	Tamaulipas	328.6	$ 316,441.80	PV09
ZUNIGA CEPEDA MARIA GUADALUPE	Tamaulipas	301.84216	$ 290,674.00	PV09
GARCIA MEDRANO J SERGIO	Durango	257.54	$ 251,824.12	PV09
MANZUR NADER SANDRA	Tamaulipas	249.13	$ 239,912.19	PV09
ARELLANO CANALES MARIA BRISELDA	Tamaulipas	208.17	$ 200,467.71	PV09
DE LA GARZA COLLADO LUCAS	Tamaulipas	207.68432	$ 200,000.00	PV09
ARGUELLO HERNANDEZ ALEJANDRO	Tamaulipas	204	$ 197,800.00	PV09
RAMOS FLORES JAVIER	Jalisco	202.84216	$ 197,022.00	PV09
DE ANDA SANCHEZ SAUL EDUARDO	Tamaulipas	203.84216	$ 196,300.00	PV09
CARDENAS CHARLES JOAQUIN	Tamaulipas	203.84216	$ 196,300.00	PV09
BARRON TIJERINA ASCENCION	Tamaulipas	200	$ 192,600.00	PV09
ELIAS SUDERMAN AGANETA	Chihuahua	193.84216	$ 186,670.00	PV09
URIBE RIVERA DAFNE ALEJANDRA	Tamaulipas	180.005607	$ 173,345.40	PV09
LOAIZA CONTRERAS JOSE DIEGO OSCAR	Puebla	180	$ 173,340.00	PV09
DE LA GARZA MORANTES CESAR	Tamaulipas	178.84216	$ 172,225.00	PV09
MONTES NEVAREZ SAMUEL	Chihuahua	155.5	$ 166,875.50	PV09
TINOCO TINOCO MANUEL	Durango	171	$ 164,673.00	PV09
UNGER WIENS ELIZABETH	Chihuahua	169.24216	$ 162,980.20	PV09
JAQUEZ FLORES JUAN ANTONIO	Chihuahua	167.68432	$ 161,480.00	PV09
GIESBRECHT REIMER JUAN REYNALDO	Chihuahua	166	$ 159,858.00	PV09
PEREZ ROMO MERCEDES	Jalisco	165	$ 158,895.00	PV09
ORTIZ HERRERA JOSE LUIS	Zacatecas	161.12	$ 155,158.56	PV09
LOPEZ SOLIS JOSE	Zacatecas	152	$ 146,376.00	PV09
SILVA GOMEZ JOSE LUIS	Chiapas	112	$ 145,600.00	PV09
BRETON Y BRETON JAIME ELOY	Tlaxcala	145	$ 139,635.00	PV09
ARGUELLES URENO ABRIL	Tamaulipas	144	$ 138,672.00	PV09
VILABOA MURILLO ROBERTO	Veracruz	140	$ 134,820.00	PV09
ABRAMS ZACHARIAS WILHILEM	Chihuahua	136.5	$ 133,321.00	PV09
PEREZ ARCE LILIA SUNANA	Tamaulipas	137.5	$ 132,412.50	PV09
RAMOS ZAVALA ARTURO	Tamaulipas	133	$ 128,079.00	PV09
CRIVELLI CRUZ CARLOS ANTONIO	Veracruz	132	$ 127,116.00	PV09
HERNANDEZ CHAVARRIA ALFREDO	Jalisco	131	$ 126,153.00	PV09
LANDA ARROYO AURORA MIRIAM	Veracruz	130.35	$ 125,527.05	PV09
LOPEZ GALVEZ JOSE GALDINO ANASTACIO DE JESUS	Puebla	129	$ 124,227.00	PV09
ARELLANO GURROLA JUAN	Zacatecas	129	$ 124,227.00	PV09

27 The list does not include those who received exactly 100,000 pesos because, technically, that was permitted by the Rules of Operation.

Producer Name	State	Area funded (hectares)	Amount of funding (pesos)	Ciclo
SANTOS RODRIGUEZ MARTHA PATRICIA	Tamaulipas	126.1896552	$ 122,149.00	PV09
ACEVES FERNANDEZ FRANCISCO JOSE	Aguascalientes	125	$ 120,375.00	PV09
MORALES ROMAN TERESA	Veracruz	125	$ 120,375.00	PV09
VALLES MATA MA ELSA	Durango	122.614746	$ 119,260.00	PV09
MENCHACA MUNOZ SALVADOR	Zacatecas	115	$ 116,297.50	PV09
HERNANDEZ RECENDES J JESUS	Aguascalientes	120	$ 115,560.00	PV09
ZUNO CHAVIRA MARIO ALVERTO	Chihuahua	120	$ 115,560.00	PV09
ARRIETA CARDENAS MARIA OLIVIA	Durango	120	$ 115,560.00	PV09
SOSA RINCON MARIA EUGENIA	Veracruz	120	$ 115,560.00	PV09
AVALOS MARTINEZ ARMANDO	Tamaulipas	112.21	$ 115,053.05	PV09
BEJARANO GARCIA ROGELIO	Chihuahua	119.35	$ 114,934.05	PV09
FAVELA DURAN GABRIEL	Baja California Sur	118	$ 113,634.00	PV09
DOMINGUEZ HERNANDEZ JORGE	Zacatecas	117.71	$ 113,354.73	PV09
GRIJALVA GONZALEZ OSCAR ISIDRO	Chihuahua	117	$ 112,671.00	PV09
TERAN FLORES BRENDA GUADALUPE	Tamaulipas	114.17216	$ 109,947.79	PV09
LOPEZ GALVEZ JOSE GALDINO ANASTACIO DE JESUS	Tlaxcala	114	$ 109,782.00	PV09
JACOBO RODELO JESUS ARTURO	Sinaloa	109	$ 109,695.00	PV09
FRAIRE MARTINEZ ROBERTO	Durango	93.86	$ 108,877.60	PV09
MUNOZ PECINA SANDRA	Tamaulipas	113	$ 108,819.00	PV09
ARROYOS COLMENERO GILDARDO	Chihuahua	110.96	$ 108,539.48	PV09
VASQUEZ MARTINEZ JOSE RICARDO	Morelos	95.36	$ 108,122.26	PV09
BUSTILLOS BUSTILLOS EMIGDIO	Chihuahua	112	$ 107,856.00	PV09
GARCIA HERNANDEZ MARTHA CELIA	Chihuahua	112	$ 107,856.00	PV09
LUDERS BECERRIL GUSTAVO	Sonora	112	$ 107,856.00	PV09
MARTINEZ RIVERA TOMAS	Durango	111.5	$ 107,374.50	PV09
VILLARREAL CORTEZ MYRTHALA PATRICIA	Tamaulipas	110.83	$ 106,729.29	PV09
VALADEZ PADILLA EFREN	Zacatecas	110.26	$ 106,662.29	PV09
MARTINEZ NEGRETE ARTURO	Guanajuato	110.00216	$ 105,932.08	PV09
OROZCO XX BLANCA ARMIDA	Chihuahua	110	$ 105,930.00	PV09
ZUMARAN CASTANEDA JOSE ALFREDO	Durango	110	$ 105,930.00	PV09
BERLANGA ESPINOZA MARGARITA	Tamaulipas	110	$ 105,930.00	PV09
MORALES MARTINEZ JOSE LUIS	Durango	99	$ 105,110.00	PV09
DELGADO SALAZAR TOBIAS	Durango	108.5	$ 104,485.50	PV09
BANUELOS MEDINA JOSE	Zacatecas	108.4	$ 104,389.20	PV09
BUSTILLOS OLIVAS JESUS MARIA	Chihuahua	105.5	$ 104,157.50	PV09
GOMEZ NUCAMENDI JOSE RUMUALDO	Chiapas	108	$ 104,004.00	PV09
VAZQUEZ CONTRERAS ISMAEL	Durango	104	$ 103,522.00	PV09
FRIESEN VOTH JOHAN	Chihuahua	102	$ 103,514.00	PV09
ALVAREZ ARIAS JOSE	Michoacán	106.4	$ 102,463.20	PV09
SANTA EDWIGES S.P.R DE R.L.	Chihuahua	106	$ 102,078.00	PV09
MONTIEL RODRIGUEZ ANDRES	Sinaloa	106	$ 102,078.00	PV09
MONREAL CASTILLO FRANCISCO JAVIER	San Luis Potosí	104.71	$ 102,015.23	PV09
WIEBE LOEWEN CORNELIUS	Chihuahua	105.3	$ 101,403.90	PV09
ANCHONDO RAMOS ANTONIO MANUEL	Chihuahua	98.79	$ 100,164.58	PV09
ALBA OLAVARRIETA ARTURO	Aguascalientes	104	$ 100,152.00	PV09
PENNER PETERS DAVID	Tamaulipas	104	$ 100,152.00	PV09

Source: Official data from ASERCA's beneficiary lists, downloaded April 20, 2010, from http://www.aserca.gob.mx/artman/publish/article_1878.asp. According to ASERCA's website, this data was up to date as of August 18, 2009. **[Update: As of August, 2010, one year later, the author's new review of the Procampo recipient list for the spring - summer 2010 crop cycle showed that the payment ceiling for individuals was being respected.]**

The media coverage of the farm subsidy issue in February 2010 raised the question: why were the Rules of Operation being violated? (the rules had been changed not long before). Although neither Sagarpa nor ASERCA responded directly to these questions, the Director of ASERCA and the Director of Procampo did both resign (the Secretary of Agriculture had changed in the summer of 2009). However, the government's response did not include specific institutional changes that would assure compliance with the operating rules of Procampo, ASERCA and Sagarpa. Instead, the commitments made (detailed below) referred to a "clean-up" of the Procampo registry through the verification and updating of the data, the use of better technology (like geo-referencing systems) to assure that the producers receiving program subsidies really comply with the rules. In practice, however, the implementation of these plans has been quite slow, since they would be completed in 2011 at the earliest. Meanwhile, since ASERCA lacks other institutional mechanisms to assure compliance with its own rules, the agency continues to use the existing registry (with all of its associated problems), apparently driven by inertia.

Another issue of monitoring and compliance involves eligibility for Procampo payments in cases of conflicts of interest, and whether or not public officials working in agencies related to agricultural policy should be allowed to receive subsidy payments while in office (see Merino, this volume). As mentioned, because the Farmer ID is insufficient to identify individuals beyond the appearance of their name, there is no way to know with certainty whether officials are violating these regulations while in office. From an accountability perspective, the independent analysis of compliance with conflict of interest clauses is essential to holding public servants accountable for their behavior while in office.

Independent civil society policy monitoring, expressed through the *Subsidios al Campo en México* website, seeks to increase the accessibility of official data on subsidy distribution in Procampo and Ingreso Objetivo. Despite ASERCA's online public dissemination of the raw databases for its two largest programs, their size and scope make it difficult for citizens to access the data in its official format. Because Procampo alone reaches over 2 million beneficiaries each year, the Excel files for each state (especially in the Spring-Summer harvest cycle where the majority of payments are made) involve thousands and thousands of entries. Even for experts in Excel, managing information from such a large data set is highly complicated. This issue is exacerbated when one considers that the program has been operating for over 15 years.

In response, a civil society initiative called *Subsidios al Campo en México*, -- a collaborative project among NGOs, social organizations and academics -- sought to facilitate access to Procampo's recipient lists by publishing them in an easily searchable format online (available at www.subsidiosalcampo.org.mx). The website's database makes it easy to compare payments throughout the 15 years of the program's operations, in addition to distributional patterns across states. The on-line platform also includes the official databases for Ingreso Objetivo, which facilitates comparison of payment trends over time and geographically. The website also allows viewers to do searches for the names of individuals or organizations, as well as to see the detailed information of where, for what crop, the number of hectares and funded (tons in the case of Ingreso Objetivo), as well as the amounts of payments over time for each recipient listed.

This website makes accessible ASERCA's official recipient lists *exactly* as they are presented by the agency. This means that the content of the official data is not altered at all, even when there are obvious spelling and/or typographical errors. Therefore, the increased accessibility of the data through this online resource is subject to the same limitations in the official lists. It does not solve the problems of multiple Farmer ID numbers to individuals, nor does it provide any additional information about registered organizations. While greater public access to the official data creates the potential for bolstering accountability, the extent to which this website can permit precise monitoring of the distribution of farm subsidy payments over time is limited by the same factors described above.

- **Official Procampo data do not permit analysis of the degree of program coverage of grain producers.** Policymakers, observers and analysts often implicitly assume that Procampo covers all eligible producers, yet in practice, the degree of program coverage is not clear. The publicly available data on Procampo recipients does not allow for an analysis of the program's overall degree of coverage, either in terms of eligible farmers or land. Moreover, the official evaluations of Procampo do not address this issue. However, according to the research findings presented in the reports by Scott and Fox and Haight (this volume), undercoverage is significant. Both studies cite surveys showing that most smallholders lack access to the Procampo program. This pattern is due to two sets of factors. First, some producers were not registered in the first place, back in 1993-1994, for reasons that require additional research. Registration was then closed. Second, increasing numbers of registered producers are not participating, as documented by a 2006 federal audit (ASF 2008). The overall participation rate among registered producers was 91% nationally, but some states

showed much higher rates of non-participation, for reasons that are not clear.[28] Additional information is needed to assess the degree to which Procampo is effectively reaching its target population.

- **In spite of its limitations, the Procampo database was one of the most comprehensive sets of data about agricultural activity during the sixteen years in between the 1991 and 2007 national agricultural censuses.** The 1991 previous agricultural census was carried out before the reform of Article 27 of the Constitution, allowing the individual titling and possible sale of *ejido* land, and prior to the Procede land registration program.[29] The most recent agricultural census, carried out in 2007, has only recently been made public, and so far only partially (see Robles Berlanga, this volume).

  The lack of a comprehensive national census for agriculture for over 15 years leaves open the question of which data was being used to make major agricultural policy decisions during that time frame. Few other government sources, at least not those that are publicly available, contain as much information as the Procampo database in terms of what crops farmers are growing, and where. However, the aforementioned problems in the quality and reliability of these databases also call into question the basis for agricultural policy decisions, if the ASERCA databases were used to inform them.

- **The Agriculture Ministry and ASERCA (with support from the Inter-American Development Bank and the World Bank) have promised to improve the quality and accessibility of data on subsidy recipients of Procampo.** The government recently announced (and budgeted) the investment of $400 million pesos into "cleaning up" the Procampo roster. Regulations were published in September, 2009 indicating how the government intends to verify the eligibility of farmers currently enrolled in the program (DOF 2009). At the same time, large loans from the Inter-American Development Bank and the World Bank also commit significant resources to contributing to improving the quality of the data on who receives Procampo payments.[30]

  ASERCA's previous director, Graciela Aguilar, reported that as they carry out the process of "verification", they intend to institute a Farmer ID internal to Procampo and Ingreso Objetivo that will be more reliable than the information currently available.[31] However, specific information on how this process of improving the Farmer ID will work has yet to be made public, other than that the process is under way and will take at least a year.

  These initiatives represent potentially important steps toward improving the quality and reliability of the public data on Procampo. As civil society organizations continue to monitor Procampo's performance, access to improved information will bolster their efforts to seek greater public sector accountability in case of Procampo farm subsidies. At the same time, public scrutiny of quality and access to official data about Mexico's many other farm subsidy programs remains incipient.

3. CONCLUSIONS

Media coverage in 2009 and 2010 led to greater attention to Mexico's main farm subsidy programs. Whether or not certain individuals are receiving farm subsidies, such as public officials or relatives of alleged drug dealers, is only a symptom of a larger question which should be the subject of a broader public debate. Multiple official evaluations have not determined whether the design or performance of these programs meets their goals. Moreover, the limited agendas of the official evaluations do not ask whether these goals are the ones that agricultural subsidy policy should pursue. For now, it is clear that official transparency, through the publication of recipient lists, has made a substantial contribution to the debate over farm subsidies. At the same time, the public debate is unfolding in the absence of precise and reliable information about who really receives (and concentrates) these subsidies.

28 For example, in 2006 Procampo left out more than a quarter of the already-registered producers in Guerrero, reaching only 71.5%, and covered 79.1% of the registered producers in Chiapas (ASF 2008: 418).
29 Procede's full name is the Programa de Certificación de Derechos Ejidales y Titulación de Solares Urbanos (The Program for the Certification of Ejido Rights and the Titling of House Plots).
30 See www.iadb.org and www.worldbank.org
31 Meeting held in SAGARPA's offices with Graciela Aguilar, then Director of ASERCA and Alberto Cárdenas, then Minister of Agriculture, August 11, 2009.

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Stakeholder oversight of ASERCA's farm subsidy programs

Felipe Hevia de la Jara[1]
Centro de Investigaciones y Estudios Superiores en Antropología Social del Golfo

6

1 This chapter summarizes the findings of a much more extensive, field-based study (Hevia de la Jara 2010). Translation by Jonathan Fox and Charlie Roberts.

Millions of pesos in farm subsidies are allocated and distributed through processes that lack transparency. Producers, citizens and their organizations have very limited channels for participation. The 2009 regulations for Mexico's main farm subsidy delivery agency, ASERCA [Agricultural Marketing Support Services] obliges its programs to deploy social oversight mechanisms through: the publication of their beneficiary lists, the launching of "citizen attention" programs to address the public's concerns, the creation of committees of beneficiaries to monitor program operations, the promotion of venues for dialogue between of public officials and beneficiaries, and coalitions with public interest groups for program monitoring and oversight. Nevertheless, this study found that ASERCA has not applied these measures to its programs, at least as of the middle of 2009.

Social oversight is defined as mechanisms of institutionalized citizen participation aimed at promoting accountability. In contrast to other mechanisms of citizen participation for planning, implementing, and evaluating policies, social oversight has focused its actions on the monitoring and oversight of the entire public policy cycle through various instruments, such as the establishment of committees of beneficiaries, "citizen attention" programs, and the participation of citizens in collegial government decision-making bodies. The institutional designs and performance of such arrangements may lead either to weak or to strong systems of citizen oversight (Hevia 2009). If the systems are to be strong, the groups that carry out the oversight must be autonomous, and they must have the necessary clout – both direct and indirect – to enable these groups to carry out their oversight tasks, which, by their very nature, are political. That is, they attempt to have an impact in the public sphere (Cunill 2009).

By merely taking into consideration what the regulations say, one can conclude that ASERCA's programs have serious institutional shortcomings when it comes to social oversight. As illustrated in Table 1, while all the problems meet the minimum requirements of transparency – such as publication of the beneficiary lists on the website – and the formal existence of common systems for citizen attention for all of ASERCA, operated by the internal oversight office, the more specific social oversight instruments, according to the relevant federal rules, such as social oversight committees, exist only for Procampo and Procampo Capitalizes, and then only on paper. The broader study reviews each of these instruments in greater detail (Hevia de la Jara 2010)

Table 1
SOCIAL OVERSIGHT ACTIONS IN THE ASERCA PROGRAMS

	ASERCA PROGRAMS	Transparency	Limited social oversight		Expanded social oversight	
		Public beneficiary lists	Citizen Attention programs/1	Social oversight committees	Link with CSO for oversight	Institutional venues for communication
PROCAMPO	CAPITALIZA	+	+	+/-/2	+/-/3	-
	PROCAMPO	+	+	+	-	-
	REGISTRO ALTERNO	+	+	-	-	-
	COBERTURA PRECIOS	+	+	-	-	-
APOYOS COMPENSATORIOS	APOYO A COBERTURAS	+	+	-	-	-
	INGRESO OBJETIVO	+	+	-	+/-/4	-
	CONVENIO CONCERTACIÓN	+	+	-	-	-
	ORDENAMIENTO MERCADO GRANOS OLEAGINOSAS	+	+	-	-	-
	ESQUEMAS DE COMERCIALIZACIÓN ESPECÍFICOS	+	+	-	-	-
	DIESEL AGROPECUARIO	+	+	-	-	-
PROMOAGRO	PROMOAGRO	+	+	-	-	-

NOTES: 1/These Citizen Attention programs refer to ASERCA's internal oversight office, as per its regulations (SAGARPA 2008). /2 The only mention of social oversight in Procampo Capitaliza is in its simplified procedure, which limits the function of the committees to acknowledging receipt of the "beneficiary lists" (ASERCA 2005). /3 In theory the State [level] Committee for Sustainable Rural Development has non-governmental representation and is authorized to rule on the technical feasibility of economic projects and to oversee their implementation (ASERCA 2009a). 4/This refers to citizen monitoring of the "citizen commitment letters" (ASERCA 2009b). Source: prepared by the author.

Up until 2008, only Procampo – and its spinoff program Procampo Capitalizes - included social oversight mechanisms in their design and operation. It was not until the administrative rules were amended in 2009 that the programs Promoagro and Apoyos Compensatorios (Compensatory Supports) were first required to put social oversight mechanisms in place.

In the case of PROCAMPO, a social oversight mechanism was included from the outset. Article 9 of its founding decree specifies:

> The Ministry, in coordination with the Office of the Comptroller-General of the Federation, *under the social oversight mechanism, shall give participation to the producers in the oversight of the use of the resources and actions undertaken in PROCAMPO*, to which end the Steering Committees (Comités Directivos) of the Rural Development Districts shall promote the establishment of Oversight Committees (Subcomités de Control y Vigilancia) in their territorial districts, as well as the election and training of members of those committees (*vocales de contraloría social*) among the producers (Government of Mexico 1994. Article 9, emphasis added).

The oversight committees are made up of government representatives and producers, and have the following functions: receive and review the forms for the required annual renewal; physical and documentary verification of the applications for the annual renewal; and make recommendations on these applications to the Rural Development District and forward the documentation to the Rural Development District (ASERCA, 2009a). According to the Public Administration Ministry, as of 2000, a total of 192 Social Oversight committees were operating (one for each Rural Development District), with the participation of 712 members (one for each CADER [a smaller level of rural development district]) (SFP 2006:18).

In terms of these committees' autonomy, producers are under-represented while government officials predominate. Their functions – in practice – involve more administration than social oversight. Hundreds of agrarian communities are supposed to elect a single representative for region-wide committees that interface with the local branch of the Agriculture Ministry, known as the CADER. This system of representation discourages the emergence of independent leadership and favors the existing corporatist peasant organizations, which also participated in determining who was able to register for the Procampo program in the first place. This lack of autonomy is also reflected in the limits on the oversight committees' operations. For example, committee presidents are chosen by government officials. In addition, ASERCA controls the procedures for electing members and for renewing leadership, who are not allowed to join together with other committees (for example, in the same region) to be able to monitor more links in the chain of program implementation. Moreover, the committees are not allowed to change their structure, such as being tied to the CADERs, to bolster their capacity to represent agrarian communities, nor can they create independent working groups.

In terms of these committees' actual degree of influence over Procampo operations, these committees have formal veto power over some program decisions, notably which individual producers are "recommended" for their required annual renewal of access to Procampo resources. In practice, however, because government officials predominate on these committees, producers do not use these channels to monitor and oversee Procampo. With so little autonomy or power, these social oversight committees end up tending to oversee other producers more than they monitor program officials. As in the case of other conditional cash transfer programs, these committees lack the minimum degrees of autonomy and power that are necessary to be able to become citizen counterparts for oversight of government programs. Citizens are limited to addressing the opaque areas of ASERCA operations by informing the agency authorities of problems through its own complaint system and/or "internal control" office.

In terms of the dissemination of the program beneficiary lists, while all the ASERCA programs do publish such lists, they do not include consistent producer identification numbers, which prevents observers from adding up the subsidies that any individual producer receives from more than one of ASERCA's many programs (see Haight and Fox, this volume). In the case of Procampo, the dissemination technology is not user-friendly, which limits access to the lists in practice. The study also found obstacles in its effort to find key information regarding the processes through which producers are allowed to request access to ASERCA's other, less well-known subsidy programs, known as "complementary supports." The beginning and end dates for program sign-up are especially difficult for producers to find.

To comply with its mandate to create "citizen attention" programs, ASERCA developed a useful internal information system for receiving complaints. However, this study did not find sufficient evidence to conclude that these programs have actually encouraged institutional responsiveness or accountability. Like other systems for receiving complaints by telephone, this one faces legal constraints that limit its capacity to actually deal with problems and denunciations that are registered by phone.

Notably, ASERCA programs did not report any partnerships with public interest groups for the purposes of monitoring and oversight (with the exception of citizen monitoring through a small pilot initiative, the "citizen commitment letters" of the Ingreso Objetivo program). Nor has ASERCA created spaces of organized dialogue with beneficiaries, although they ostensibly became obligatory as of the 2009 program rules. Though the citizen commitment letters initiative should be followed up, their official scope is extremely limited and they have few prospects for having any impact in the short or medium term.

This analysis suggests that the principal mechanism for citizen monitoring and oversight of ASERCA is through public information access, through growing numbers of information requests.

Based on the analysis, it appears that the main mechanism for monitoring and oversight available to (and used by) citizens is access to information, by means of the growing number of requests for information. As shown based on a statistical analysis of information requests, their use turns out to be a necessary yet insufficient mechanism for monitoring the operation of these programs.

Analysis of a representative sample of ASERCA information requests showed that only 61.7% of agency responses could be considered "positive." Requests involving Procampo account for 25% of information requests, and they receive the most positive responses. Another 25% were directed to the marketing support programs, and 40% went to ASERCA's central offices. However, publicly available data does not permit any assessment of the degree to which public information requests contributed to specific oversight actions or oversight outcomes, with the exception of the Farm Subsidy website created by Fundar (www.subsidiosalcampo.org.mx). This public interest group used information requests as a tool to construct this public database, which has been widely covered in the national press.

RECOMMENDATIONS

These findings are the basis for the following recommendations about how ASERCA could improve its social oversight systems:

- To implement systems for social oversight, ASERCA should coordinate with the Public Administration Ministry's Adjunct General Directorate for Social Oversight. This would permit access to training, best practices, an integrated information system and coordination that would facilitate the promotion of committees in rural area, as well as coordination with municipal and state government-led social oversight programs.

- Set up Social Oversight Committees, based on the functions specified in Art. 20 of the Public Administration Ministry's official guidelines for social oversight programs.[2] In addition to the "citizen attention" systems, this would involve the committees having actual powers and autonomy in their composition and operation. This would require clear procedures for the selection of committee members, for specifying committee functions and powers, as well as operational manuals and training for program beneficiary spokespeople.

- Launch programs to encourage the participation of civil society organizations in citizen monitoring. The involvement of public interest groups in oversight of ASERCA programs could be promoted directly, through opening a new line of support through the co-investment program of INDESOL, and/or through an Agriculture Ministry program to encourage participation. These promotional programs, which are mandatory according to the LFF (Federal Law for the Promotion of Civil Society Organizations) should be carried out through public grant competitions that would make awards based on the decisions of joint government-civil society assessment bodies that operate according to clear rules.

- Create joint government-civil society committees to assess funding proposals. As already exists in several Social Development Ministry and Agriculture Ministry programs, technical committees, including non-governmental representatives, can participate in reviewing producer requests in order to make resource allocation decisions more transparent.

- Improve public access to the lists of ASERCA program beneficiaries, using the work of Fundar as a reference point. With the goal of making public reliable data on the lists of individual producers, by state and municipality, ASERCA should use the methodology of Fundar's "the Farm Subsidy Database," with the goal of making the information transparent and keeping the roster up to date.

- Have all agricultural programs use the same producer reference number. This would allow the aggregation of information about all the federal subsidies that each producer receives.

- Update the Procampo beneficiary list in real time, with open enrollment. This how other income transfer programs work, such as the Cadastro Único in Brazil or SIBSEN in Colombia, where the updating of the roster is automatic and access is not constrained by limited time windows. The agricultural census or other mechanisms can serve to verify the data and to establish checks and balances.

For local civil society organizations and agrarian communities interested in monitoring and oversight of ASERCA's farm subsidy programs, recommendations include:

2 See SFP (2008)

- Encourage the horizontal and vertical networking of Procampo's existing citizen oversight committees. Bringing together beneficiary spokespeople who deal with the same regional Agriculture Ministry offices (CADER) and rural development districts (DDR) would bolster their capacity to oversee the chain of ASERCA's farm subsidy program decision-making.

- Monitor the existing Procampo citizen oversight committees, especially their "recommendations" for beneficiary renewal, by calling for decisions to be made in public, by participating as observers in these meetings and by following up on problems that emerge in these committees.

- To raise public awareness among stakeholders, disseminate information about other ASERCA programs, such as the "Compensatory Supports" program, via community radio and other rural communications media.

- Participate in the generation and training of citizen oversight committees, to build their capacity to monitor ASERCA program operations.

- Participate in the citizen monitoring of the operation ot ASERCA programs.

- Follow up on complaints and denunciations of abuses presented to ASERCA's official "internal control" office and/or its information and complaints system.

BOX 10:
MONITORING PRODUCERS "FROM ABOVE"

Felipe Hevia de la Jara (CIESAS)

Being registered in the list is not enough to receive Procampo subsidies. Each season, the producers have to apply for the subsidies during the periods when the windows are open at the CADER, or local branch office of the Agriculture Ministry, in their locality. A producer's ability to receive subsidies depends on this action. The administrative procedure entails filling out a standard application and submitting it to the CADER, specifying the total number of hectares to be planted and the total amount of land available. If the producer's file has been modified – as a result of transferring the rights of some parcel of land, for example – s/he has to update their data at the CADER within the established timeframes.

In these processes, one critical area of corruption is the difference between what each farmer says he is going to plant, and what is actually planted. The main "anticorruption" actions reported by ASERCA have to do with this point, introducing the use of satellite photography for verifying the total area actually planted. According to the Inter-Agency Commission on Transparency and Fighting Corruption (CITCC, 2006): For verifying *ejido* properties, the Agriculture Ministry, as of yearend 2004, attained 100 percent coverage of plots with satellite images, making it possible to identify whether a given property is or is not planted, and whether it complies with the rules [in this case, whether it is planted in legal crops], and to determine the changes in area planted or harvest by parcel, owner, and producer. This system confers certainty and transparency when subsidies are granted by the Programa de Apoyos Directos al Campo (Procampo).

The satellite images make it possible to determine the area actually planted and whether the crop is or is not legal. For example, according to Juan Antonio Fernández Solís, then director of Procampo, "in 2001, 300,000 hectares were taken out of the program, most because the area had been set aside for growing narcotics; supervision will now be stricter, since it has the satellite images of the Ministry of National Defense, the Navy, the Ministry of Interior, and the Environment Ministry, among another 26 government offices" (Pérez 2001).

This procedure involving horizontal verification using satellite images is supplemented by reviews of the files and field visits by the CADER staff to deter this practice. Nonetheless, the field visits have diminished in number over time. According to our sources, at present physical inspections of the parcels are allowed for only four reasons: when an increase in land to be covered is sought of more than half a hectare; when the land is for common use; when the lands have not been previously included in the program; and due to citizen complaints channeled to the Oversight Committee and/or the Internal Oversight Office. Physical visits to the properties depend on the operational capability and human resources available at each CADER.

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Is decentralization the answer?

Lessons from *Alianza para el Campo*

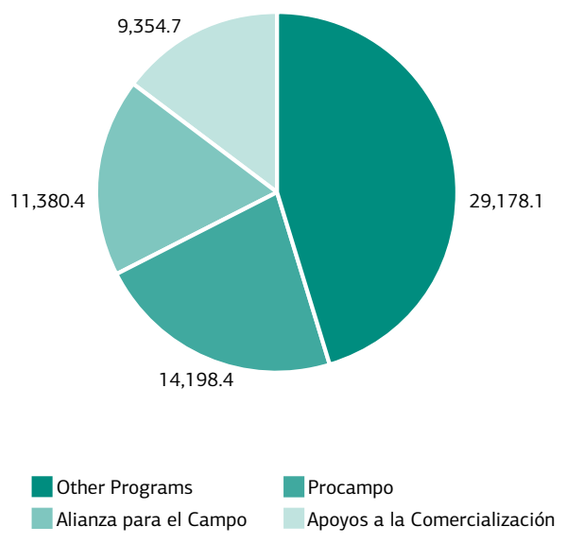
Brian Palmer-Rubin[1]
University of California, Berkeley

1 This policy brief summarizes the findings of a more extensive field-based study (Palmer-Rubin 2010).

Alianza para el Campo (Alianza) is the name of the second largest federal agricultural program in Mexico. The stated goals of Alianza's many subprograms are to help farmers, ranchers, fishers, and other rural populations make capital investments to improve the value-added of their production. In contrast to Mexico's largest agricultural program, Procampo, Alianza is decentralized—many of the decisions about program design and implementation are made on the state level. Roughly two-thirds of the funds for these state-level projects, however, come from the federal government. State agricultural ministry officials and representatives of Sagarpa, the federal agricultural ministry, jointly undertake program planning and implementation.[2]

The purported benefits of decentralization for agricultural support programs are that it allows for resources to be more efficiently allocated, based on the economic needs of the population and environmental conditions for farming than for programs that are administered on the federal level. The potential drawbacks, however, are that decentralized programs are more prone to being diverted as patronage or misspent due to the lack of administrative capacity and often-nontransparent policymaking process of state governments. Further, the involvement of both federal- and state-level officials in policy design and budgeting introduces greater opportunities for administrative delays and malfeasance.

Graph 1
LARGEST AGRICULTURAL SUPPORT PROGRAMS IN 2008
(MILLIONS OF MEXICAN PESOS)



Source: Sagarpa budget information on the Mexican Treasury website: <www.apartados.hacienda.gob.mx>, accessed December 10, 2009.

Alianza's programs support farmers through matching grants for investments aimed at improving rural productivity, including machinery such as tractors or irrigation systems; facilities for storage or processing; inputs such as seeds, chemicals, or stud animals; or consultants to improve production methods. Beneficiaries must contribute between ten and ninety percent of the cost of an expense that is supported by Alianza, depending on the type of investment being made and the producer's level of marginality. Each state is required to set aside a certain percentage of funds for small-, medium-, and large-scale producers. The *Desarrollo Rural* (Rural Development) subprogram is the only subprogram within Alianza that is specifically designed to target poor producers and makes up between roughly ten and forty percent of Alianza budgets in each state. Nationwide, about 17.4 percent of Alianza funds went to *Desarrollo Rural* in 2009 (Mexican Treasury, *Presupuesto de Egresos de la Federación, 2009*).

The study combines three methods of data collection: institutional analysis of Sagarpa and the agricultural ministry of the state of Chiapas; statistical assessment of budgetary figures and trends in applications for Alianza subprograms; and interviews with poor coffee and corn farmers in Chiapas. This brief summarizes the paper's findings in four areas: federal allocation of Alianza funds to states, allocation of funds within states, producer access in practice, and the program evaluation process carried out by the Food and Agriculture Association of the United Nations (FAO).

2 In 2008, through an administrative reorganization of Sagarpa's programs, Alianza's subprograms were divided given new names such as Adquisición de Activos Productivos and Programa Soporte. This reform has not had significant impacts on program design or implementation on the federal or state levels. In this report, to avoid confusion, I refer to these programs as "Alianza."

1. FEDERAL ALLOCATION OF FUNDS TO STATES

- **Sagarpa's system for allocating Alianza funds to the states has been inconsistent and changes frequently.** Allocation of federal funds to states has followed a variety of formulas since the inception of Alianza, leading to inconsistent levels of funding for each state, therein undermining long-term rural development planning on the state level. As Table 1 shows, the overall Alianza budget varies dramatically, introducing greater variability in the about of funds received by each state.

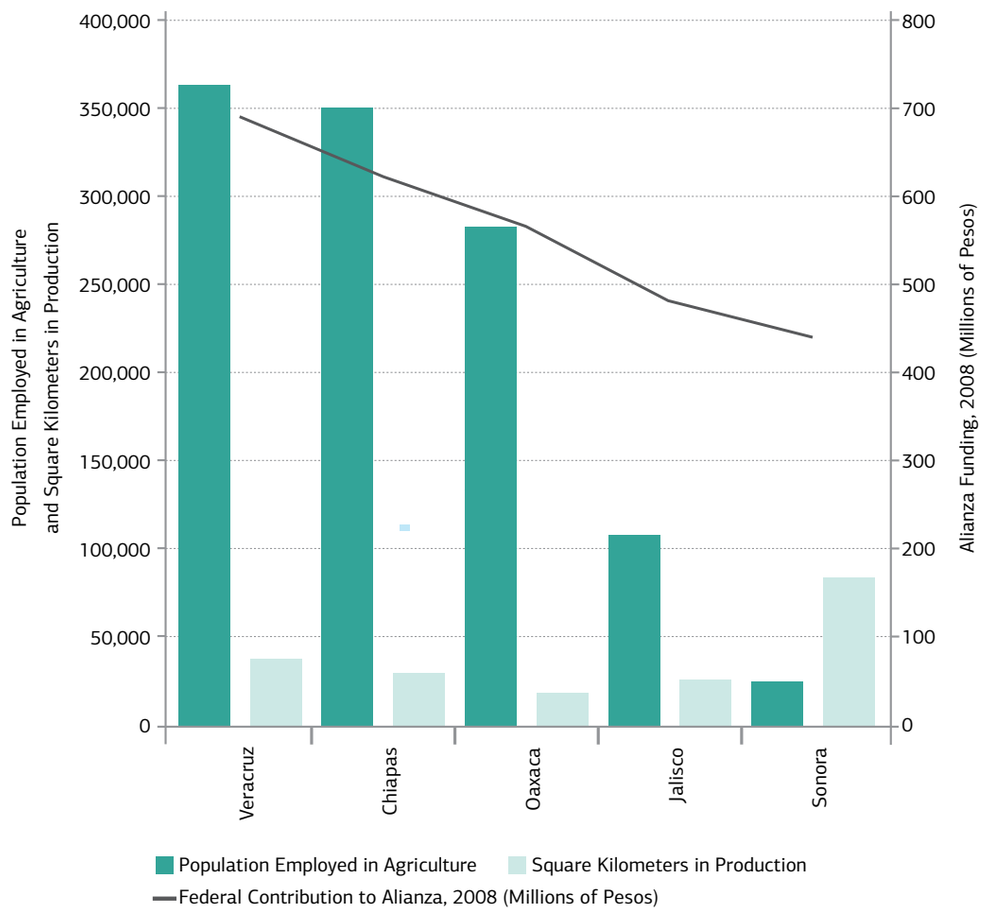
Table 1
NATIONAL ALIANZA BUDGET

Year	2005	2006	2007	2008	2009	2010
Amount Allocated to Alianza (millions of Mexican pesos)*	7,234.0	6,269.7	8,729.3	11,380.4	16,042.2	7,500.0
Percent of Total Sagarpa Budget	15.6%	12.8%	15.3%	17.8%	22.6%	12.3%

Source: Sagarpa budget information on the Mexican Treasury website: www.apartados.hacienda.gob.mx, accessed December 10, 2009.
* Figures for 2005 through 2009 reflect the final reported budgets *(presupuestos ejercidos)* in the *Programa Especial Concurrente* (PEC). Figure for 2010 is the proposed budget *(presupuesto aprobado)* from the *Propuesta Presupuesto de Egresos de la Federación* (PPEF), dated Sept. 8, 2009.

- **The federal criteria for allocating Alianza funds to the states is regressive, favoring higher producing, lower poverty states.** While states with large poor rural populations are among the largest recipients, states where more efficient large-scale farming proliferates (typically in the North), receive more Alianza money on a per rural capita basis. Federal Alianza funds are distributed among states based on indicators that measure agricultural production and poverty. Factors that reward higher producing states tend to "cancel out" factors that reward poorer states, resulting in a regressive allocation of funds. Graph 2 demonstrates this disparity with data for the five highest-receiving states of 2008. Sonora ranks fifth, receiving about 65 percent as much money as Veracruz, the top receiving state (444.7 versus 688.1 million pesos) with only about seven percent as many agricultural producers as in Veracruz (25,694 versus 363,443 farmers).

Graph 2
TOP FIVE ALIANZA RECEIVING STATES IN 2008 WITH ASPECTS OF THEIR PRODUCTION



Source: Budget figures drawn from: Asociación Mexicana de Secretarios de Desarrollo Agropecuario (AMSDA). *Tabla de Participaciones Federales de Alianza para el Campo por Entidad-Estado*, 2002-2009. Employment and land figures taken from the Mexican government's 2007 agricultural census, found at: <http://www.inegi.org.mx/inegi/default.aspx?s=est&c=14581>, accessed December 10, 2009.

2. ALLOCATION OF FUNDS WITHIN STATES

- **Decisions about allocation of Alianza funds to different projects are made in a non-transparent fashion using inconsistent criteria.** Within states, the process that determines the allocation of funds among and within Alianza subprograms varies widely from state to state. Decisions about which types of programs and which applicants to prioritize are made behind closed doors in committees made up of both federal and state-level representatives. Both Sagarpa officials and state-level agricultural ministry officials interviewed explained that partisan alliances between state and federal-level politicians are an important factor in determining the level of autonomy of state ministry officials in designating Alianza funds. This discretionality, combined with the lack of transparency in budgeting, leaves openings for Alianza funds to be used for clientelistic purposes.

- **There is little evidence that low-income producers receive a significant share of Alianza funds.** This applies even for Desarrollo Rural, Alianza's ostensibly pro-poor subprogram. Recent analysis by the World Bank and John Scott finds that nationwide in 2004, 55 percent of Desarrollo Rural funds went to the richest producer decile, despite the fact that budget rules require that at least 50 percent of funds go to the lowest income producers (World Bank 2010: 59, Scott 2009: 56). This finding suggests that the official distribution criteria that are designed to direct a minimum share of program funding to lower income producers are not respected in practice. Investigation of Sagarpa and Chiapas' state agricultural ministry carried out for this report uncovered no sign of policies for addressing these widespread violations in targeting criteria.

- **The program's criterion for defining small-scale farmers (owners of less than 20 hectares of farmable land) is high and therefore includes middle-income producers**

in this category.[3] This aspect of policy design prevents the official data from revealing the degree to which the program reaches low-income farmers. In Chiapas in 2008, for instance, almost 95 percent of applicants fit into the "low capital" category, defined as having fewer than 20 hectares of land (Sagarpa 2009).[4] States are only required to allocate 50 percent of funds to low capital producers, even though in states like Chiapas they make up the vast majority of applicants.

- **The process for evaluating applications is nontransparent and highly subjective.** The state committees that receive and review Alianza applications decide which applications to fund using nontransparent criteria. The Rules of Operation include a system for scoring applications based on project design and demographic characteristics of the applicants (Sagarpa 2008). However, Sagarpa officials interviewed, including Miguel Ángel López, Head of Investment and Capitalization for Sagarpa's Subsecretariat of Agriculture, explained that in many states, application scores are not a decisive factor in funding decisions and that some states do not implement the scoring system at all. This study's evaluation of a list of applicants in Chiapas confirmed this fact—applications that are approved for funding often receive lower scores on these criteria than other applications that are denied. Further, denied applicants generally are not given a reason for the denial.

3. PRODUCER ACCESS TO ALIANZA FUNDS IN PRACTICE

With few exceptions, for small-scale farmers, belonging to an organization of producers is a necessary, though not sufficient condition for accessing Alianza support. In Chiapas, for instance, over 95 percent of applicants to the Agricultural Support subprogram applied as members of groups in 2008 (Sagarpa 2009). Applying as a group rather than individually helps to address the following challenges for poor applicants:

- Many producers are excluded from receiving Alianza funds because the funds are paid out as a reimbursement for investments already made, representing a significant financial burden. This core feature built into program design is a particularly daunting obstacle for producers who must purchase costly capital such as irrigation systems or tractors to compete in agricultural markets. Producer organizations can more easily access credit to cover these upfront expenses, yet many members of such organizations interviewed still cited this as the main factor that prevents them from accessing Alianza funds.

- The application process is bureaucratic, making the program inaccessible for farmers with limited formal education. Groups of producers often hire consultants, at great cost, to help them gather the required documents and fill out the complex application.

- Communal landholders, including most indigenous applicants, face even greater obstacles than other small-scale farmers for two reasons: they often do not speak Spanish, making the application process even more opaque; and individual land titles are a requirement of applying for many Alianza subprograms and are needed to use as collateral for bank loans. While legally constituted groups of producers can apply for Alianza programs and access credit with a certificate for communally held land, the bureaucratic process of legal constitution and applying for this certificate is difficult.

4. FAO EVALUATIONS OF ALIANZA PARA EL CAMPO

Despite weaknesses in the evaluation process, official evaluations of Alianza have criticized the program for being overly bureaucratic and for inefficient allocation of resources. Since 1999, the Mexico delegation of the Food and Agriculture Association of the United Nations (FAO) has carried out yearly evaluations of Alianza. These evaluations address program design and the success of Alianza in meeting its stated objectives. This report's main conclusions concerning the FAO evaluation process are the following:

- Despite the fact that the FAO is hired by Sagarpa to carry out evaluations of Alianza, the evaluation process is hindered by a lack of access to Sagarpa documents, statistics, and

3 The latest Rules of Operation for Alianza, put in place in 2008, allow for state agricultural ministries to decide which producers are classified as small-, medium-, and large-scale based on their states' demographic makeup, but ministries are still in the process of undertaking "Estudios de Estratificación de Productores," a step required to get Sagarpa's approval for a change these categories.

4 Because low-income producers face greater obstacles in submitting applications for Alianza support than higher-income producers, the percentage of *eligible* producers with fewer than 20 hectares is even larger than the percentage of applicants.

personnel. Many of the indicators used by FAO evaluations are derived from less precise sources, including aggregate data on rural development or surveys of potential beneficiaries. Also, FAO evaluations of yearly Alianza implementation begin in August of each year, not allowing time to pass to be able to observe the results of the programs.[5]

- A series of FAO reports have criticized Alianza for a lack of long-term planning, insufficient coordination between Sagarpa and state agricultural ministries, and an overly bureaucratic design.[6] These aspects of program design result in an inefficient allocation of resources, delays in program implementation, and decreased accessibility of Alianza, especially for poor producers.

- FAO evaluations have also recommended that Alianza could more efficiently contribute to rural development by allocating a greater share of funds to small-scale farmers. They point out that Sagarpa's standard criteria for distinguishing among small, medium, and large-scale farmers are inappropriate for the farming populations of several states (FAO 2007: 29).

- FAO evaluators repeatedly suggest that more Alianza funds be allocated to public goods that improve rural agricultural infrastructure and facilitate improved profitability through vertical integration rather than exclusionary private goods. Seventy-six percent of program funds from 1996-2007 were spent on private goods (capital) for producers, 95 percent of which is used in primary production—such as tractors, irrigation systems, and genetic materials (Grupo Interagencial de Desarrollo 2009: 21-22).

5. CONCLUSIONS

This study has addressed some of the major obstacles that stand in the way of small-scale farmers benefitting from *Alianza para el Campo*. Many of these problems with access are similar to the shortcomings in federally-administered agricultural programs, such as Procampo. Others, however, are directly related to Alianza's reliance on state governments to administer the program and allocate resources. The purported benefits of decentralization for agricultural support programs are that they allow for resources to be allocated by decision-makers who are more aware of the economic potential of the target groups and the environmental conditions for farming. While some of these benefits are surely achieved, this study found aspects of program design and implementation that lead to regressive trends in budgeting and lack of access for low-income producers. Furthermore, the discretionality and lack of transparency in state government resource allocation decisions create opportunities for the deviation of funds as patronage. This report's findings suggest that these deficiencies result in a distribution of agricultural investment resources that disfavors low-income applicants.

5 For a summary and assessment of the FAO evaluation process of Alianza, see Grupo Interagencial de Desarrollo (2009: 22-25).

BOX 11:
TRIMMERS VS. TRACTORS

Brian Palmer-Rubin (UCB)

Much of *Alianza's* funds go to farmers to support a wide range of capital investments, including items as inexpensive as hedge-trimmers or as costly as tractors. Organizations of small-scale farmers implement a variety of strategies to access support from Alianza to make these investments. Depending on the amount of money sought and characteristics of the farmers receiving the funds, poor farmers who seek to access Alianza's resources face different kinds of obstacles. However, this study's results suggest that for all poor farmers, belonging to a producer organization is a necessary though not sufficient condition for accessing Alianza support.

Two cases from Chiapas are illustrative of the variation in experiences of organizations of small scale producers: the purchase of hundreds of pairs of handheld tools for Majomut, an organization of coffee growers in the highlands municipality of Chenalhó and the purchase of a tractor by a corn farmer organization called Totikes, based in the municipality of Venustiano Carranza. These smallhollders would not have been able to access Alianza funds without the support that their organizations provided, in order to manage the highly bureaucratic application process, provide access to credit, and wield political influence with state agricultural officials. Most smallholders are unable to overcome these numerous hurdles and therefore cannot access the Alianza matching funds.

Majomut is an organization of roughly one thousand indigenous tzeltal coffee farmers based in the highlands municipality of Chenalhó. The average member of Majomut farms about 1.5 hectares of coffee land, using the most labor intensive and low capital techniques. The members of Majomut rely on the organization in many ways, including providing access to agricultural support programs such as Alianza. Lorenzo Sántiz Gómez, President of Majomut explained that successful protests in the past have led the organization's members to view government support as an entitlement rather than as a benefit (interview, July 3, 2009). If the state or federal agricultural ministry withdraws support in a given year, Majomut is ready and willing to protest their exclusion. Sántiz Gómez and other members of Majomut's leadership structure serve the important roles of negotiating with agricultural ministry officials, filling out paperwork, and assisting members in gathering the required documents—birth certificates, voting documents, and land titles.

Because of the extremely limited financial resources of Majomut's members, large-scale investments in machinery are practically unheard of. The farmers benefit from Alianza by using its resources to buy the basic hand-held tools that make planting and harvesting coffee more efficient: trimmers, shovels, and hole-diggers. In 2008, for instance, Majomut submitted an application for Alianza to fund the purchase of these hand tools for all of its members. They were approved for roughly one-half of the tools that they requested. Because Majomut's farmers are classified in the poorest category defined by Sagarpa and live in high-marginality villages, Alianza funded 90 percent of the cost of the tools, which were distributed among members through a raffle. Due to its size and longevity—the organization was founded in 1983—Majomut is among the most influential organizations of small-scale coffee growers' in the state, according to Ramón Martínez Coria, Director of the Foro para el Desarrollo Sustentable, AC, a Chiapas based NGO that specializes in rural development (interview, July 6, 2009). In contrast to the experience of Majomut, most coffee farmers in Chiapas do not have access to Alianza because they do not belong to organizations that are as effective at navigating these administrative and political channels.

Conditions are even more difficult for low-income farmers who try to make a living growing more capital-intensive crops, such as corn, as they attempt to access Alianza support for more costly investments. The process for applying for support to buy a tractor is demonstrative of these challenges. A high percentage of resources in the Agricultural Support subprogram of Alianza go toward the purchase of tractors, demonstrating a bias toward capital-intensive agricultural sectors. Small-scale farmers that grow these crops, however face many challenges—both formal and informal—in accessing this support, however. For example, several corn farmers interviewed in Chiapas complained that the most inexpensive tractor for which they could get their application accepted cost over MX$300,000—only MX$120,000 of which is covered by the program. The state government's rationale for excluding smaller, more affordable tractors from the program is not clear—even though small tractors at half the price are formally eligible for Alianza support (for list of investments covered, see http://www.sagarpa.gob.mx/agricultura/PreciosJustos/Paginas/default.aspx). Part of the explanation is found in the fact that the tractor program of

the past two years required applicants or groups of applicants to have at least 35 acres of land that was farmable with tractors.

The experience of Totikes, an organization of small-scale corn farmers based in the municipality of Venustiano Carranza, is particularly illustrative. Totikes was founded in 2000 and represents roughly 5,000 corn farmers, most of whom are indigenous tzotzil with fewer that five hectares of land. Much like Majomut, Totikes has a vertical leadership structure that helps members in the administrative process of applying for support from agricultural support programs such as Alianza. Totikes also is able to exercise some degree of political leverage on the state level through its affiliation with the *Empresa Integradora Campesina* (EICSA), a statewide corn cooperative that belongs to ANEC, a national network of agricultural marketing organizations.

Even with the help of the organization's leadership and EICSA, however, the members of Totikes face daunting obstacles in accessing support from Alianza to help buy a tractor. According to Ruly de Jesús Coello Gómez, president of Totikes, groups of farmers affiliated with Totikes often submit applications to Alianza several years in a row without success (interview July 2, 2009). Some groups' applications fail because their members live on communally held hand and thus do not have possession of land titles, a requirement of the application. Others simply cannot gather the minimum amount required to purchase a tractor—roughly MX$350,000 (about US$27,000) while awaiting reimbursement from Sagarpa. In the handful of successful cases, members took advantage of the line of capital secured through Totikes and a great deal of administrative support and political influence provided by EICSA personnel. After this arduous process, the corn farmers still must invest large amounts of their own funds, as Alianza support for tractors is capped at MX$120,000 in Chiapas.

In comparing these two cases, we can draw three main conclusions. First, accessing support from Alianza is extremely difficult for small-scale farmers, due to logistical, administrative and financial obstacles. Second, the state government's interpretation of the federal program is biased towards especially expensive, capital-intensive investments, such as large tractors, that are both inappropriate and inaccessible for low and middle-income producers. Finally, the political, administrative, and financial support provided by producers' organizations is an essential precondition for poor farmers to access Alianza.

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The impacts of U.S. agricultural policies on Mexican producers

Timothy A. Wise[1]
Global Development and Environment Institute, Tufts University

8

1 This chapter summarizes work presented more extensively in a longer background paper (Wise 2010). The author would like to thank Betsy Rakocy for invaluable research assistance for this project.

The Mexican government has shaped its agricultural policies during a time of severe adjustment, which was ushered in by the opening of the Mexican economy under NAFTA. It was widely recognized at the beginning of NAFTA that Mexico had geographically-based comparative advantages in supplying off-season fruits and vegetables to a hungry U.S. market. U.S. producers maintained clear advantages over their southern neighbors in many staple crops and meats, with yields much higher than their Mexican counterparts and with large exportable surpluses. This posed clear risks to Mexico's large smallholder population, many of whom relied on crops that competed with U.S. imports proposed for liberalization. NAFTA's liberalization of agricultural trade produced the expected results, with more staple crops and meats flowing south and seasonal fruits and vegetables flowing north (for background, see de Ita 2008; Romero 2009; Zahniser and Crago 2009).

NAFTA reduced tariffs and quotas on a wide range of products, with some sensitive products allowed longer transition periods to eliminate existing protections, up to 15 years. Not all of these transition periods were followed – most notably corn in Mexico's case – but the last of the transition periods came to a close on January 1, 2008. In agriculture, tariffs and quotas have now largely been eliminated. Not so agricultural subsidies. NAFTA did not discipline subsidies, in contrast to WTO negotiations which in agriculture have treated domestic farm subsidies as one of the three "pillars" of trade-distorting agricultural protection, the other two being export subsidies and tariffs. U.S. farm subsidies since NAFTA have dwarfed Mexico's, and many of those subsidies are for crops the United States exports to Mexico (Wise 2007). This has prompted charges that the level playing field NAFTA was supposed to create is in fact tilted heavily in favor of the United States.

How have U.S. agricultural policies affected Mexican producers in an economic environment of liberalized trade? We analyzed eight heavily supported commodities – corn, soybeans, wheat, cotton, rice, beef, pork, and poultry – that compete with Mexican production and that have seen increases in U.S. exports to Mexico of between 159% and 707% since the early 1990s. Together they represent 52% of the value of U.S. agricultural exports to Mexico. We examined the extent to which those products were exported to Mexico at prices below production costs between 1997 and 2005. We look at those years because the period begins after NAFTA's liberalization was largely implemented *and* after the 1996 U.S. Farm Bill, which caused significant changes to U.S. production and prices by bringing a great deal of land back into agricultural production. The period under study ends before the recent run-up in commodity prices.

Our goal was to estimate the costs to Mexican producers of domestic farm prices driven down by below-cost imports from the United States. We estimate the costs at $12.8 billion from 1997-2005 for the eight products (in constant 2000 US dollars), 10% of the value of all Mexican agricultural exports to the United States. Corn producers were by far the most heavily affected, with $6.6 billion in losses, an average of $38 per metric ton, or $99 per hectare. This is more than the average per-hectare payment to small-scale producers under the Procampo subsidy program.

1. ESTIMATING DUMPING

All eight products have been heavily impacted by U.S. agricultural policies – not just subsidies – which have increased the competitiveness of U.S. exports. According to U.S. government data, U.S. farm subsidies for these crops averaged $11.5 billion per year from 1997-2005, with corn receiving $4.5 billion/year in commodity program support. U.S. export credits provided additional support to exporters, though this has declined significantly in recent years.

On a per hectare basis, U.S. subsidy levels are significantly higher than they are in Mexico, with the exception of wheat. While U.S. farm subsidies increased after the 1996 U.S. Farm Bill, the law's most important effect was the removal of floor prices, stock management, and land set-asides, which brought previously idle land back into production. The resulting surpluses drove prices well below production costs. Low prices brought higher subsidies, since some subsidies were triggered by low prices, but it is not clear that the subsidies themselves caused the low prices (Ray, de la Torre Ugarte et al. 2003). (In fact, economic modeling of subsidy elimination generally finds limited long-term price impacts.)

The best estimate of the impacts of U.S. policies on exports is the so-called "dumping margin," the percentage by which export prices are below production costs. This captures the impact of all changes in agricultural policies in relation to exports, defining as "dumping" the exportation of any product at a price below costs (that is, not just direct subsidies). This is one of the definitions of dumping in the World Trade Organization agreement (Ritchie, Murphy et al. 2003). It is a more reliable estimate than the widely cited Producer Subsidy

Equivalent (PSE), which estimates support in unreliable ways, particularly for developing countries (see Wise 2004 for more detailed analysis).

Table 1
IMPACT OF U.S. DUMPING ON MEXICAN PRODUCERS

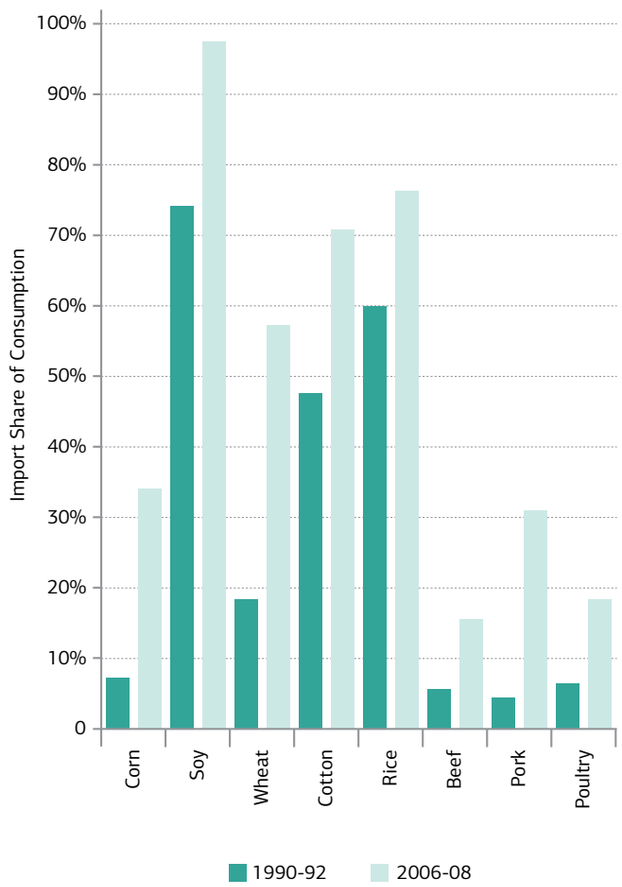
	United States				Mexico						
					Producer				Total import dependency		Losses
	Exports to Mexico (1000 tm)			Dumping margin	Price Drop	Production Mex (1000 tm)					1997-2005
	1990-92	2006-8	growth %	avg 97-05	2005/90-2	1990-92	2006-8	growth	1990-92	2006-8	2000US$
					real pesos 2000						millions
Corn - all	2,014	10,330	413%	19%	-66%	15,807	23,650	50%	7%	34%	6,571
w/o cracked	1,982	8,385	323%						7%	28%	
Soybeans	1,410	3,653	159%	12%	-67%	619	105	-83%	74%	97%	31
Wheat	360	2,515	599%	34%	-58%	3,871	3,611	-7%	18%	57%	2,176
Cotton	49	312	531%	38%	-65%	138	134	-3%	48%	70%	805
Rice	129	806	524%	16%	-51%	197	181	-8%	60%	76%	67
Subtotal											9,650
Beef	54	204	278%	5%	-45%	1,677	2,191	31%	6%	16%	1,566
Pork	27	218	707%	10%	-56%	814	1,140	40%	4%	31%	1,161
Poultry	85	396	363%	10%	-44%	1,156	2,693	133%	7%	19%	455
Subtotal											3,182
Total Losses											12,832

Sources: USDA-FATUS; Starmer et al. (2006); SAGARPA

For the five crops and three livestock sectors analyzed, the results show varied but significant impacts on Mexican producers, as presented in Table 1. As noted earlier, all eight products saw significant growth in U.S. exports from the early 1990s, the lowest being a 159% increase in soybean exports and the highest a 707% increase in pork exports. All eight products showed positive dumping margins for the period we examined (1997-2005), with the estimates for the livestock products (using a different methodology) lower (5%-10%) than the estimates for the crops (17%-38%). The related trends in Mexico were significant as well. Real producer prices fell dramatically for all products from their levels in the early 1990s, with 2005 prices (in real pesos) 44%-67% lower.

There was significant variation in the observed impacts of rising imports and lower prices on Mexican production. Corn stands out for its counterintuitive 50% increase in production, which leaves Mexico largely self-sufficient in the production of white corn for human consumption and highly dependent on imports for the fast-growing livestock sector. The other crops all showed declines in Mexican production, with small declines in wheat (-7%), cotton (-3%) and rice (-8%) and a large drop (-83%) in soybean production, which Mexico all-but-ceased producing. The livestock products all showed robust production increases (31%-133%), which reflect the dynamic demand for meat-based proteins in the Mexican diet and the continued ability of Mexico-based producers to meet some of that growing demand.

Figure 1
MEXICO: RISING IMPORT DEPENDENCY



Source: USDA FAS Production, Supply and Distribution Online, 2009.

Mexico's import dependency for all eight products increased significantly. (See Figure 1.) In livestock, dependency increased from the early-1990s levels of 4-7% to 2006-8 levels of 16-31%. For the crops, the initial levels of dependency were already high in the early 1990s (7-74%) and the levels of import dependency were much higher by 2006-8 – ranging from 34% for corn to 97% for soybeans. The vast majority of imports came from the United States.

2. ESTIMATING THE COSTS TO MEXICAN PRODUCERS

The costs to Mexican producers of exports entering the country at prices below their costs of production fall in two broad categories:

- Domestic farm prices are driven lower, reducing receipts to farmers.
- Demand for domestic farm products is displaced by imports.

For this project, we attempt only to estimate the direct costs of lower prices. It would require more complex modeling to estimate accurately the ways in which higher U.S. prices for a variety of farm products would reduce demand in Mexico for U.S. exports and boost demand for Mexican production, which would raise prices further (see Dyer 2008 for a discussion of these impacts).

As Table 1 shows, from 1997-2005 the U.S. exported the five crops studied here at dumping margins ranging from 12% for soybeans to 38% for cotton. Assuming Mexican producer prices were depressed by the same percentage as the dumping margins, below-cost exports cost Mexican producers of corn, soybeans, wheat, cotton and rice an estimated $9.7 billion from 1997-2005, just over $1 billion per year.

Meat was exported at below-cost prices because U.S. producers benefited from below-cost soybeans and corn, key components in feed, which is the largest single operating cost for in-

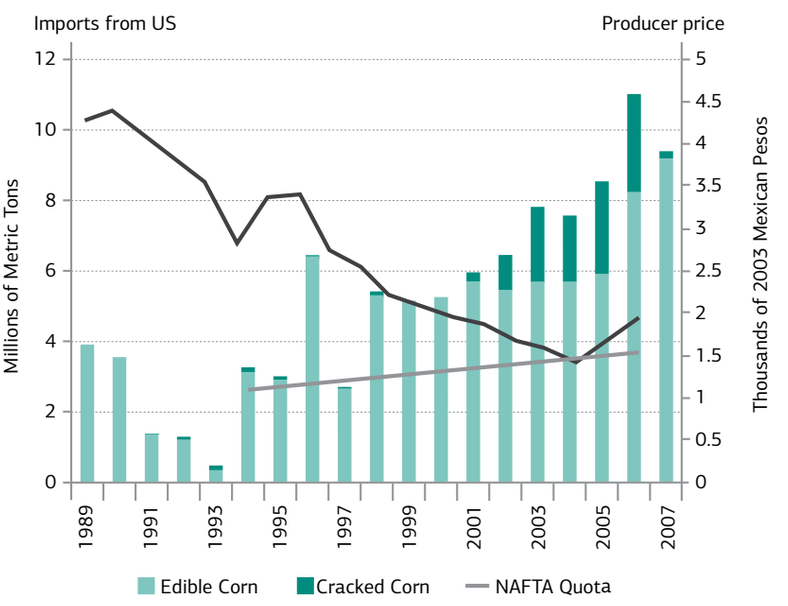
dustrial livestock producers. This so-called implicit subsidy to industrialized meat producers resulted in dumping margins of 5-10% (Starmer, Witteman et al. 2006; Starmer and Wise 2007). This cost those Mexican livestock producers who did not benefit from imported feed an estimated $3.2 billion. The largest losses were in beef, at $1.6 billion, or $175 million per year.

Total losses for the eight products together are estimated at $12.8 billion for the nine-year period, or $1.4 billion per year. To put these numbers in context, the annual losses are more than 10% of the value of all Mexican agricultural exports to the United States (including beer, which is, oddly, classified as Mexico's most important agricultural export). The losses from U.S. dumping surpass the total value of Mexico's annual tomato exports to the United States, which surged after NAFTA.

3. THE CASE OF CORN

Not surprisingly, corn showed the highest overall losses, with average dumping margins of 19%. This contributed to a 413% increase in U.S. exports (counting unregulated cracked corn exports) and a 66% decline in real producer prices from the early 1990s to 2005. In part, of course, this was caused by the Mexican government's decision not to enforce NAFTA's tariff-rate quota (TRQ) for most corn imports. (See Figure 2.) While some have focused on Mexico's estimated $3.8 billion in lost tariff revenues from not enforcing the TRQ, this was not the most important cost of Mexico's accelerated liberalization. The TRQ's prohibitive tariffs would have slowed or halted imports, so the foregone tariff revenue is entirely hypothetical. The real impact was on prices, as the government chose not to use the TRQ to slow the import surge. With imports flooding the market at dumping-level prices, the impacts on producers were dramatic.

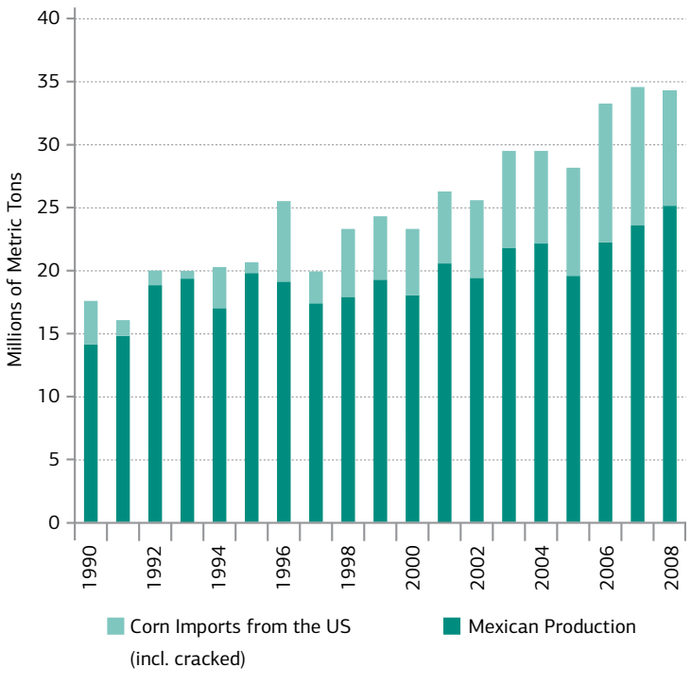
Figure 2
MEXICAN CORN: IMPORTS AND REAL PRODUCER PRICES, 1989-2008



Source: USDA/FAS, SAGARPA/SIAP 2009

Remarkably, Mexican production of white corn increased 50% in spite of the competition from imports and the fall in prices (see Figure 3).

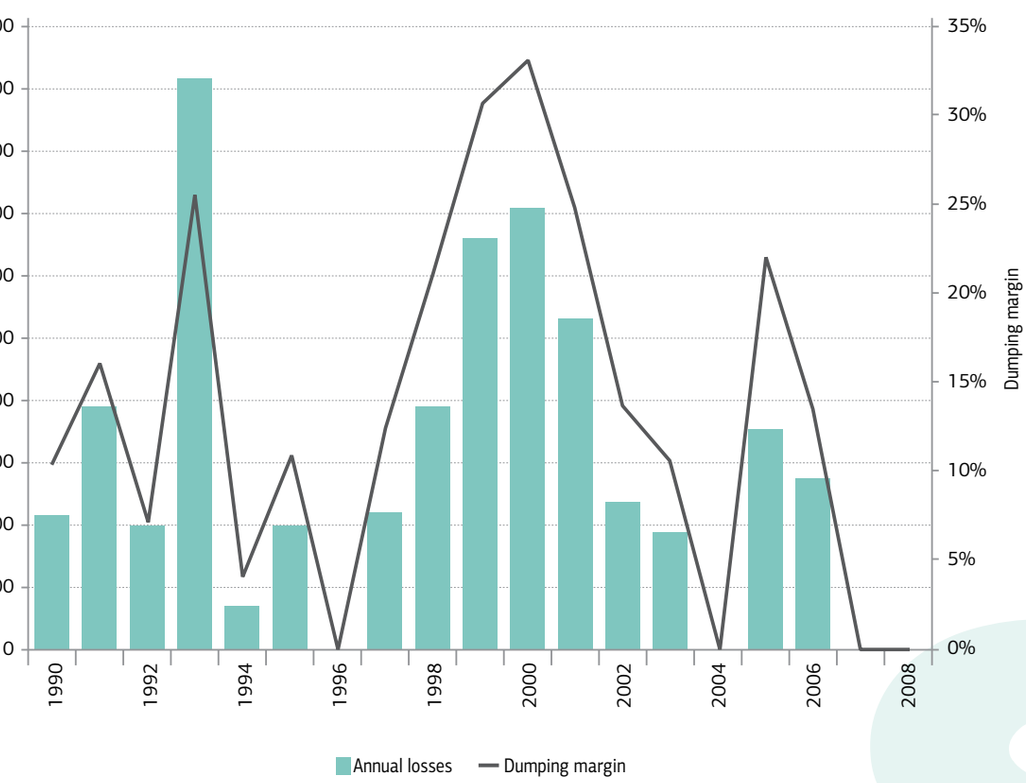
Figure 3
MEXICAN CORN: PRODUCTION, IMPORTS, 1990-2008



Source: USDA/FAS, SAGARPA/SIAP 2009

The estimated cost to Mexican producers of dumping-level prices was more than $6 billion over the nine-year period, or $730 million per year (in constant 2000 dollars). Losses exceeded $11 billion since 1990, with the highest losses in 1993, and in 1999 and 2000 when dumping margins exceeded 30% (see Figure 4).

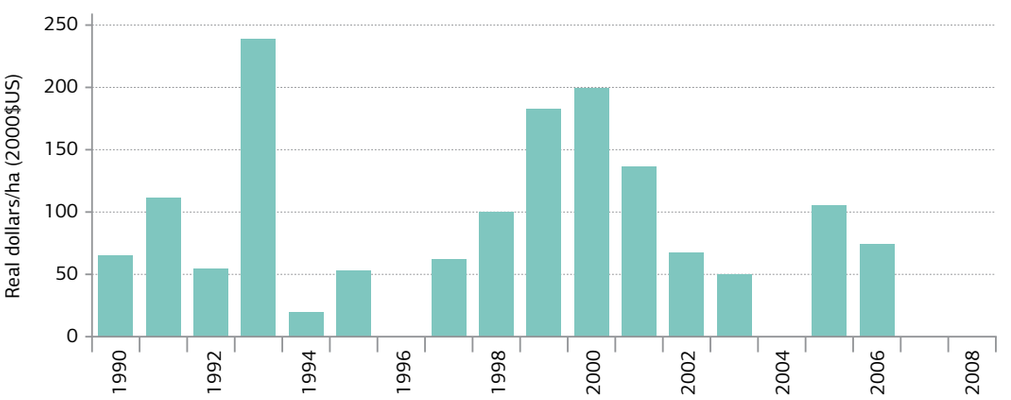
Figure 4
CORN: DUMPING MARGINS AND ANNUAL LOSSES 1990-2008



Source: USDA, OECD, IATP, SAGARPA, author's calculations.

What did this mean for Mexican producers? From 1997-2005, producers lost an estimated $38 per metric ton of corn, or $99/ha per year. For most years, per hectare losses were between $50 and $100. In 1993, 1999, and 2000, losses exceeded $175/ha (see Figure 5).

Figure 5
CORN DUMPING LOSSES/HA TO MEXICAN PRODUCERS 1990-2008



Source: USDA/FAS 2009, author's calculations.

This highlights the human costs of agricultural dumping. In real pesos (2000), this is an average loss of 958 pesos/ha between 1997 and 2005, or 367 pesos per metric ton. For the lowest productivity smallholders, this eliminated any positive income from the sales of corn in the marketplace. It illustrates one of the most important reasons for the widely observed "retreat to subsistence" among Mexican smallholders: When it no longer pays to sell your corn, better to use it just to feed your family.

These losses also highlight the importance of Procampo payments to Mexican farmers, and the irony that these subsidies have compensated for U.S. dumping rather than helped farmers increase productivity. Procampo was set up as part of the transition period under NAFTA as an income-support program to help farmers become more competitive or shift to other crops or livelihoods. On its face, Procampo was intended to address the asymmetries between U.S. and Mexican agriculture. As an income-support program, Procampo proved an important lifeline, but its value as a stimulus to competitive corn production was largely undercut by U.S. dumping. Between 1994 and 2005, the real value of Procampo payments declined 39%. In 2000 pesos, payments to the smallest producers averaged 858 pesos/ha. This was insufficient even to compensate Mexico's corn farmers for the price impacts of dumping, which averaged 958 pesos/ha. Nothing was left over to help farmers address the true sources of the developmental asymmetries between U.S. and Mexican corn farmers.

4. IS DUMPING A THING OF THE PAST?

While the long-term trends suggest nominal prices for some agricultural commodities slightly higher than their pre-boom lows, it would be a mistake to conclude that Mexican producers have seen the end of U.S. agricultural dumping (OECD-FAO 2009). Costs of production, heavily driven by the prices for petroleum-based inputs, remain well above their pre-spike levels as well, and there is little indication that input costs will go down significantly in the future. Costs of production for corn in the United States in 2009 were 17% above their 2007 levels, while prices continue to fall. Preliminary price data suggest that in 2009 the United States was already exporting wheat and cotton at prices below production costs.

Unfortunately, NAFTA has eliminated Mexico's most effective policy instruments for addressing dumping-level prices. Under the TRQ, the Mexican government could have levied tariffs to compensate for dumping. No longer. Now, the government would need to file a dispute under the WTO in an attempt to win the right to impose countervailing duties to make up for high U.S. subsidies. The political costs of such a strategy are high, and Mexico has a poor track record in such disputes.

Short of renegotiating NAFTA, only greater cooperation from the United States in limiting exports of the most sensitive products – white corn, beans, and nonfat dry milk, among others – will help protect Mexico's small-scale farmers from future dumping.

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A long-term view:

Comparing the results of Mexico's 1991 and 2007 Agricultural Censuses

Héctor Robles Berlanga[1]
Universidad Autónoma Metropolitana–Xochimilco

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1 Translated by Jonathan Fox

SUMMARY

A comparison of the results of the 1991 and 2007 Agriculture Censuses allows one to see the most significant changes in the Mexican countryside over a 16 year period that included several structural changes, including the 1992 reforms of Article 27 of the Constitution, the free trade agreement with the US and Canada, the restructuring of the Mexican state, which withdrew from many rural activities, the intensification of the migration process and the 2001 Sustainable Rural Development Law, among others.

Many of the changes in Mexico, and especially in the countryside, took place without up-to-date information on the situation in the agricultural and forestry sector at national, state or municipal levels, because the VIII Agricultural and Livestock Census was not carried out as scheduled in 2001.

This comparative exercise allows one to see changes in: land use patterns, production activity, the numbers of production units, availability of irrigation and agricultural machinery, types of traction used for crop production, head of livestock, as well as whether or not the yields of principal crops increased.

This data permits an assessment of the effects of the structural reforms in the Mexican countryside, as well as the structural problems of the rural sector in 2007.

1. OVERVIEW

The Mexican countryside has gone through a series of transformations in recent decades that are part of the globalization process. These changes are expressed through changing land use, as well as changing economic relationships resulting from the trade opening, and through different forms of power and authority that are expressed in diverse structures and institutions, as well as in the increasing presence of a wide range of rural actors.

It is difficult to assess the scope of these changes without up-to-date statistical information. The lack of data at national and state levels was overcome by the decisions of the LX Legislature's congressional representatives linked to the rural sector, from different political parties, with support from the rest of the Congress, to allocate resources in the 2007 budget so that the National Institute of Statistics, Geography and Information (INEGI) could carry out the VIII Agricultural and Livestock Census from October to December of that year.

In the second half of 2009, INEGI presented the national and state level results of the VIII Agricultural and Livestock Census, which made possible a comparison with the previous 1991 VII Census. It is important to note that the census results that have been released so far only permit comparison of Production Unit (UP) data at very high levels of aggregation, without distinguishing by crop, size of UP, access to water, etc. – in spite of the fact that two years had passed since the data was collected. The advantage of the data is that it comes from INEGI, the agency responsible for generating statistical information in Mexico, which applied a consistent methodology to survey all the farms in the country.

This study compares changes between 1991 and 2007 in the following variables: production units, land use, land tenure, availability of irrigation water, plot size, the number of tractors and trucks, the type of traction used, the number of head of livestock, access to credit, as well as the area sown and harvested of the principal crops. As will be seen, however, very few of these indicators can be cross-referenced because the definitive census results have not yet been published.

Although the most general census results are now available, INEGI should publish all of the data disaggregated to the municipal level; it is difficult to believe that 2009 ended without public access to this information.[2] This concern is based on the proposition that the publication of census data is a core principle of transparency.

The lack of disaggregated results prevents the analysis of regional patterns, as well as analysis by type of UP or crop. One cannot analyze changes in cropping patterns over the past 16 years, nor can one determine which regions or productive activities gained or lost ground in the process of the last two decades of structural change.

The concern over the lack of results is underscored by the prior experience with the decision not to carry out the VIII Agricultural and Livestock when it should have been, in 2001. Recall

2 Editor's note: This study was completed at the end of 2009.

that the IX Census is due to be carried out in 2011, and the preparations need to begin one year beforehand, so if we do not have the results in the short term and they are delayed until late in 2010, one could argue that it will not be necessary to carry out a new census.

2. COMPARING THE MAIN VARIABLES

1. Between 1991 and 2007, the number of production units increased by 25.9%. Yet it was not the agricultural and livestock UP, which grew 6.5%, that grew the most, but rather those involved in other economic activities. Notably, the land area dedicated to agriculture and livestock fell by 24.7%, which had the effect of reducing the average UP size by 7 hectares. That is, Mexico has less primary sector activity on smaller plots, at a time of world food crisis. This scenario raises the question of what is happening in the 43 million hectares that were reported as having no agricultural activity, a category that grew 159.3% in area between 1991 and 2007.

It is extremely important for policy-makers to know the reasons for the reduction in agricultural and livestock land area. The responses would vary depending on whether the shrinkage is due to out-migration, versus whether the producers shifted into more profitable activities. To shed a bit of light on the issue of why 971,000 production units did not plant crops in 2007, according to Table 14 of the VIII Census, 33.2% of the UP did not plant because of lack of funds or support, 25.9% because the lands were lying fallow, and 10.1% because of bad weather or drought.

Table 1
PRODUCTION UNITS WITH AND WITHOUT AGRICULTURAL AND LIVESTOCK ACTIVITY

Year	Production units		With agriculture/ livestock activity		Average plot size	Without agricultural/ livestock activity	
	Number	Area	Number	Area	Area	Number	Area
1990	4,407,880	108,346,084	3,823,063	91,413,395	23.9	584,817	16,932,688
2007	5,548,845	112,743,247	4,069,957	68,829,752	16.9	1,478,888	43,913,494
Increase (%)	25.9	4.1	6.5	-24.7		152.9	159.3

2. In the last 16 years the area surveyed remained almost constant, including potential cropland. In contrast, forested lands shrunk by 55.4%, possibly deforested to expand pastures, which increased by 8 million hectares. However, the 900,000 hectare increase in unproductive land does not account for the exponential increase in lands without agricultural or livestock activity, as shown in Table 1.

3. It is important to note that in the last 50 years, potential cropland grew by 7 million hectares and the amount registered in 2007 is the highest so far. That is, the 31 million hectares reported in Table 2 represent the country's maximum, the agricultural frontier. In addition, one can conclude that only 18% of Mexico's rural lands are apt for agriculture, which suggests that we are not a nation that should limit its rural economic development policies to the promotion of agriculture.

Table 2
LAND USE PATTERNS

Year	Total area surveyed	Cropland	Pasture	Forest	Unproductive
1990	108,346,084	31,104,451	67,232,593	8,793,066	1,215,973
2007	112,743,247	31,512,323	75,187,612	3,919,415	2,123,896
Increase (%)	4.1	1.3	11.8	- 55.4	74.7

4. In Mexico, some actors opposed the 1992 reforms of Art. 27 of the Constitution because of their concerns that social sector lands would be privatized, expecting that *ejidos* and agrarian communities would lose their lands to the private sector.[3] The 2007 Census results show that this did not happen. While agrarian community land area was reduced, they converted to *eji-*

3 Editor's note: Mexico's social sector landholdings take two main forms, *ejidos* and agrarian communities. The latter are somewhat different forms of governance of land tenure that are based on restitution of indigenous community lands.

dos, while private property remained constant. The increase in *ejido* lands could have two explanations: first, the agrarian courts' resolution of the agrarian reform adjudication backlog, and second, the possibility allowed by the Agrarian Law to change how social sector property is categorized, by decision of the assembly of members.[4]

Table 3
LAND USE ACCORDING TO PROPERTY CATEGORY

Year	Total area surveyed	Ejido	Agrarian Community	Private	Agricultural colony	Public lands
1990	108,346,082	30,032,643	4,338,099	70,493,493	2,166,650	1,315,197
2007	112,743,247	37,057,776	3,783,888	70,014,723	1,393,803	493,054
Increase (%)	4.1	23.4	-12.8	-0.7	-35.7	- 62.5

5. The 1991-2007 census data show that the amount of land considered to be irrigated or well-watered remained constant. The only change is that in 1991 1.7 million hectares of non-irrigated land that was classified as well-watered (*de humedad*) were no longer reported as such, and appear to have been categorized as irrigated, since the amount of rainfed land did not decrease. In synthesis, in the last 16 years, no rainfed lands gained access to irrigation – a worrisome situation because reliable access to water allows for increased productivity and the planning of agricultural activity.

Table 4
LAND AND ACCESS TO WATER

Year	Irrigated	%	Well-watered	%	Rainfed	%	Other
1990	3,824,366	13.6	1,792,390	4.0	23,170,409	82.4	28,113,852
2007	5,563,492	18.4		-	24,657,753	81.6	30,221,245
Increase (%)	45.5		-100.0		6.4		7.5

6. The production units with less than 5 hectares, representing 71.6% of the total, have increased in number. Over 80 years they grew by 708%, from 332,000 in 1930 to 2.6 units in 2007, which makes the *minifundio* the predominant form of landholding in our country.

While the 1992 reforms of Art. 27 of the Constitution attempted to roll back the presence of *minifundios*, average plot size has grown smaller over the past fifteen years Between 1991 and 2001, the average area divided up into farm plots within *ejido* land fell from 9.1 to 8.5 hectares, and by 2007 as reduced to 7.5 ha.[5] Over 16 years, *ejido* and agrarian community plots lost 21% of their average size. If the analysis focused on the cultivated area of all production units, that has fallen from 8.9 to 8.4 hectares. That indicates that the predominance of production units with less than 5 hectares applies to both the agrarian reform and the private sectors. Indeed, minifundios represent an even larger share of private landholdings, accounting for 62% of those production units, compared to 50% of *ejido* production units.[6] Small farms predominate in all types of property.

Table 5
PRODUCTION UNITS WITH FARMED AREA OF LESS THAN 5 HECTARES

Year	Land farmed	Production units	Average area farmed	Less than 5 hectares	%
1990	31,104,451	3,504,510	8.9	2,114,622	60.3
2007	31,512,323	3,755,043	8.4	2,688,611	71.6
Increase (%)	1.3	7.1	-5.4	27.1	

7. The data on area harvested shows two trends, the crops for which the land area remained constant over the past 16 years (corn and sugar cane) and the crops which reported less area

4 Editor's note: Given the drop in agrarian community land area indicated in Table 3, this suggests that some agrarian communities may have chosen to convert to *ejido* status.
5 INEGI, VIII and IX Ejido Census, Mexico
6 Given that the information released so far from the VIII Agricultural Census is only in aggregated form, one is unable to see what share of these production units' land is farmed, how much is left fallow and what crops are grown. The publication of the definitive results will permit this analysis.

harvested (beans, wheat, coffee, cotton and sorghum). It is notable that none of these crops showed significant increases in area harvested.

Corn and sugar cane show production increases, which has to do with yield increases compared to 1991, especially for corn. Coffee experienced the opposite trend, and was the only crop that showed reduced production and yields. The production of wheat, beans and cotton fell, because of the reduced area harvested, since they could not compete with the cheaper prices of these commodities in international markets. The country continues to be in deficit in corn, wheat and rice, in spite of increased corn production – in contrast to decades ago, when the country was self-sufficient.

Table 6

PRINCIPAL CROPS: AREA HARVESTED, PRODUCTION AND YIELD[7]

Crop	1990	2007	Increase (%)
Corn			
Area harvested	7,705,163	7,329,283	- 4.9
Production (KG)	10,228,262,250	20,662,158,310	102.0
Yield (KG)	1,327	2,819	112.4
Frijol			
Area harvested	2,371,836	1,522,494	- 35.8
Production (KG)	1,279,556,270	882,275,730	- 31.0
Yield (KG)	539	579	7.4
Wheat			
Area harvested	958,847	275,364	- 71.3
Production (KG)	3,475,725,829	1,258,816,300	- 63.8
Yield (KG)	3,625	4,571	26.1
Sugar cane			
Area harvested	600,538	617,855	2.9
Production (KG)	35,541,199,386	45,862,653,740	29.0
Yield (KG)	59,182	74,229	25.4
Coffee			
Area harvested	731,524	681,288	- 6.9
Production (KG)	1,947,046,832	1,154,729,660	- 40.7
Yield (KG)	2,662	1,695	- 36.3
Cotton			
Area harvested	253,097	116,828	- 53.8
Production (KG)	534,539,000	326,050,100	-39.0
Yield (KG)	2,112	2,791	32.1
Sorghum			
Area harvested	1,542,161	1,117,130	-27.6
Production (KG)	3,690,554,062	3,996,792,300	8.3
Yield (KG)	2,393	3,578	49.5

8. In terms of the type of farm equipment used to work the land, during the 1991-2007 period the number of production units that used only mechanized traction increased, while the number that used only animals or mixed traction decreased. In other words, animal traction is less widely used. Notably, the large number of UP that use only manual tools for farming remained constant during the same period.

Although the number of production units using only mechanized traction grew 45.9%, the total number of tractors and trucks dropped by 24.7% and 30.8%, respectively. This decrease may be due to the reduced number of farms that were able to access capital investment loans, while the increased costs of inputs and services may have obliged producers to change their livelihood strategies. For example, the prices for nitrogen-based fertilizers, in which Mexico is in deficit, increased by more than 50%, from M$ 2,200 per ton in 2005 to M$3,3000 in 2008, while potassium-based fertilizer prices increased 200%, from M$4,151 to $12,857 during the

7 As in the case of the size of UPs, data that would permit analysis of production units by crop remains unavailable to the public.

same period (Guzmán 2008). The cost per barrel of oil, which directly influences agrochemical prices, has risen 25% over 2005.

Table 7
MECHANIZATION AND NUMBERS OF TRACTORS AND TRUCKS
(PRINCIPAL CROPS)

Year	Total UP	Only mechanized	Only animal traction	Both mechanized and animal traction	Only manual tools	Tractors	Trucks**
1990	2,564,814	843,509	1,130,095	591,210	1,236,519	317,312	198,200
2007*	3,741,438	1,111,885	631,715	374,659	1,251,204	238,830	137,238
Increase (%)	45.9	31.8	- 44.1	- 36.6	1.2	-24.7	-30.8

* The sum of UP by type of traction does not add up to the total UP
** Refers to all trucks larger than 2 tons

Increased fuel costs impacts the use of farm machinery as well, which could explain the reduced numbers of tractors in 2007. Another explanation may involve an increase in the number of larger capacity tractors, which could cover larger areas. There appear to be fewer service providers who rent land preparation machinery. According to the 2007 census, 99.5% of those farmers who used tractors reported that they rented the service.

9. One of the central problems in the Mexican countryside is the lack of financing for productive investment. This situation that worsened over the past 16 years, as the number of UP reporting that they received credit fell from 744,000 to only 172,000 – a drop of 76.8%. Currently, according to the Census, only 4% of all production units received credit. If one considers that credit is needed to leverage the capitalization of production units, this data suggests that the vast majority of Mexican farmers cannot improve the conditions under which they produce and compete in international markets.

Table 8
PRODUCTION UNITS WITH ACCESS TO CREDIT

Year	UP	With credit
1990	3,867,495	744,400
2007	4,067,633	172,585
Increase (%)	5.2	-76.8

10. The predominance of small farms, the lack of increased access to irrigation, the drop in the number of farms receiving credit and the low use of farm machinery explains much of Mexico's limited capacity to market production in international markets. According to the Census' Table 26 "UP with land, nursery or greenhouse dedicated to production," of the 3.7 million UP, only 3,213 reported international sales – only 0.08% of all farms. In addition, the Census' Table 27 "UP with land, nursery or greenhouse dedicated to production according to type of buyer" reported that 1,518,000 UP did not sell their crops. In synthesis, few UP are directly inserted into the global economy.

11. In livestock production, only poultry grew between 1991 and 2007 - by 53.4%. The number of cattle remained almost constant, while the numbers of pigs, horses, sheep, goats all fell substantially. The poultry increase is due to the increased number of technified operations for the production of foreign varieties of meat and eggs. The reduction of horses is due to their reduced use as work animals. Numbers of other livestock fell in part because the increased cost of feed, by 60% in the past two years, obliged many producers, especially small-scale, to reduce their herds or withdraw from the activity.

Table 9
NUMBER OF HEAD OF LIVESTOCK

Year	Cattle	Horses	Sheep	Goats	Pigs	Poultry
1990	23,865,899	5,180,721	4,010,610	6,882,767	10,581,242	232,560,043
2007	23,316,942	2,143,934	7,305,578	4,124,201	9,021,192	356,824,337
Increase (%)	- 2.3	- 58.6	82.2	- 40.1	- 14.7	53.4

The comparison of the Agricultural and Livestock Censuses of 1991 and 2007 shows the following negative results:

- The number of production units without agricultural or livestock activity increased significantly, which indicates an abandonment of the use of land for food production
- The land under irrigation did not increase, yet water is a key input for planning crop production, improving crop yields and increasing producer income
- The fall in farm credit limited the capitalization of production units, which is necessary for them to become more competitive
- The fragmentation and pulverization of land distribution persisted, preventing the generation of economies of scale
- Access to capital goods fell, including tractors and trucks, while most production units did not use mechanization
- The number of head of larger livestock remained constant or fell, in contrast to what happened to the national population, leading the number of head per household to fall in relation to 1991
- In the context of the trade opening, the number of farms that participate in international trade is very small.

The comparison of the Agricultural and Livestock Censuses of 1991 and 2007 also shows positive results:

- Both production and productivity of key crops increased, permitting farms to become more competitive
- The production of poultry meat and eggs increased, increasing the availability of this basic food to Mexican consumers
- In 2009, in spite of the lack of access to credit, more farms used machinery than in 1991
- The distribution of land by property regime did not change, which indicates stability in terms of land tenure.

3. RECOMMENDATIONS

The census data comparison raises major public policy issues about agriculture, livestock and forestry, especially because the results of the VIII Agricultural and Livestock Census, as well as the IX Ejido Census, indicate that key policy goals have not been reached, including: reversing the trend toward *minifundismo*, capitalizing the countryside, changing crop patterns, promoting new approaches to organization and generating certainty in land tenure. Now is the time to consider carrying out changes that point in a different direction:

1) Policy needs to take into account the predominance of *minifundios* and the fragmentation of landholdings in the Mexican countryside. The recognition of the problem of pulverization of landholdings suggests solutions that involve the promotion of forms of organization of producers that draw on community-based ties of solidarity and permit the improvement of some stages of the production process. This recognition also suggests the need to invest more resources in agricultural research that generates technologies that are appropriate to this kind of farm.

2) The census results indicate the huge potential of non-agricultural lands: 75 million hectares of natural pastures (not counting those registered as common lands in *ejidos*) and approximately 50 million hectares of land with forest and other kinds of vegetation. These lands' importance is not only in the value of their natural resources, but also in the possibility of generating new productive alternatives, such as environmental services, tourism projects, as well as both metallic and non-metallic mining, all of which can generate employment. Each project should take into account how it can directly benefit the landholders, while protecting natural resources.

3) Mexico was self-sufficient in basic foods, but this situation has changed in recent years. The lack of food self-sufficiency affects many sectors of society, especially the poorest. This situation points to the need to establish a long-term, systematic, sustainable agro-food program that would address all the issues involved in guaranteeing appropriate, timely and sufficient food supplies to the Mexican population, taking into account availability, stability in supply, access, nutrition, food safety, quality and biosecurity. Such policies should offer sufficient income to producers for them to be able to be economically profitable or to fulfill their social or cultural roles in the different productive systems.

4) The lack of investment in rural infrastructure and the reduced capitalization of production units revealed by the VIII Census suggest the need to restructure public spending for rural Mexico. Larger investments in infrastructure are needed, to reverse losses in recent years in

terms of warehouses, roads and irrigation districts. This approach would have broad regional impacts, in contrast to the concentration of resources in a handful of commercial producers that is caused by the current budget distribution (reflected in the Special Concurrent Program for Sustainable Rural Development, known as the PEC). Instead, agricultural policy should be universal, long-term, and should generate better conditions for productive activities.

5) The lack of agricultural credit, as reported in the Census, should change. It is necessary to consider credit strategies with interest rates that are competitive with our trading partners, and to create financial options for low-income producers. It is difficult for farms to compete with our trading partners if they can only rely on the subsidies delivered by the PEC.

6) No doubt, living in rural areas in our country is associated with poverty. To be a resident of these regions leave one in a condition of discrimination. To mention just a few facts: 80% of the people who live in the lowest income municipalities are considered rural, more than half of the population employed in the primary sector earns less that the minimum wage or has no cash income, the GDP per capita in the countryside is one sixth of that of urban areas, almost all of the municipalities considered at extreme nutritional risk are rural, and four of every ten migrants to the US are from rural areas.

The policies to address rural poverty should not be limited exclusively to social programs, as they are now. Oportunidades is today the program with the broadest coverage in rural areas. Agricultural programs, in contrast, do not reach low-income rural areas, including production funding, the Livestock Program, the Compensatory Funds for Rural Energy Costs, the Support Funds for Productive Competitiveness, Income Target and the different programs within the Rural Alliance, just to provide a few examples. The reorientation of rural anti-poverty policy should not be postponed any longer. Poverty will not be overcome only with social welfare payments, the promotion of productive activities should be the central axis of Mexican rural development policy.

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Subsidizing Inequality:
Mexican Corn Policy since NAFTA
This edition was printed in October 2010.
The edition consists of 700 copies.
Publication coordination: Alicia Athié
Printed by Uribe Impresos
Médicos 23, Colonia Sifón,
Delegación Iztapalapa, México D.F.