

SOCIAL LIMITATIONS OF MAIZE FARMERS' ADAPTATION TO NEOLIBERAL POLICY REFORM IN MEXICO

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Abstract: This article highlights the interfaces between micro-level livelihoods, social networks, and macroeconomic trends and policies. Specifically, it analyzes the role of farmer groups in livelihood adaptation of smallholder maize producers in southern Mexico. We show how neoliberal market changes have shaped the local social structure with constraining and enabling effects on households' ability to adapt, while in turn the outcomes of the neoliberal policy reforms are being (re)shaped by the responses of the farmers, thereby changing the structural context. We provide evidence for the heterogeneity of adaptation processes and show that farmers' participation influences the outcomes of neoliberal policy reforms.

Proponents of market liberalization make a strong case that for smallholders to succeed in the global economy, it is necessary to create an entrepreneurial culture in rural communities (Hellin, Lundy, and Meijer 2009). Accordingly, governments have shifted their focus from production-related programs to more market-oriented interventions (Barham and Chitemi 2009). Since 1982, the Mexican government has embraced market liberalization to create substantial gains in efficiency, stimulate economic growth, and reduce rural poverty. The government eliminated price supports for most agricultural products. The commitment to domestic "food self-sufficiency" was replaced by a focus on "food security," with an emphasis on allowing domestic food requirements to be met by a mixture of imports and domestic sources. Mexico's neoliberal agenda opened up the agricultural sector to global competition, which set the stage for the phasing out of most government-supported or subsidized agricultural programs. The policy reforms supported diversification and entrance into export markets of nontraditional, labor-intensive crops (Getz 2008). This has placed renewed attention on institutions, collective action, and farmer groups as they are often considered effective mechanisms in enhancing farmers' access to markets and allowing them to benefit from emerging market opportunities (Adhikari and Goldey 2010).

In Mexico, forming farmer groups has become a popular strategy to improve farmers' access to agricultural inputs and services, thereby compensating for the market-based policy reforms that have cut down subsidized credits and inputs by the government since the end of the 1980s (Hellin, Lundy, and Meijer 2009;

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King 2006; Stringfellow et al. 1997). Stimulating farmer group formation links up with a growing body of literature showing that the capability of societies to adapt to economic shocks and policy changes is partly determined by their ability to act collectively (Adger 2003). The ability to deploy collective action (voluntary action by a group to pursue shared objectives; Markelova et al. 2009) and build social networks (such as farmer groups) depends on the quality of interactions between individuals (Adger 2003; Bebbington and Perreault 1999), which are shaped by and shape the character of the contexts in which they exist (Mohan and Mohan 2002). Our analysis focuses on this interaction between the wider socio-institutional context and the functioning of local farmer groups.

The overarching objective of this article is threefold. First, we show how smallholders are encouraged to adapt to the changing market conditions in the agricultural sector by forming farmer groups and how this has affected the local social structure. Second, we elicit the enabling and constraining effects of local social norms and networks on smallholders' adaptation strategies, asking in particular why the farmer groups are not successful in the study area. Third, we identify the (unintended) feedback effects of the unsuccessful farmer groups on the context in which they take place. Thus this study goes beyond analyzing how social structure affects individual agency by paying attention to the impact of action on emergent structures. Contrary to the numerous studies showing mainly positive effects of social capital, this article provides insight into how social capital deficiencies can constrain the flourishing of farmer groups, with negative consequences for farmers' access to resources in the long run. It contributes to the larger debate on the role of local social and political institutions that were created during neoliberal reforms of the Mexican economy. The conclusions are based on case studies, in-depth interviews, a household survey, and participant observation conducted by the first author during a field study between March 2007 and May 2010. The fieldwork was carried out among smallholder maize producers in the community of Morelos, located in the southern region of the state of Veracruz, Mexico.

ANALYTICAL FRAMEWORK

In this study we use Granovetter's (1985) notion of social embeddedness to analyze farmer group formation as an adaptation strategy in response to neoliberal policy reforms in Mexico. Social embeddedness reflects the idea that social actors process, experience, and act upon information in relation to the context of which they are a part. People have agency but exercise it within a given context that comprises the institutional and normative environment within which daily life is enacted (Niehof 2007). Smallholders behave strategically, but they do so in a social context. This implies that purposive and rational actions are also shaped by social elements such as reciprocity, obligations, and trust.

We have used the concept of social capital to analyze the intersection between social structures and purposive actions. Following Woolcock and Narayan (2000, 226), social capital is considered as built up from "the norms and networks that enable people to act collectively." Social structures are partly the result of the

unintended consequences of social actions and interactions, which then become the enabling and constraining conditions of social action itself (Giddens 1984). Social capital can be understood as having structure and content. The structure is derived from the forms of social organization in which people are embedded, particularly roles, rules, precedents, procedures, and a variety of networks that contribute to cooperation and collective action (Uphoff 2000). The content consists of cognitive features that result from mental processes manifested in trust, local ethics, traditions, morals, shared norms, attitudes, and beliefs (Uphoff 2000). The content and structure of social capital are intertwined and they strengthen one another (Durlauf and Fafchamps 2005).

Social relations and networks may be based on kinship, friendship, village membership, patron-client relationships, or participation in formal groups. Ferland (2007) made a useful analytical distinction (though sometimes blurred in practice) between informal and formal networks. The first comprises relationships between a limited number of individuals who know each other and are bound together by kinship, friendship, or other types of close relationships (for example neighbors and colleagues). Informal networks among kin and neighbors are assumed to provide households with emotional, instrumental, and informational support and social companionship (Stone 2001). Formal networks, by contrast, are regulated and are exemplified by relationships between citizens and civil servants and within voluntary associations, set up with specific objectives and officially defined membership. Networks can also be classified by their strength, whether they are based on strong or weak ties (Granovetter 1973). Strong ties are intimate ties, for example with immediate family and close friends, that tend to be regularly maintained; weak ties are nonintimate ties with acquaintances that are maintained infrequently.

Following Szreter and Woolcock (2003), we distinguish bonding networks, which include people with similar demographic, economic, and social characteristics; bridging networks, which connect people with heterogeneous backgrounds (Putnam 1995, 2000); and linking networks, which provide access to people in positions of authority, whether politically or financially. Linking social capital also includes vertical connections to formal institutions (Woolcock 2001).

Farmer groups can be considered formal social networks that can provide members with services to increase the profitability of their farms. Examples of such services are facilitation of collective production; marketing; financial, technological, and educational services and welfare services; policy advocacy; and managing common property resources (Bernard and Spielman 2009; Markelova et al. 2009; Stockbridge, Dorward, and Kydd 2003). Access to these services is considered a key incentive for becoming a member. Positive growth effects of social networks may materialize in various ways, including reduced transaction costs, facilitated exchange of information, and enhanced trust (Dakhli and De Clercq 2004; Kaasa 2009). Networks become key elements in these processes for gathering information, forming opinions, legitimizing one's standpoint, mobilizing resources, and for bridging, defending, or creating social and political space within or transcending specific institutional domains (Long 2001).

The use of social capital tends to be identified with primarily positive outcomes,

which is increasingly contested as being too normative (Adler and Kwon 2000). Social networks may have detrimental effects on the actors involved and can turn sour (Moerbeek 2001). Other identified negative effects of social capital include exclusion of outsiders, excessive claims on group members, restriction of individual freedom, and a downward leveling norm (Adler and Kwon 2000; Portes 1998). Moreover, investments in social capital are not costless, and there is no guarantee that they will bear fruit in the future. For example, the study of Nombo and Niehof (2008) on AIDS and social capital in a village in Tanzania shows that in a context of high prevalence of HIV and AIDS and widespread poverty, actors are often too burdened with their own problems to be able to help kin, and traditional safety nets collapse.

In this article, the concept of social capital is used to analyze why, in the study area, the expected positive effects of farmer group formation failed to materialize and how this affected the wider institutional context.

RESEARCH METHODS AND STUDY AREA

Both quantitative and qualitative methods of data collection were used for this study. We conducted a survey among two hundred randomly selected households (representing about 30 percent of the population of Morelos). The households were selected based on a stratified sampling process by which the village was divided into four districts that were proportionally represented in the sample. The interviews were conducted by four Popoluca-speaking men and women who were given prior interview training by the researcher.¹ The household survey included a section on the role of social capital in daily livelihood activities. The survey yielded data on the interrelations between farmer group membership, household characteristics, and adaptation strategies.

Qualitative methods of data collection included participant observation, interviews with key informants, focus group discussions, life histories, and case studies. Participant observation was used throughout the study. Being a member of a host family, the first author gained an understanding of inter- and intra-household social relationships and networks, household livelihood strategies, intra-household power relations, household resource allocation, decision making, and division of labor. Additional information was gathered through thirty in-depth interviews. Key informants were interviewed for their knowledge on specific issues, including the social, cultural, economic, and historical context at the community level. Five focus group discussions were held with groups of five to eight people, covering the topics of kinship, social networks and trust, livelihood activities, food security, community life, and market changes. The life history method elicited emic views on social and economic changes over the last two decades. Four men and four women from maize-producing households were interviewed. Their ages ranged from thirty to seventy; hence they likely had consciously experienced the changes related to market liberalization during the previous twenty years. To provide a holistic picture of daily life, the case study method was ap-

1. Popoluca is the local indigenous language spoken by all adults in the study area.

plied to eight households that represented different livelihood situations with regard to activities and strategies.

The fieldwork for this study was carried out among smallholder maize producers in the community of Morelos located in the southern region of the state of Veracruz, Mexico. The people are indigenous Popolucas, for whom Spanish is a second language. Soteapan is one of the most deprived regions in Veracruz and among the most marginal in the country. In 2005, about 75 percent of the population of the municipality lived in extreme poverty, with incomes below US\$51.60 per month (CONEVAL 2005). Agriculture is the main livelihood activity and local smallholders primarily cultivate maize. The local maize farming system comprises both subsistence and commercial production. Maize production takes place under rain-fed conditions and is entirely manual, due in part to the steep, rocky terrain. Nevertheless, in terms of maize production, Morelos belongs to the top 5 out of 212 municipalities in Veracruz (INEGI 2005). Since maize production is the livelihood strategy in which all households in the study area are to a greater or lesser extent involved, the research focused on the role of social networks in the production of maize.

According to in-depth interviews, an increasing number of young adults leave Morelos temporarily to work elsewhere, but in the survey there were only a few households with members who had permanently migrated to other parts of Mexico or the United States. Since these migrants do not contribute significantly to the household income, remittances are not considered an important source of income.

Morelos was founded on the site of an old ranch deserted during the revolution in 1937. At that time, the community counted about fifteen households. Agriculture was the main livelihood activity. The households were self-supportive and enjoyed a large measure of autonomy. The most important social network was that of intrahousehold kin relations. Interhousehold interactions were mainly confined to the exchange of products. Social life in the community was simple, and collective action was rare. The local authority occasionally convened a community gathering, during which community members discussed what improvements were needed in the village and what collective action had to be taken. This type of communal work existed until the 1970s.

Neighborhood is a relatively new phenomenon in the area. According to the collected life histories, until the division of land for dwellings in the 1970s, households did not have close neighbors. Families lived independently, scattered throughout the area. In 1956, Morelos officially became an *ejido*, a community-based organization in which members, or *ejidatarios*, held permanent usufruct rights to one or several plots.² Following the introduction of the *ejido* system, each household was allocated a predetermined piece of land for a dwelling. This led to a clustering of houses, which made neighbors important.

Over the years, the availability of land triggered an inflow of new families

2. An *ejido* was a collective in which members were allotted individual agricultural plots. This was meant to stimulate private investment and enable farmers to participate in private credit markets, leading to increased agricultural production (OECD 2007).

from neighboring villages. According to key informants, concurrent with the growth of the population, life in the village became more individual. Villagers did not trust the newcomers, and conflicts arose about access to land. Despite the increased number of inhabitants, there were no clubs or associations, and, except for trade purposes, people had few contacts with members of neighboring communities.

The local administration of Morelos is organized along customary Mexican lines and based in two institutions. The first, the *comisariado ejidal*, is responsible for everything related to land tenure and agricultural activities. The second is the *agente municipal* or official community leader. This person is responsible for informing people about community matters, mediating in conflicts, organizing activities with collective aims (e.g., cleaning of the streets, providing drinking water), and representing the community at meetings with the municipality and other external institutions.

CHANGING MARKET CONDITIONS: EARLY FARMER GROUP FORMATION

Since 1988, the Mexican agricultural sector has undergone important reforms aimed at aligning the sector with the neoliberal growth model adopted in the early 1980s. During the Salinas administration (1988–1994), the government undertook radical attempts to restructure the agricultural sector by implementing policies of privatization, deregulation, and trade liberalization, abandoning incentives to produce food locally and allowing market forces, profitability, and productivity to determine production according to the country's comparative advantages (Preibisch, Rivera Herrejón, and Wiggins 2002). Despite the deterioration of the agricultural sector and the declining welfare of the rural population, the Zedillo administration (1994–2000) continued to pursue the agricultural policies implemented by the Salinas administration, leading to significant changes in Mexico's rural landscape (Nadal 2000).

The most important reforms affecting the Mexican maize sector were the privatization of the land and capital market as well as agricultural input markets for fertilizers, seeds, and pesticides. In 1992, an amendment to Article 27 of the Mexican Constitution changed agrarian reform legislation and allowed individual property rights on ejido land (Bouquet 2009). In Morelos, since the completion of the work of the Ejidal Rights Certification Program (PROCEDE) in 1998, smallholders own an official document of land tenure. Additionally, throughout the 1990s the government reduced its participation in agriculture by cutting price support to producers of key staples (such as maize), limiting subsidies to agricultural inputs (e.g., the privatization of the fertilizer company FERTIMEX), and limiting provision of credit and insurance. It also reduced participation in the processing of grains, oils, and powdered milk via the National Basic Foods Company (CONASUPO). Furthermore, the government reduced credit subsidies to the National Rural Credit Bank (BANRURAL), which was finally liquidated in June 2003 due to severe problems of credit recovery and operational inefficiency (Rosenzweig 2003). The post-1988 policies were geared toward deregulating the markets for agricultural commodities (Appendini and Liverman 1994). The gov-

ernment allowed US imports to enter tariff-free by increasing the nontariff quota. Since NAFTA came into effect, US maize exports to Mexico have almost doubled to some six million metric tons in 2002. As a consequence, between 1990 and 1998 domestic maize prices fell by 48 percent (De Ita 1999).³

Simultaneously, to alleviate rural poverty, various (semi-)governmental programs continued to stimulate rural development. For instance, at the end of the 1980s, the National Institute for Indigenous People (INI), in cooperation with BANRURAL and the agro-industry, stimulated cattle breeding and introduced improved seed varieties and dispersed chemicals on *credito por palabra* (credit on one's word) in the region to improve and commercialize maize production. These new technologies resulted in a local "green revolution" that transformed the traditional *milpa* system (intercropping of maize, beans, and squash, managed through slash-and-burn with fallow periods and the use of mulch) into monocultural maize production. This resulted in farmers giving up their local criollo (indigenous) seed varieties in exchange for improved maize varieties that require intensive treatment with fertilizers (Blanco Rosas 2006). Monocultural maize production is also stimulated by income payments through the government Program for Direct Assistance in Agriculture, PROCAMPO (Programa de Apoyo Directos al Campo) (Taylor et al. 2005; Yúnez-Naude and Barceinas Paredes 2002; Yúnez-Naude and Taylor 2006). Currently, any producer who cultivates a legal crop on eligible land or uses that land for livestock, forestry production, or some ecological project is entitled to PROCAMPO payments, which are made on a per hectare basis.

In Morelos, the first farmer groups were founded in 1990 to gain access to inputs provided by INI. INI granted pesticides, fertilizers, and improved seeds to groups of farmers that were registered at the comisariado ejidal and represented by the president of the comisariado. This encouraged a privileged bond between the president of the comisariado ejidal and the representatives of INI between 1990 and 1994. The then president of the comisariado ejidal allegedly abused his position, committed fraud, and worked together with INI to swindle local farmers. At the same time, collectively obtained inputs and credits also stimulated opportunistic behavior. The majority of the farmers did not pay back their loans, and since farmers did not own land but only had usufruct rights, the bank had no possibility of claiming land as collateral. Due to high default, in 1994 INI stopped their programs in the area, and the farmer groups dissolved.

The complex input market in Morelos

Despite dismantling official assistance to small-scale producers of basic crops, along with rising prices for agricultural inputs and falling maize prices, in 2010

3. While US maize exports to Mexico were almost all yellow maize in the mid-1990s, some 20 percent was white maize in 2010. However, even before the US white maize exports began to increase, the price paid to farmers in Mexico for maize fell by over 70 percent as huge amounts of US yellow maize were exported to Mexico. Yellow and white maize are treated as the same commodity under NAFTA. This policy has had serious consequences for Mexican maize growers, as it made it almost impossible to maintain price differentials between the yellow and the normally more expensive white maize.

the majority of the smallholders in the study area were still almost exclusively producing maize. However, the context has changed considerably. With the withdrawal of state assistance to smallholders, a wide spectrum of private organizations and commercial companies took advantage of the newly arisen market and became part of the local institutional environment. Private businesses representing national and international agrochemical industries and wholesalers started to participate in the local market by selling seeds, agrochemical inputs, and agricultural tools and machinery. Financial intermediaries and regional and national (rural) credit institutions started to offer their services. Research institutes and semigovernmental organizations selling innovative products and technologies are other new actors at rural markets. The introduction of improved seed varieties and monocultural maize production has increased the number of *coyotes* (as middlemen are known locally) in the area. The result is a complex market that lacks transparency.

Most of the suppliers of agrichemical inputs communicate in Spanish and operate from Acayucan, a rural town located thirty-five kilometers from Morelos. Smallholders from Morelos are weak players in the local input market. They are not well informed and therefore not able to effectively negotiate with suppliers. Due to a lack of education and limited knowledge of the Spanish language,⁴ it is unclear for farmers which products are best to buy, what a reasonable price is for certain inputs, how to access the credit market, or what government (credit) programs are available and how to apply for them.

With the withdrawal of the state and the complexity of the liberalized input market, private extension agents—known locally as *despachos*—started to intervene at the local input market by the mid-1990s. These *despachos* take advantage of the weak position of smallholders at local markets by assisting them for a financial reward. They work only with groups of farmers by, for example, providing technical packages,⁵ advice, and helping groups to access credit provided by FIRA.⁶ Often smallholders use such a loan to pay for the technical packages. Although each group member is individually responsible for his or her loan, the entire group will be excluded from the program if too many group members default. Since the land title program PROCEDE ended in 1998 and smallholders in the Sierra de Santa Marta own individual land titles, which can serve as collateral for a loan, the number of *despachos* operating in the region has increased. In response to the advent of *despachos*, local smallholders have organized themselves in farmer groups to get access to their services, technological packages, and credits. During the time of this study there were four *despachos* operating in Morelos.

4. Survey data indicate that 60 percent of the smallholders cannot read and write Spanish.

5. Technical packages include seeds, fertilizers, weed killers, and pesticides in the amount necessary for the production of one hectare of high-yielding maize.

6. Established in 1954 by Mexico's federal government, Trust Funds for Rural Development (FIRA) is a second-tier development bank that offers credit and guarantees, training, technical assistance, and technology-transfer support to the agriculture, livestock, fishing, forestry, and agribusiness sectors in Mexico.

MEMBERSHIP OF FARMER GROUPS

Since the mid-1990s, several farmer groups have been founded in the study area. At present, the groups have about 30 to 150 members and are run by farmer group leaders. Irrespective of size, all farmer groups meet about six times a year, apply collectively for credits, and work closely together with despachos.

To enhance our understanding of farmer group participation, we explored possible determinants of participation. Building on the social capital literature, we selected a set of relevant variables. Natural capital included land owned (more land stimulates farm activities) and land entitlements (land titles can be used as collateral and stimulate investments). Human capital variables included household size and dependency ratio (labor availability), sex and age of the household head (female-headed households have specific characteristics and face competing demands on the time of the household head), and education level of household head (important for the off-farm employment opportunities). Physical capital referred to urban land entitlements (collateral). Finally, three different trust measures are included in the regression. The household survey included a set of statements on trust. The perceptions of respondents on the trust statements were obtained using a 5-level Likert scale (1 = strongly disagree and 5 = strongly agree). To reduce the multidimensionality of the trust variables we performed a factor analysis. Based on a principal factor model with varimax rotation we defined three main factors underlying trust: institutionalized trust, generalized trust, and personalized trust. Institutionalized trust is a basic confidence in the formal institutions of governance, including fairness of rules, official procedures, dispute resolution, markets, and resource allocation, or the political, tax, or juridical system (cf. Stone 2001). Generalized trust is trust in strangers, and personalized trust refers to personal relationships. The variables were tested for multicollinearity before proceeding to the analysis, using logistic regression. The aim was to understand the role of the independent variables in explaining farmer group participation. Table 1 highlights the significant variables in group participation. We used a probit regression because the independent variable is a dummy variable (membership yes = 1).

Three of the tested variables significantly influence farmer group participation: institutionalized trust, generalized trust, and illiteracy of the household head. Household heads with a high level of institutional trust are more likely to participate in a farmer group, which is part of the local institutional environment. Illiterate household heads are also likely to become a farmer group member, suggesting that these people try to compensate for their weak position in the market through the services provided by a farmer group represented by a person who can read and write Spanish. Generalized trust is negatively correlated with farmer group membership. This could be because people who trust strangers might be more inclined to participate individually in the input and product market and are therefore less likely to participate in farmer groups. It is interesting to note that there is no direct effect of household composition and land owned on farmer group membership.

Table 1 Farmer group membership: probit regression with instrumental variables

	Group membership (yes = 1)	
	Second-stage coefficient	SE
Personalized trust	-.067	.113
Generalized trust	-.224**	.105
Institutionalized trust	.766***	.202
Household size	-.031	.067
Sex household head (female = 1)	.250	.386
Age household head	.011	.009
Household dependency ratio	.015	.233
Illiterate household head (yes = 1)	.373*	.235
Solar land title (housing plot) (yes = 1)	.347	.318
Land owned (ha.)	-.017	.018
Land title (1 = yes) [†]		
Distance plot [†]		
Constant	-.768*	.437

SE = Standard error.

[†]This is an instrumental variable. We used instrumental variables to overcome the possible endogeneity problem caused by including trust indicators in the regression. This means that we first regressed institutional trust on the capital variables, land title (yes = 1), and distance of plot and in the second stage used the predicted institutional trust variable as a proxy in a regression for observed farmer group membership on trust and the capital variables.

*Significant at 10%; **significant at 5%; ***significant at 1%.

Qualitative data indicated that contacts between farmer group members are limited to the general group meetings. They do not help each other in times of difficulties, nor do they provide mutual support in the fields. Accordingly, the main reason for almost all farmer group members (98 percent) to join a group is to get access to high-quality inputs or financial resources. In general, smallholders indicated that they join a certain group because (1) they have a strong tie with the leader of the group, (2) the group has a good track record, or (3) they are asked by the representative to become a member.

Data from focus group discussions indicate that some smallholders decided not to become a member of a farmer group because they greatly value their independence, individuality, and autonomy. Additionally, some farmers do not participate in a farmer group because they have no confidence in the group leaders and are afraid to become victims of fraud and corruption. Pablo Cruz (55) stated this as follows:

I see many people around me who are weighed down by their debts. They are miserable and as a result, their work suffers. They are not able to make their own choices as their opinion and experience is subordinate to that of the despacho. Despachos will always sell agrochemicals to those farmers who are not in the position to refuse. However, despachos do not sell these products to the farmers because of their outstanding quality but because they receive a commission for these transactions. I value my freedom of choice and will therefore never voluntarily participate in this kind of political game.

Farmer group leaders

The leaders of the farmer groups—locally called representatives—are in charge of selecting group members, arranging price reductions on inputs and/or credits for members, organizing administrative tasks, encouraging members to repay their loans, and mediating in case of conflict. They mediate between the farmers and external parties such as local authorities, research institutes, commercial businesses, wholesalers, and banks. To carry out their function they have to speak both Spanish and Popoluca, preferably have finished primary school, have good social skills, and have access to an extensive external network. Their position is challenging, because they are part of both the local social structure characterized by local social norms and the profit-oriented economic system of the despachos and commercial businesses. This duality may cause problems. The social norms may force representatives to accept relatives in their group while knowing that they are in debt, whereas despachos request representatives to select members based on solvency. In practice, the selection of group members is based on social rather than economic criteria.

The work of the representatives is unremunerated, but they derive prestige and privileges from their exclusive relationships with external agencies and suppliers. Both the individuals who run the despachos and the farmer group representatives retain a great deal of power over those who seek their services, which engenders a culture of cronyism and corruption. While formally the representatives are independent of the local authorities (*agente municipal* and *comisariado ejidal*) and do not intervene in community politics, in practice they are strong public figures who can be more powerful than the local authorities. This applies in particular to representatives who manage large farmer groups, though they have to compete with other farmer groups. While they have to maintain a good relationship with external stakeholders, they also have to prevent their members from switching to another group.

All representatives have their own objectives and management strategy (see for example the cases described below). A few explained that they prefer to work with a small group of close friends and family members to limit risks. Other representatives argue that bigger groups provide economies of scale as inputs can be bought in bulk. These representatives have no rigid selection criteria. A few representatives consider themselves a mediator who provides a voluntary service to the members, while others ask a financial or in-kind reward for their work.

Case 1: Group Pascual / Pascual Cruz Sabalsa (50) has been a representative of a farmer group since 2001. It had 148 members at one stage of its existence. Pascual started his group when he was the *comisariado ejidal*. As local authority he had built a large network outside the village through which he came into contact with the despacho "Imperio del Campo." He began to trust the founder of the despacho. Many farmers joined his group partly because he held a leading position. Everybody was welcome and soon he was leader of the biggest group in the community. This gave him power and status even when another farmer was elected

as *comisariado ejidal*. Together with the *despacho* he arranged various projects for his group members. For example, he introduced a new type of maize seeds that enabled farmers to sell their harvest to producers of tortilla dough for higher profits rather than to the cattle fodder industry, and a silo was built to collectively store and dry maize grains after harvesting.

Pascual became an important leader in the community. He is one of eight who own a tractor (which he received from a seed company in return for promoting new seed varieties), he has an extensive external network of relations outside the village, and he receives payments from agricultural institutions and companies in exchange for providing access to his constituency. This all changed in 2008. In that year the harvest was bad and farmers were not able to pay back their loans. The *despacho* put Pascual under pressure to repay the loan of his group. At the same time, he had to be strict with his group members to emphasize the urgency of the problem on behalf of the *despacho*. As a result, Pascual came into conflict with both the *despacho* and his group members. He suffered under this pressure and became addicted to alcohol.

The situation went from bad to worse when he started to make improper use of the collateral of new members to get a loan that he never paid out to the farmers concerned. He used the money to buy more alcohol. When group members got wind of the fraudulent practices, several farmers left the group and approached the district court. Other farmers do not believe in formal justice; they think that all lawyers are corrupt and will not bother to take a case brought by indigenous people. At the end of the fieldwork period, Pascual's health was failing and his reputation and status had been completely eroded to that of a criminal.

Case 2: Group Hugo / Hugo Salinas (39) started his own group three years ago. For two years he was a member of Pascual's group but he left it because of the disappointing results. He believes in the strength of a small group, saying that "when a group is large, it loses its joint responsibility and solidarity. With a small group, one can better coordinate to realize more things than just paying back the loan. Within small groups, everyone is committed and people feel more responsible for their loan." Hugo explained that his status and privileges hardly count compared to the representatives of large groups, but he does not strive after power: "I just want to have a good life together with my wife and children. Therefore, my aim is to improve the production of maize for myself and the other group members." The first twelve members were only relatives. Over the years a few more members joined and now the group has thirty-five members, all relatives and close friends of Hugo. They meet once every six weeks to discuss developments and exchange information on new production techniques. Group members have a good relationship with each other as they all live close together and know each other well. Nevertheless, mutual support among group members hardly exists.

Effects of dysfunctional farmer groups

According to key informants, nine of the thirteen farmer groups that were established since 1998 have collapsed or became inactive due to internal conflicts, lack of

trust, free riding, corruption, opportunistic behavior, and debts. In a few cases, the representatives were corrupt, for example by misappropriating the money they received from farmers paying back their loans. On the other hand, many smallholders fail to repay their loans. In the in-depth interviews, people gave the following reasons for their debts: lack of trust in representatives, accusing them of too-high interest rates; lack of a sense of responsibility for the loan; indifference about their reputation; not being concerned about harmful effects on other group members' access to credit; and inability to repay due to a lack of profitability.

Due to the unreliable reputation of local smallholders and the many unsuccessful farmer groups, local despachos and credit-providing agencies have become less interested in cooperating with farmers in Morelos and are leaving the area. As a result, local smallholders have become excluded from credit programs and technological packages, which constrains their access to the inputs they need.

SOCIAL CONTEXT: EXPLANATORY FACTORS AND CONSTRAINING CIRCUMSTANCES

The farmer group dynamics in Morelos demonstrate that it is possible to introduce new forms of social networks but that it is difficult to maintain a sustainable group. Despite the potential economic benefits associated with group membership, many farmer groups in Morelos have fallen apart. In this section, we explain this phenomenon in the light of the local social and historical context.

Low degree of solidarity and cohesion among group members

Social ties among farmer group members are a new type of social capital that is not grounded in traditional social relations. According to the survey data, the majority of the respondents (85 percent) consider kin the most important social tie. Households are the principal unit in which relatives support each other instrumentally and emotionally. Household members provide the main source of social security by sharing food and child care and lending small amounts of money.

Beyond the household, relationships between kin living at the same compound are strong as well. At a compound, usually multiple, patrilineally related households share food and goods (such as cooking utensils), exchange information (about current food prices or events coming up), work together when there is a lot to be done (during sowing and harvesting time), and help each other to make a living and to cope with difficult times. Apart from providing instrumental support, these coresidential kinship relations play a vital role in caregiving and in fostering trust and companionship.

The reciprocal relationship between kin members in daily life is shaped by inheritance traditions, residence patterns, and capital endowment. Given the pattern of virilocal residence, sons are assumed to support their parents financially during their old age. This applies in particular to the youngest son, who inherits the land and the dwelling of his parents in return. Daughters leave the household upon marriage. They are not expected to support their parents as they have their own household to manage.

Although relatives are considered very important, in practice kinship is a weak

institution in difficult times. Kin beyond the household are often not willing to help. The social ties among nonresidential family members are not underpinned by strict norms of reciprocity or obligations concerning mutual help. Respondents indicated that social support from nonresidential kin is rare, because resource constraints make it difficult to maintain reciprocal relations. As Doña Stefana (45) said: "In our community, everybody is poor. So how can you expect people to help others if they are hardly able to make ends meet themselves?"

In addition to kinship, *compadrazgo* is a well-grounded social institution in Morelos. It refers to very close social relations, considered almost as family. *Compadre* (the female equivalent is *comadre*) is the term for godparent. In Morelos, *compadrazgo* is established at the baptism of a child. It entails a lifelong relationship of friendship and trust between the *compadres* and the parents of the child. The most important role of *compadres* is that they take responsibility for the child in case the parents die. In addition, *compadres* support the cost of the baptism ceremony. In interviews, respondents explained that, ideally, *compadrazgo* relations should function as a safety net, but key informants suggested that in practice people do not expect or receive much from their *compadres* and rather depend on their own inner circle of household members and close relatives.

Friends are another source of social capital in Morelos, but primarily for men. Men have a few friends with whom they share leisure time. Apart from social companionship, friends share information and help each other in finding a job. However, friendship also includes obligations; often friends ask day wages for their help in the field or demand interest when lending money.

As explained above, neighbors are a relatively new source of social capital. According to the statements by key respondents, there are many disputes and conflicts between neighboring families, for example about loud music, escaped chickens, or public drunkenness. People argue that they do not feel related to their neighbors and do not expect support from them. Recently, some people became so annoyed with their neighbors that they started to live (illegally) at their plot, in a small and basic shelter (without electricity or water), to escape from the crowd and the conflicts with neighbors.

Following the idea that purposive and economic behavior is embedded in a social context, the weak social ties among kin, *compadres*, friends, and neighbors become a constraining factor. Collaboration between farmer group members requires a cooperative attitude, trust, and social norms supporting collective action. In Morelos, this attitude is lacking, which is an important reason for the unsuccessful implementation of farmer groups.

Lack of trust among group members

Several studies on the role of trust link the emergence of trust and trust networks to conditions of risk and uncertainty (Adler-Lomnitz and Sheinbaum 2004; Rose-Ackerman 2001). The authors demonstrate that when uncertainty and risk are high, transactions and information exchange are likely to occur primarily among people within a social network, as a way of limiting risk. Smallholders in this study, for example, find it difficult to assess the quality of seeds and agro-

chemicals. Hence, for them, a trustworthy network could be a crucial factor for more profitable production, through members sharing their experiences with certain seed varieties and agrochemical products or their opinion on who is trustworthy, or recommending a new production technique.

However, in Morelos a lack of trust between farmers stymied attempts to encourage farmer cooperation. Despite the benefits that individual smallholders can derive from sharing useful market information, cooperation among group members is limited. According to the survey, 40 percent of the smallholders in Morelos have little trust in other farmer group members. Respondents indicated that they share their knowledge primarily with close kin relations. During focus group discussions, people indicated that they prefer to buy their inputs individually for the price they think is best, notwithstanding their weak position at the input market. Juan Pablo Hernandez (54) phrased it like this: "I always go to Acayucan to buy my seeds and fertilizers. I ask my neighbor to drive me to a wholesaler located on the outskirts of town. I prefer to negotiate alone as I am afraid that other smallholders will agree to a higher price than I am willing to pay. I am used to working on my own without commitments to others." Respondents pointed out that they are aware of the advantages of sharing costs or buying their inputs in bulk, but they explained that they do not trust other farmers and indicated that they are afraid that they will fall victim to deceit.

Also, with respect to the local maize (or output) market, the role of farmer groups is limited. Nowadays, maize is primarily traded at an informal market that transports maize from the farm to the formal markets through coyotes. They negotiate the price at the farm gate and deliver the product to regional and national wholesalers, thus reducing transportation costs for farmers who would otherwise not be able to access the maize market. The maize market in Morelos consists of a few local coyotes (originating from Morelos or neighboring Popoluca villages) and external coyotes (from outside the region), and many small suppliers of maize.

Maize producers could receive a good price for their maize if they sold it collectively to a coyote. In 2008, a despacho built a silo in Morelos to facilitate the common storage and gathering of maize to facilitate bulk supply. However, the silo was never used. Instead of smallholders collectively operating as one powerful supplier, each smallholder negotiates individually with coyotes. Smallholders pointed out that they do not want to store and sell their maize collectively because they are afraid that conflicts will arise regarding the quantity of maize in deposit, the common price, and the individual profit. Tomas Pascual (45) stated: "If I bring all my maize to the silo, nobody can guarantee me that I will receive a good price for my product. There will be always people who practice fraud, and your money will disappear. These risks are too high."

Farmers also prefer to act individually because this gives them freedom to sell their product at the time their household is in financial need. The economic situation forces most smallholders to sell their product immediately after harvesting, at a time when maize is abundant and prices are low. They accept these prices because they need cash to repay debts and to buy inputs for the next cycle. Farmers who are pressed to accept the lowest prices put other farmers at a disadvantage:

the lowest price becomes the starting point for other negotiations. Hence farmers compete with each other, while they would all gain from cooperation and price-fixing. At the same time, this situation creates an opportunity for smallholders who are able to store their harvest for a few weeks to benefit from higher prices when maize supplies have declined.

Group leaders lack required skills

In Morelos, smallholders' access to financial resources is constrained by a lack of local management skills and experience. The representatives have limited skills to secure collective benefits for a group of farmers. Like their group members, the representatives are poorly educated and do not read and write Spanish. They are hardly able to verify the information provided by commercial organizations and governmental agencies. Consequently, group leaders face difficulties in meeting the objectives of the group members and often fall victim to swindlers. Since their inception, farmer groups have been troubled by corruption and fraud among local authorities. In most cases, the key asset of representatives is their extended social network, which allows them to link the external environment with the local community members. However, this may also lead to groups being used for political ends and subjected to manipulation by corrupt leaders. Since representatives form part of the local community, group members may be relatives, friends, or neighbors. For a representative it is difficult to be strict when the defaulting group member is a neighbor or close family member. However, such partiality erodes the credibility of the representative and may lead to conflict.

Limited experience with collective action and cooperation

A commonly cited explanation for the failure of farmer organizations is lack of experience with collective action (Hellin, Lundy, and Meijer 2009; Stockbridge, Dorward, and Kydd 2003; Stringfellow et al. 1997). In Morelos, smallholders are not used to working together. Traditionally Popolucas do not have clubs or associations. Since the introduction of the Catholic Church, people gather now and then on Sundays for a service. However, the number of people who visit the church is decreasing. During election time, members of political parties gather to discuss the election program, but these formal networks do not organize collective activities. As a result, smallholders in Morelos are unfamiliar with the kind of cooperation required to make farmer groups successful and sustainable.

At the community level collective action is rare as well. People dislike collective activities and, due to a lack of participation, cultural festivities ceased to exist. Moreover, informants remarked that poor economic conditions make people self-centered and individualistic. Only death is an event that triggers collective action. People grieve together and the community members supply the stricken family with basic needs such as maize, money, salt, sugar, beans, chickens, and so on. Any community activities are initiated by the agente municipal or the comisariado ejidal. Occasionally, these local authorities call the villagers for a meeting

to inform them about common issues. These meetings are obligatory. In addition, the agente municipal organizes collective activities such as cleaning the streets or the cemetery, painting the community center, or weeding public spaces and sports fields. However, survey data indicate that a majority of the respondents (66 percent) almost never participate in these activities.

DISCUSSION AND CONCLUSION

Neoliberal policy reforms have confronted local smallholders with a new institutional environment consisting of many private businesses and semigovernmental organizations mediating between farmers and the state. Since the beginning of the 1990s, market reforms have encouraged local smallholders to organize themselves into farmer groups to enlarge their access to credit and technological packages and to enhance their market performance. In Morelos the formation of farmer groups has introduced a new type of social network bonding among farmers. However, contrary to the opinion in the literature that bonding ties provide access to resources and a safety net in times of difficulties (Grootaert 2002; Midgley 1995; Morduch 1999), we found that in Morelos this was not the case. Among farmer group members there is not much solidarity and collective action. Group members do not share information, and they rarely help each other in the field or buy fertilizers or other inputs in bulk to reduce costs. Apart from bonding ties, farmer groups offer also new linking ties in the study area by providing access to representatives, that is, people in a position of authority. The relationship between farmers and the representatives creates access to the facilities offered by despachos, wholesalers, government agencies, and other new players in the input and product markets. However, in Morelos, farmers do not use these opportunities that the farmer groups provide.

This article demonstrates that new forms of social networks can be introduced but are difficult to sustain if they do not link up with local forms of social capital, as there is continuous interaction between the local forms and newly introduced social capital. We conclude that if farmer group formation is not embedded in existing social practices, norms, and relations, it will not result in positive outcomes. Traditionally, households in the study area do not have strong social ties with people other than their kin. Contrary to studies that assume a high level of social cohesion in rural communities, in Morelos this is visible only at the level of the household and immediate family. Although in the social capital literature the role of families in constructing social capital tends to be underemphasized (Stone 2001), in Morelos kinship relations are regarded as fundamental. Smallholders hardly have reciprocal relationships beyond the household, and households struggle individually to survive. The social ties among nonresidential family members lack the context of "condensed morality" that one finds in households (Pennartz and Niehof 1999). In addition, the weakness of social ties with *compadres* is noteworthy, as *compadrazgo* is an important social institution in most parts of Mexico (Cohen 1999). The lack of strong social ties among villagers, limited experience with collective action, low levels of trust, and the

prevailing individualistic attitude have resulted in unstable and unsustainable farmer groups. This conclusion triggers the question of how social capital can be built (Fox 2006). So far, much of the literature on social capital has focused on the types and functioning of social capital and less on social capital building, a crucial factor in farmer group performance in Morelos.

The lack of supportive social norms and possibilities to invest in strong social networks has negative effects on the process of forming sustainable farmer groups. This finding captures the same mechanism as the notion of the poverty trap, which refers to a household's asset status characterized by low accumulation of assets and low potential for improving well-being. The notion assumes the existence of threshold effects, the clustering of poor and rich households depending on their initial asset endowment. Households with an initial status below this threshold eventually converge on a low-level equilibrium state, while those above the threshold move toward a high-level equilibrium (Banerjee and Newman 1994). Constrained by poor initial conditions, with possible superimposed (economic) shocks, low-status households find it difficult to cross the threshold point and remain stuck in the low-level equilibrium poverty trap (Berhanu 2009). Similarly, in Morelos, households that have low levels of social capital struggle to build sustainable farmer groups, the kind of successful collective action that would help them to pass the threshold point and achieve higher individual benefits and improved levels of well-being. It would be interesting to study further the importance of social capital in overcoming the poverty trap and reducing poverty in the future (Groenewald 2012).

The lack of successful farmer organizations not only has negative effects for individual farmers but also limits opportunities at the community level. Due to the dysfunctional farmer groups, banks have lost interest in lending money to smallholders, and despachos have left the area. This trend leads to the exclusion of local smallholders from accessing credit programs and technology packages. Moreover, the poor performance of farmer groups prevented farmers from cooperating collectively in the product market for maize, which has a constraining effect on their market performance. In other words, the individualistic behavior of local smallholders negatively affects the availability and accessibility of resources at the community level. This shows how individual-level strategies can have unintended effects at the level of the collective (Brons et al. 2007). Adding to most studies focusing on social capital at the level of individual agency, we conclude that at the aggregate level the joint agency of individuals has structural effects. This study strengthens the idea that people's actions may influence the structures and rules of institutions that govern the control, use, and transformation of resources (cf. Bebbington and Perreault 1999). These "feedback effects" are crucial for people's future adaptive ability. We can conclude that to assess the adaptive potential of smallholders, it is essential to understand the structures in which livelihood activities are embedded. Therefore more research should be done on this issue, as it is still an undeveloped theme in livelihood studies.

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