Social capital, social networks and leadership in peri-urban family farming in Mexico

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Abstract

In 2014, the federal government promoted in the country, through the SAGARPA, the component of family, peri-urban and backyard agriculture (CAFPT). Its purpose was to strengthen food security with the cultivation of vegetables, the raising of rabbits and laying birds in homes. Within this framework, a figure of self-managed leadership was highlighted that voluntarily became part of the organization of the working groups. At the same time, various social networks emerged, configuring new coexistence arrangements associated with social capital. Therefore, the objective of this paper was to analyze the impact of CAFPT on the creation of social capital and the role of emerging leadership. The information was obtained through narratives and questionnaires in workshops held in 2015 with 27 actors from San Luis Potosí and Veracruz. The results show the emergence of a type of leadership governed by moral commitments whose actions favored the detonation of social capital. The most important elements were the strengthening of community ties that transcended food production and modified various spheres of daily life, promoting the cultural revaluation of people united in poverty, the principles of trust and solidarity being fundamental.

Keywords: empowerment, family agriculture, social capital, social networks.

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Introduction

The concept of social capital is used by different disciplines, but it highlights the anthropological focus circumscribed to the aspects of reciprocity, trust and solidarity for the functioning of social networks (Mota, 2002). In this century, these same aspects are considered useful to build effective institutional arrangements and manage common resources, because they are socially inherited patterns, and specific ways of solving problems of daily life in every human group. Social capital, therefore, is a set of shared knowledge, norms and values that promote social cooperation and structure social relations (Herrera and Madariaga, 2013), where trust, reciprocity and cooperation provide greater benefits to the groups that own them, compared with those that lack this asset (Durston, 2003).

These assets generate more or less institutionalized networks of knowledge and mutual recognition, accredit the belonging to the group because they come from the social structure, since they are created by people to increase individual opportunities, but they require group work and a base of norms and standards. shared values (Saltalamacchia, 2015). The construction of social capital operates under the principles of reciprocity and civility, where networks are self-reinforcing and cumulative, and facilitate a social equilibrium with high levels of cooperation, commitment and welfare. These interaction patterns are not consumed with use, nor do they disappear with disuse, but they are difficult to build externally to the group, and can be destroyed.

The relationship of social capital with development and public policies was addressed by the Economic Commission for Latin America (CEPAL, for its acronym in Spanish), as a tool to reduce or eliminate negative aspects of development (gender difference, poverty and environmental sustainability). The paradigm focused on the creation and maintenance of social capital in highly segmented and unequal societies, to strengthen the weakest social actors such as poor women and ethnic groups (Atria et al., 2003). This scheme considered mobilizing social capital to make programs and public policies more efficient, maintain stability and overcome poverty; without considering that a political process of vertical conduction of the life experience of the individuals was born (Vargas, 2002; Ahn and Ostrom, 2009).

At the end of the last century, these mechanisms began to be used through targeted transfers, as collective welfare devices, to mobilize solidarity among the poor who became subjects of state assistance, using organizational schemes identified with social capital, under the assumption that it would promote civic commitment, living conditions, and the development of capacities to avoid the intergenerational transmission of poverty (Cecchini et al., 2014). Several authors (Manzanares, 2013; Lavinas, 2014; Vite, 2014), consider social protection systems as ways of financing poverty, rather than economic and social development, which make poverty a structural problem and citizens in client’s subject to assistance to overcome some of their shortcomings, related to their limited capacity to generate income and consumption. Similarly, they do not reduce poverty or level the playing field in socially unfair conditions, neither favor social mobility nor trigger development (Cecchini et al., 2014; Arreola et al., 2015).
One of the social transfer systems focused on the peri-urban environment in Mexico was the peri-urban and backyard family agriculture component (CAFPT) implemented by the federal government through the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA, for its acronym in Spanish), and the National Institute of Forestry, Agriculture and Livestock Research (INIFAP, for its acronym in Spanish), as the technical executing agency of the program. It started in 2014 and focused on women and men from poor households as subjects of development to promote food security; and training was the pillar of the program. The objective was to impact on the reduction of poverty and food security of households, producing vegetables, birds for egg dishes and rabbits for breeding. The CAFPT was promoted through state and municipal agencies, with incentives to purchase supplies, infrastructure, productive equipment, garden and family farm packages, technical support, technology and growing substrates, considering an amount of $8 000.00 per household and $100 000.00 per solidarity organized group (SAGARPA, 2014).

The training, technical advice and accompaniment to the homes were carried out by professional technical service providers (PSP) hired by SAGARPA. In 2014, approximately 50 000 users signed up. In 2015, the promoter and executing agencies observed the emergence of local markets with products from the garden, and highlighted the role of actors who took the leadership of their groups of origin into their hands. The role of these leaders was crucial for the continuity of the groups, the technical work and the emergence of support networks, as processes of an emerging social capital. Therefore, this work aims to analyze the detonation of social capital, through the vision of the social actors who led their groups of origin, in the states of Veracruz and San Luis Potosí.

Materials and methods

In 2014, through the CAFPT, working groups were set up in peri-urban areas of several cities in the country. Each group was linked spatially by address, neighborhood or neighborhood, and were coordinated by a PSP. They received infrastructure, seed and training from PSPs, trained in turn by INIFAP. This structure of work was not sufficient to carry out an efficient technical accompaniment, due to the large number of households enrolled in the program. In this context, characters emerged who, on their own initiative, commanded technical activities and participated in the organization of their membership groups, acting as strategic support actors and as managers and intermediaries before the PSP. They stood out in the work groups, promoting the tasks and fostering their resilience, which in turn impacted on the structuring of social networks.

In December 2015, 11 case studies were taken from the state of Veracruz and 16 from San Luis Potosí. Dialogue spaces were created, through exploratory-descriptive research through workshops, with survey techniques, interviews and narratives, to collect information and analyze work dynamics and the structuring of social networks. The concept of social capital was considered as an analytical instrument, since it highlights the dynamics of social reproduction, since it is a fundamental tool for building different types of social networks through trust and solidarity (Ahn and Ostrom, 2009; Gutiérrez, 2013).
The workshops were structured in five stages. The first was introductory, and was carried out with group dynamics from psychosocial perspectives to reduce stress and generate a climate of trust between actors and facilitators; the dynamics ‘breaking tensions and the web’ were used (Gómez, 2007; Molina, 2011; Laureano et al., 2015). In the second time, an individual questionnaire of self-recognition and personal reflection of the experience and role of each leader in the CAFPT was applied, using introspection, which showed important dimensions that facilitated the interconnection and dynamics with the group, for this it was considered a pre-designed list of values that can explain their context, in the understanding that they configured the collective work, and each dimension is a network of links and actions. The third time incorporated an individual questionnaire that analyzes hypothetical scenarios (solidarity, equality, inclusion, participation, belonging and legitimacy) to obtain leadership management, since these concepts observe a sufficient semantic connotation to talk about cohesion and social capital (Lozares et al., 2011).

Each scenario incorporated four predesigned responses, each one showing a path of action and generating a quantifiable value. The response values were constructed with a Likert-type scale, where 1 is low, 2 regular, 3 good and 4 is excellent. The fourth time reconstructed trajectories based on a narrative of the development of the interrelation of the group through the vision of the actors and was a method for open dialogue, expression of experiences and experiences, as a partial biographical approach (Reyes et al., 2012). The fifth time was the closing and dismissal using group dynamics (Molina, 2011).

After applying each questionnaire, group dynamics were carried out to favor the work environment (Molina, 2011; Laureano et al., 2015). In summary, the experiences of people who participated in the CAFPT were analyzed, to discover thought processes, self-discovery and creativity, and the bonds that acted as mechanisms of cohesion and continuity of the groups. Finally, a descriptive statistical analysis of the quantifiable survey data was carried out, using XLSTAT© (2015), with statistics such as the Kruskal-Wallis test (0.05), Cochran Q and X² (0.05).

**Results and discussion**

The survey data showed that 96% of the actors indicated that the dynamics for the integration of the group was the strongest challenge. This was linked to a discouragement caused by the delay in the delivery of supplies, the poor quality of the seed delivered by the supplier, and low possibilities of technical support by the PSP in the homes, in addition to the fact that most of the of population was alien to agricultural activities. On the other hand, the participants of the program expected a scenario similar to that of other social programs, with a dynamic of payments and delivery of cash, which they usually use for expenses different from those for which they were created. The position observed in the beneficiaries was that of individuals who construct themselves as underprivileged subjects, members of clientelist practices and individuals lacking in competence and little power over their own circumstances and living conditions, and not from their potential (Zambrano et al., 2009; Gutiérrez, 2013).
The survey and the narrative also showed the detonation of links that facilitated the integration of the groups in horizontal ties, and manifested as common constructs. The constructs favored the links between the members and articulated the dynamic of work and coexistence of the group, shared and accepted by the majority of the members, where the majority only occasionally greeted each other in the street, at the children’s school, or in public places. The most important were confidence, work, cohesion and unity, and statistically they formed a single group ($p<0.05$).

The reliability (Figure 1) was the articulating node of social processes in the groups and facilitated cooperation among the members. Confidence is mutual trustworthiness, since it is assumed that none of the participants will damage or act against, consciously (Daly and Finnigan, 2016). It is an asset generated among individuals or organizations, cognitive contents, which are linked to the action strategies and the expectations that each one has of the other, by coincidence of interests (Ganga and Cassinelli, 2015). Thanks to reliability, an atmosphere of solidarity was configured in previously disconnected individuals, this is because in human beings there is an evolutionary predisposition towards attachment and socialization.

**Figure 1. Construct or social networks that favored group dynamics.**

The reliability was built with seven associated social processes, which are shown in Table 1. According to the interviewees, trust is a bond of security and certainty, and favors friendship, empathy and respect. Safety and respect were important processes to establish an environment of trust (greater percentage), and it was found to be structured by ethical values. Safety is fundamental to create reliability, since it provides certainty to social reproduction, statistically it made the difference ($p<0.05$), compared to the other processes (Table 1).
Table 1. Social networks and processes that integrate them that facilitated the work dynamics.

<table>
<thead>
<tr>
<th>Constructions</th>
<th>Associated processes</th>
<th>(%)</th>
<th>X² = 0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reliability</strong> <em>(96%)</em></td>
<td>1. Harmony</td>
<td>15.38</td>
<td>X² = 12.374</td>
</tr>
<tr>
<td></td>
<td>2. Empathy</td>
<td>15.38</td>
<td>p = 0.0001</td>
</tr>
<tr>
<td></td>
<td>3. Sensitivity</td>
<td>15.38</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Certainty</td>
<td>15.38</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Friendship</td>
<td>34.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. Respect</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. Security</td>
<td>57.7</td>
<td></td>
</tr>
<tr>
<td><strong>Work</strong> <em>(92%)</em></td>
<td>1. Experience</td>
<td>11.5</td>
<td>X² = 12.6</td>
</tr>
<tr>
<td></td>
<td>2. Communication</td>
<td>11.5</td>
<td>p = 0.0234</td>
</tr>
<tr>
<td></td>
<td>3. Creativity and challenge</td>
<td>19.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Cooperation</td>
<td>23.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Participation</td>
<td>26.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. Reciprocity</td>
<td>30.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. Commitment</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td><strong>Cohesion and unity</strong> <em>(85%)</em></td>
<td>1. Equality</td>
<td>7.69</td>
<td>X² = 12.31</td>
</tr>
<tr>
<td></td>
<td>2. Justice</td>
<td>11.54</td>
<td>p = 0.0164</td>
</tr>
<tr>
<td></td>
<td>3. Solidarity</td>
<td>23.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Reciprocity</td>
<td>34.61</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Honesty</td>
<td>42.3</td>
<td></td>
</tr>
<tr>
<td><strong>Management</strong> <em>(31%)</em></td>
<td>1. Control</td>
<td>7.89</td>
<td>X² = 0.526</td>
</tr>
<tr>
<td></td>
<td>2. Power</td>
<td>3.85</td>
<td>p = 1</td>
</tr>
<tr>
<td></td>
<td>3. Order</td>
<td>3.85</td>
<td></td>
</tr>
</tbody>
</table>

*X² = 7.8147, p < 0.0001. Source: elaboration with survey data.

Work as a formal activity was concretized under the intervention of seven processes, with commitment as the cornerstone (Table 1). The agricultural activity as a new challenge in peri-urban areas, was structured with the commitment of the members that developed social bonds. The work allowed the detonation of social bonds (Reyes, 2013), not formal integration to CAFPT. The cohesion and unity of the group was achieved with the intervention of five processes (Table 1), of which, honesty and reciprocity were the most important, and made the difference (p < 0.05). The processes involved show patterns of behavior assumed, learned and socially accepted, rare in urban societies where it is presumed that they do not exist, and attributed to rural societies, governed by kinship (Tereucan et al., 2016); according to Reyes (2013) but basic in the collaboration.

The narratives indicate that mutual aid and solidarity relationships, which according to Tereucan et al. (2016) are built under the obligations of giving, receiving and returning, they represent a new way of social exchange in this panorama, and although they have an economic function, they constitute a factor of social organization. Finally, management was crucial for the integration of
some groups, as it facilitated the transition from dyadic to collective relationships, and validated individuals to access the group’s resources (knowledge, skills, wealth, reciprocity, exchange), facilitating the flow of information, however, was only relevant for a minority of leaders, and was based on three processes (Table 1).

The network of networks that make up the dimensions, constitute channels of relations with vertical and horizontal slopes, the vertical ones constructed by the direction; through, of which the leaders intervene and direct the association as a collective action, to overcome individual behaviors and achieve shared objectives. However, most constructs are configured under horizontal loops ($p > 0.05$) but one is vertical, but all four are contextual, since they emerged in a defined space, having as a backdrop the CAFPT, and reflect a historical moment and social, within which the articulation of social networks detonated (Reyes, 2013).

Networks of trust, work, cohesion and unity, structured by ethical values, are pointed out by Foronda-Robles and Galindo-Pérez, 2012), as traditional forms of social organization, typical of rural societies, and show the autonomous development of a dynamic that provided security, through links that highlight the need for people to create spaces of trust, beyond ties of kinship and live spaces of certainty and predictability, contrary to the uncertainty of a sexennial program, and the fictitious space of laws and individual guarantees in Mexico, which offered greater certainty and credibility (De la Peña, 2013).

As Rivera-González (2016) argues, social networks were constituted under ethical values, and the networks constituted resources accessible to the members of the groups; thus, in the heart of the group, various goods and services were exchanged, which operated mainly under kinship, friendship or commercial contract. From a cultural approach, the ethical values that emerged favored the association, since collective actions allow reaching shared objectives, overcoming individual behaviors and promoting values and attitudes aimed at achieving the common good. In this associative environment, people learned to coexist, to overcome discrepancies, and to join efforts for desirable purposes (Foronda-Robles and Galindo-Pérez, 2012) and through local leadership, the actors played various roles, directing and interacting, motivating and being accepted by the followers (Lussier and Achua, 2011; Ramírez, 2012). The Figure 2 shows the actions carried out by the leaders to facilitate the development of the program activity and achieve group participation.

The actions that favored a solidary and participative scenario, with regular value, and that statistically, formed a group different from the others (Figure 2). The sense of belonging, although it also marked a regular value, was statistically different from the previous ones. On the other hand, the formal membership of the group was differentiated by official entry into the program, legitimized by the recognition and incorporation into the structure of common solidarity actions (mutual aid), which facilitated access to resources (inputs, knowledge, exchanges, etc).

According to the narratives, belonging was legitimized when solidarity and participation favors the group and creates networks of exchange and redistribution. In this way, the leadership based community empowerment, but the acceptance of the group credited the authority of the leader, which stimulated them to make decisions and actions.
Figure 2. Leadership actions to motivate the group. Kruskal Wallis 0.05; \( p < 0.0001 \). Different literals show statistical difference. Scale of value: 1 low, 2 regular, 3 good, 4 excellent.

This type of power granted by the group favored local dialogue and the construction of a community. This shows, according to Rojas (2013), the social capital detonated, at the same time accumulated; the leadership was focused on the interactions among the members of the group, not only in the planting of vegetables, but also favored the development of forms of exchange, sale and seed loans, seedlings and harvesting, forms of self-help also gestated (money loans, service exchange, etc).

The CAFPT detonated demands that transcended its own objectives, broader and out of reach, different but immediate. The ways of self-help in the groups were based on the strengths of their members (exchange of knowledge, seeds, plants, crops, procedures and procedures, etc.), others arose from the need (help in the care of children, the elderly and sick, food, monetary loans). Both ways show actions of empowerment of a collective through active social participation, in terms of solidarity, competence, trust and empathy; they facilitated access to group resources, enriched by trust and social capital (Rodrigo-Alarcón et al., 2014).

New social scenarios were created, with dynamics of societies organized fundamentally under the expression of the contingent and the unintentional, building links that articulate the reproduction of the poor in poverty (Merchante and Brage, 2012; Paredes et al., 2015). The presence of exchange relationships under two perspectives was the cornerstone, that of products or merchandise under quantitative relationships (exchange of seed, plants, harvest, loans), and traditional exchange under norms of reciprocity and qualitative relationships (mutual aid for the care of children, the elderly, the sick, garden products, friendship, etc.). Forms of exchange that involve the rules of the market, and others where reciprocity prevails, which seem different, but do not observe borders, and is related to the conditions of poverty of the participants (Tereucán et al., 2016).
In this way the social capital increased the yield of limited resources, by reinforcing the voluntary contributions of the participants (Saltalamacchia, 2015), not only from the point of view of the program, but also triggered an alternative development; in this way, the individual and collective capacities that transformed the spaces were developed, without depending on the will of public policies, favoring an identity affirmation, and opening universal principles, which projected the groups towards new spaces of socialization, where mutual help it worked without executable contracts and facilitated the exchange of favors (Jackson et al., 2012).

The analysis of the information obtained by the questionnaires of self-reflection and capacities of the leaders showed that the detonation of social assets did not emerge spontaneously, but through the actions and capacities of volunteer leaders. That is to say, emerging leadership was the bridge that facilitated the development of new scenarios, since at the same time it developed with a base of social features and appealed to solidarity promoting this same type of traits. The point of union was poverty and the value of food security. They emphasize leadership skills, trainer traits, altruism and social assistance (good according to the scale of value). As secondary qualities, traits of facilitator, motivator of cooperation and mediator of conflicts, with regular value. Third, initiative, capacity for organization and solution of contingencies, with close to regular value and lower values on the scale (Table 2).

### Table 2. Main capacities detected in emerging leadership.

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Percentage</th>
<th>Averages *</th>
<th>Standard deviation</th>
<th>Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contingency solution</td>
<td>65</td>
<td>1.7</td>
<td>0.5944</td>
<td>A</td>
</tr>
<tr>
<td>Organizational capacity</td>
<td>95</td>
<td>1.7</td>
<td>0.7121</td>
<td>A</td>
</tr>
<tr>
<td>Initiative</td>
<td>77</td>
<td>1.9</td>
<td>0.456</td>
<td>A</td>
</tr>
<tr>
<td>Mediation of conflicts</td>
<td>67</td>
<td>2</td>
<td>0.8771</td>
<td>ab</td>
</tr>
<tr>
<td>Motivation of cooperation</td>
<td>75</td>
<td>2.2</td>
<td>0.9214</td>
<td>abc</td>
</tr>
<tr>
<td>Facilitator</td>
<td>77</td>
<td>2.4</td>
<td>0.6939</td>
<td>bc</td>
</tr>
<tr>
<td>Altruism and social assistance</td>
<td>85</td>
<td>2.7</td>
<td>0.5064</td>
<td>C</td>
</tr>
<tr>
<td>Trainer</td>
<td>95</td>
<td>2.8</td>
<td>0.5064</td>
<td>C</td>
</tr>
</tbody>
</table>

Kruskal Wallis 0.05: \( p< 0.0001 \), *Scale of value: 1= low, 2= regular, 3= good and 4= excellent. Different literals show statistical difference.

The data show that the leaders conflict mediation capacity is restricted to the areas of action of the belonging group, while the motivation for cooperation goes beyond affinity or closeness networks. Altruism and assistance were defined from an ethical perspective, as a vision of the good, showing that this type of leadership is governed by strong moral commitments, similar to the analysis of Frisancho and Pain (2013). The highlighted variables show the importance of reducing social gaps, increasing capacities, and strengthening opportunities, to favor food security and reduce vulnerability.

This type of emerging leadership, led by sociocultural determinants, suggests forms of social organization underlying the past, and shows the autonomous development of social capital, separated to the circumstances that gave rise to it. For its transcendence, since it was not crystallized
by a formal structure, it is necessary to strengthen its potential performance and its capacity to activate and mobilize it in transforming terms, consolidating its social participation and empowerment, involving citizens in development policies to strengthen the fabric associative, through interaction and reciprocal trust between citizens and government (Holloway, 2015).

Conclusions

The CAFPT favored the creation of a space of social consensus, beyond technical activity, discovering an underlying social capital, where the action of a community leader was decisive.

The emergence of a local leadership, ethical-moral, was essential to organize the groups, for their resilience and the construction of links that articulated the social reproduction of members in social networks, initially contextual (to the activities of the program), but which spread to other spheres of social life, generating exchange scenarios under quantitative and qualitative relationships.

Emerging leaders are referents of new community enterprises that functioned as articulating axes in the groups of origin, with actions that denote the value of social capital to articulate the population, motivate and overcome the contexts of poverty, inequality and exclusion.

Cited literature


XLSTAT. 2015. Software Estadístico, XLSTAT© 2015 Addinsoft SARL.