

FROM AUTONOMY TO COOPERATION:  
INSIGHTS ON THREE SUCCESSFUL MICRO AND SMALL PRODUCER  
ASSOCIATIONS IN BAJA CALIFORNIA, MEXICO

by

JORGE MARIO SOTO ROMERO

Licenciado en Administración Pública y Ciencias Políticas  
Universidad Autónoma de Baja California, 1993

Submitted to the Department of Urban Studies and Planning  
in Partial Fulfillment of the Requirements for the Degree of

MASTER IN CITY PLANNING

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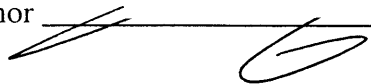
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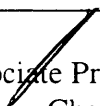
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Department of Urban Studies and Planning  
May 23, 1996

Certified by

\_\_\_\_\_  
Lisa R. Peattie  
Professor Emeritus of Urban Anthropology  
Thesis Supervisor

Accepted by

MASSACHUSETTS INSTITUTE  
OF TECHNOLOGY

 \_\_\_\_\_  
J. Mark Schuster  
Associate Professor of Urban Studies and Planning  
Chair, Master of City Planning Committee

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**Abstract**

Under what conditions will self-interested people cooperate and associate despite everyone's vulnerability to the consequences of everyone else's actions? My thesis will contribute to answering this question based on the experience of three successful small producer associations. I argue that there are four conditions that facilitate individuals to cooperate and associate: 1) perceived opportunities and/or crises they can manage only if working with others rather than on their own; 2) a pre-existent minimal level of trust among them to approach each other and start designing collective projects; 3) the restriction of entry to the emerging group by means of selection criteria, and the restriction of size to balance economies and diseconomies of scale; and 4) the institutionalization of cooperative arrangements in the form of self-enforcing agreements, rules, sanctions and monitoring mechanisms.

Most of these facilitating conditions--or building blocks, as I prefer to call them--are meant to decrease risks and uncertainty, and therefore expedite cooperative exchanges. I believe they have substantial explanatory power to account for the emergence and subsequent success of these associations. At the same time, I suggest that their absence can be helpful to explain why such events do not occur in other cases elsewhere. Finally, from a policy perspective a "building blocks approach" might be helpful to a) identify critical areas of intervention to improve and consolidate cooperation in particular groups; b) target assistance to groups with greater probabilities of positive outcomes; and c) further ideas about how the emergence and success of associations can be promoted elsewhere.

Thesis Supervisor: Lisa Peattie

## Acknowledgments

When thinking of the people I owe something for getting me in and out of the master's program in general and this research in particular, I could probably recall several dozens. Fortunately, because most of them have a real life, they will not bother to read this thesis even if they ever get to know that I actually wrote one. Thus, I save an immense gratitude from the bottom of my heart to my Mexican *amigos de toda la vida* who have always believed in me, even though the space is condemning them to remain anonymous.

As for the more visible and directly involved people, I first thank Lisa Peattie for her wonderful disposition, guidance and support, as well as for helping me to see the producers of my case studies from a new and more humble perspective. Both of my readers were also very encouraging. Michael Piore carried the early burden of a student not yet knowing what he wanted to do about small entrepreneurs, and helped him to figure out a meaningful quest; Alice Amsden believed in me and my work, constantly giving proof of her confidence and high expectations. As for other faculty members, Judith Tandler and her ideas indeed had a bearing for me to choose this topic, whereas Paul Smoke not just contributed to focus the study on the important questions and make it more manageable, but also was an academic advisor really well-disposed.

Given that both the thesis and the masters are a shared academic drama, I am indebted to the fellows that stood by me at awful hours and places: my best friend Fernando Hesse, Laura *Laurinha* Tagle, Rumana Huque, Lynn Pikholtz--who never pronounced my name properly--Gail Payne, Alejandro Colom and various other guys. As for my parents, my brothers, Cinthia, Yomis and *el Giorgio*, I better do not attempt to say what I cannot express with words; I do not need to do it anyway, because whatever I wanted to say is in the dreams we dream and the hopes we hope for together.

I express my gratitude to the Baja Californians that somehow contributed to this research and other things: to the unconditionally supportive Hugo Abel Castro; to Oscar Ortega from the UABC, Alfredo Hualde and various other colleagues at COLEF, Mauricio Bustos from SECOFI, and to the government agencies' employees who shared their time with me. Finally, I am greatly indebted to the fishermen, farmers and printers who let me learned so much from them. Hopefully, by telling their successful stories to more people concerned about economic development and poverty alleviation, I might be paying them something back.

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## List of Acronyms

BANRURAL	Banco Nacional de Crédito Rural (National Bank of Rural Credit)
CANACINTRA	Cámara Nacional de la Industria de la Transformación (National Chamber of the Manufacturing Industry)
CANAGRAF	Cámara Nacional de las Artes Gráficas (National Chamber of the Graphic Arts)
FIRCO	Fondo de Inversión y Riesgo Compartido (Fund of Investment and Shared Risk)
SEA's	Self-Enforcing Agreements
SECOFI	Secretaría de Comercio y Fomento Industrial (Secretariat of Commerce and Industrial Promotion)
SDEBC	Secretaría de Desarrollo Económico de Baja California (Secretariat of Economic Development of Baja California)
SHCP	Secretaría de Hacienda y Crédito Público (Secretariat of Finance and Public Credit)
SEMARNAP	Secretaría del Medio Ambiente, Recursos Naturales y Pesca (Secretariat of the Environment, Natural Resources and Fishery)
SPR's	Sociedades de Producción Rural (Rural Production Associations)
UPPE's	Unidades de Producción Pesquera Ejidal (Ejido Fishing Production Units)

## **Chapter One**

### **Introduction**

Under what conditions will self-interested people cooperate and associate despite everyone's vulnerability to the consequences of everyone else's actions? My thesis will contribute to answering this question based on the experience of three successful small producer associations. I argue that there are four conditions that facilitate individuals to cooperate and associate: 1) perceived opportunities and/or crises they can manage only if working with others rather than working on their own; 2) a pre-existent minimal level of trust among them to approach each other and start designing collective projects; 3) the restriction of entry to the emerging group by means of selection criteria, and the restriction of size to balance economies and diseconomies of scale; and 4) the institutionalization of cooperative arrangements in the form of self-enforcing agreements, rules, sanctions and monitoring mechanisms.

Most of these facilitating conditions--or building blocks, as I prefer to call them--are meant to decrease risks and uncertainty, and therefore expedite cooperative exchanges. I believe they have substantial explanatory power to account for the emergence and subsequent success of these associations. At the same time, I suggest that their absence can be helpful to explain why such events do not occur in other cases elsewhere. Finally, from a policy perspective a "building blocks approach" might be helpful to a) identify critical areas of intervention to improve and consolidate cooperation in particular groups; b) target assistance to groups with greater probabilities of positive outcomes; and c) further ideas about how the emergence and success of associations can be promoted elsewhere.

## Background

In recent years we have seen the emergence of a new paradigm for productive organization, which reconsiders traditional perspectives about small producers--often considered unable to challenge large ones--and cooperation--the antithesis of competition, cornerstone of the liberal paradigm. The literature on flexible specialization, industrial districts and clusters (Bagnasco and Sabel 1995, Ruíz Durán 1995, Navdi and Schmitz 1994, Sengenberger *et al* 1990, Piore and Sabel 1984) indicates that cooperation with and among small firms creates substantial efficiency gains. These gains put flexible-networked firms a in advantaged position relative to the mass-production corporations, which enables the former to increase profits, improve technological capabilities, generate substantial employment and enhance backward linkages to their local economies.

However, apparently more intellectual attention has been directed to the large, informal subcontracting networks than to the small, formal and non-subcontracting producer associations. At the same time, it has largely focused on the industrial sector and a little on the service economy, but almost negligibly on the primary sector, where the majority of the poor in developing countries are.

Finally, in spite of the achievements of the literature on cooperation and collective action (Wade 1988, Axelrod 1984, Olson 1971) and the new debate about trust (Schmitz 1996, Sabel 1993, Gambetta 1988, Barber 1983) there still are many questions unanswered and few policy lessons. What makes self-interested individuals collaborate? Is trust really necessary, and if it is, why should they trust each other? How are networks and organizations are actually built? What makes them sustainable? What can be done to facilitate people coming together and succeeding? This thesis looks forward to contribute to answering these and related questions while empirically accounting for the gaps in the literature previously described.

## The Cases

My research draws on the successful experience of three micro and small producer associations in Baja California, Mexico, from the sectors of fishery, agriculture and manufacturing. These groups are:

1. Mortera de Leyva Group "A" (*Mortera de Leyva Grupo "A"*). Established in 1986, this is an association of 22 *erizeros* (sea urchin fishermen). It is located in the rural community of El Rosario, municipality of Ensenada.
2. Agro-industrial Group VIC-TOR (*Grupo Agroindustrial VIC-TOR*). Established in 1993, this is an association of 23 wheat and cotton farmers. It is located in the rural community of Paredones, municipality of Mexicali.
3. Printed Representations (*Representaciones Impresas*). Established in 1993, this is an association of 7 printers that process continuous forms for matrix computer printers. It is located in the city of Mexicali.

I consider these groups to be successful and worthwhile studying for several reasons. First, in a relatively short period of time associations have substantially achieved the initial objectives they were made for. Moreover, producers have found new opportunities and profitable activities by extending their collaboration to other economic activities not originally pursued.

Second, associations as a whole have restructured, diversified and made more efficient the economic activities previously undertaken by their members. New products, processes and markets are now being exploited; in various cases individual productivity has increased, and in most costs have decreased. This is striking because the large majority of non-associated producers with similar profile in their localities have not made



substantial progress; on the contrary, many have lost competitiveness, become impoverished or exited their markets<sup>1</sup> (Arredondo Gómez 1994, Magaña Magaña 1994).

Third, all members of two associations--farmers and fishermen--were affiliated to coops before, which they left for considering them instruments for political manipulation, exploitative of the individual members and benefiting small elites rather than the larger affiliation--nothing particularly rare among this type of social organizations in Mexico and elsewhere (Fox 1992 and 1994). What is outstanding is that despite of the strong negative opinion about their former groups, their new associations are, in concept and principle, nothing but coops<sup>2</sup>.

Fourth, although members of the three groups decided to work together by their own initiative, farmer and printers benefited from external intervention to facilitate the process of integration and elucidate alternative associative forms. In the first case organizational support came from a private consultant and in the second from a government agency. However, unlike most cases elsewhere, economic success of the three associations does not relate directly to policies or projects such as preferential credit schemes, subsidized inputs or technical assistance packages--all of them more expensive than the assistance they did receive<sup>3</sup>. In contrast, most of the gains these producers have achieved--particularly on the earlier stages--have arise exclusively from the advantages their cooperative arrangements provide.

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<sup>1</sup> In recent years other producers have followed the example of these pioneer associations and achieved variable degrees of success. This fact suggest that if the original associations are not "models" for productive organization, at least some of their basic features can be replicated elsewhere, which from a policy perspective opens interesting possibilities for intervention.

<sup>2</sup> For a review of some of the concepts and principles of cooperatives see Abrahamsen 1976, and Bakken 1963.

<sup>3</sup> These and similar instruments have often been placed both for private producers and coops. Although the evidence about their significance and effectiveness varies among particular cases and studies, often times the mere survival of the groups relies highly on this external support (Tendler 1983). In the case of farmers, one could argue that they have received some subsidies on the price of fertilizer, the leveling of their land and the building of a storage facility. However, these instruments are also available for the rest of private and cooperative peasants in the Mexicali Valley, so that I eliminate them as a variable to explain the success of this group relative to other producers.

Fifth and most important, the associations' success has increased the incomes of the vast majority of their individual members. Virtually *all* affiliated fishermen and farmers have substantially augmented their incomes, including the relative poorer members. This is rare in similar collective action organizations, where often benefits concentrate on the better-off and the leadership of the groups (Attwood and Baviskar 1987, Tandler 1983). In the case of the printers, the larger manufacturers are taking much more benefits out of the association than the smaller ones. But surprisingly, this is *not* at the expense of the poorer members, and in some degree they even consent to the situation, as I explain in Chapter 5.

The accomplishments mentioned above relate to their economic functioning, but there are other accomplishments worth mentioning. For instance, the fishermen group's administrator is currently holding office as councilor of the municipality, which allows him to better advocate for the interest of his own and other related groups. Likewise, the president of the peasants association is on the board of the state's agency for development planning and the Farmers Council. And the Secretariat of Commerce and Industrial Promotion (SECOFI) and various business chambers have taken the printers organization as a model to promote small firm associations in Northwestern Mexico. These accomplishments are indicative of the scope and influence associations have had in their larger economic, social and political environments, and show how successful cooperation has also improved members' capacity for civic participation, therefore empowering these small producers<sup>4</sup>.

Given that these remarkable achievements are the outcome of collective action, I focus the thesis on the conditions, perceptions and processes that allowed individual producers to get closer, associate and collaborate. The main questions I raise are: Which were the factors that moved individuals towards cooperation rather than remaining

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<sup>4</sup> In her research on a successful cooperative of Mexican-Americans in California, Wells (1981) highlights the members' increased ability to participate in the larger society and polity. She elaborates on the importance the coop has had in generating self-esteem and individual initiative, features that are also easy to perceive among the members of the associations I study.

autonomous? How did they look for and select each other? Why, if at all, did people trust each other? What were the basis of their collective functioning? What enabled them to cope with the problems of collective action, like the prisoners' dilemma and the tragedy of the commons? Which were the principles to assign benefits and responsibilities? How have the associations worked and evolved over time?

To facilitate a meaningful contribution, I present and develop my answers around four major facilitating conditions or building blocks of cooperation, various of which are intimately related to each other. My research is intended to generate lessons for development policy and projects regarding micro and small producer associations, which I consider have a vast potential to increase competitiveness, forward industrial restructuring, create jobs and promote broad-based economic growth. I pretend these lessons to be useful for understanding how common people can work together and achieve such uncommon results.

## **Methodology**

This thesis is based upon approximately 60 open-ended interviews conducted in the state of Baja California. People I interviewed include 27 members of the associations, 8 government officials and public servants, 5 local business leaders and business chambers officials, 3 researchers of local institutions, 2 private consultants and 4 leaders of corporate organizations. My fieldwork research last 9 weeks, distributed between July and August 1995 and January 1996. In that time I visited the municipalities of Ensenada, Mexicali and Tijuana, and the rural communities of El Rosario, Ejido Uruapan and Poblado Paredones.

The criteria I used to select the cases includes a) the achievement of goals explicitly set by individuals and organizations; b) good performance in terms of production, costs and financial management; c) economic restructuring, including new processes, product diversification and marketing activities; and d) increased incomes and

benefits for their membership. I purposively chose them from different sectors because I believe the basic problems and opportunities these producers faced were not sector-specific, so that producers engaged in other activities elsewhere might face them too. Thus, my intention is that the lessons and understandings resulting from this study are not sector-specific either.

To provide for an analytical background I made a review of the literature on small firms, flexible specialization, industrial districts and clusters, trust, collective action, cooperatives and associations. My research benefited from internal documents of the associations as well as secondary data from the Fund of Investment and Shared Risk (FIRCO, a development agency for rural areas), the Secretariat of the Environment, Natural Resources and Fishery (SEMARNAP), SECOFI and the Secretariat of Economic Development of Baja California (SDEBC). The thesis also enriched from discussions with several of my colleagues that were working on small firms and collective action issues in other latitudes of the world.

The paper is organized in six parts. The first chapter explains the objective of the thesis, presents and justifies the study cases, and lays out the research questions and methodology. In Chapter 2 I discuss the circumstances that motivated individual members to change the way they have previously worked, get closer and think of collaboration. Chapter 3 elaborates on trust, identifying its economic role as well as its sources and initial strength. The fourth chapter develops on the reasons and instruments for which producers themselves restricted access and size of their associations. In Chapter 5 I discuss the need for institutional arrangements in the form of rules, self-enforcing agreements, sanctions and monitoring mechanisms. Finally, in Chapter 6 I display the conclusions and policy lessons from the main findings.

## Chapter Two

### Crises, Opportunities and Enlightened Self-Interest

In this chapter I explore the context in which associations arose. I argue that in each of the cases some producers perceived either one or both of the following circumstances: 1) various factors--financial, ecological, technological, etc.--seriously threatening their competitiveness, incomes or economic survival, which altogether constituted a crisis; 2) various junctures--a market niche, a different product or process, economies of scale, etc.--that would allow them to increase profits, which altogether constituted a window of opportunity.

In any case, those that first identified the crises and/or opportunities could not move forward if working on their own, because there was something built into the solution or alternative path that made necessary for them to associate with others--i.e., too much risk, barriers to entry or critical mass. Thus, cooperation arose mainly, if not only, from self-interest. These individuals which I refer as “originally enlightened”, were usually those that later became the associations’ leaders.

These perceived importance of crises, opportunities and cooperative incentives varied among cases. Moreover, even within cases individual producers might have perceived these factors or their urgency somehow differently. Nonetheless, as I show in the following sections, the arguments presented here hold for all three associations and for most or for all individual producers.

#### ***Erizeros vs. the Coop***

As it happens with other natural resources of the rich peninsular littoral--i.e. lobster, abalone, sea cucumber, etc.--the red sea urchin (*Strongylocentrotus*

*Franciscanus*) commands very high prices in the international market<sup>5</sup>. Baja California is the only place in Mexico where this fishery exists, and all the production is exported to Japan via the US<sup>6</sup>. The commercial exploitation of the sea urchin in the peninsula started in the early 1970's, when Japanese fishermen and traders came across the Pacific both to instruct the locals on the techniques for capturing the animal and to open channels for commercialization (Payeiro Nayar 1982, Espinoza Arroyo 1992). Today, the sector comprises around 800 fishermen and creates approximately another 1,200 direct jobs distributed among Ejido Fishing Production Units (UPPE's), Rural Production Associations (SPR's), coops and private firms<sup>7</sup>. Total exports of the peninsula generate between 4 and 6 million US dollars per year (SEMARNAP 1995, Arredondo Gómez 1994).

Although there were some private producers, in the 1970's and 1980's most of the sea urchin exploitation was carried out by fishermen affiliated to the coops. Among these organizations, the largest and most influential at the time was the *Cooperativa Ensenada*<sup>8</sup>, which controlled the marketing of abalone, lobster, sea urchin and other species captured in El Rosario and other neighboring fishing towns. The coop was supposed to benefit all of its members, but several families of affiliated fishermen considered that most gains were concentrating around a small elite commanding the organization. One of the founders of Mortera de Leyva says:

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<sup>5</sup> The red sea urchin is a herbivorous animal with a globular body covered by spines of up to 7 cm. It usually lives in the rocks of the substratum, having a larger density at depths ranging between 10 and 30 meters from the surface. Just its gonads are suitable for direct human consumption (Payeiro Nayar 1982).

<sup>6</sup> Japan is virtually the only consumer in the world. Other important producers are Japan, Chile, US, Canada, Norway, Ireland, France, Denmark, Russia, China, South Korea and the Philippines. The demand is estimated between 3 and 5 tons of gonad per day (Arredondo Gómez 1994).

<sup>7</sup> Mortera de Leyva Group "A" is an UPPE.

<sup>8</sup> Founded in 1938 during the government of President Lázaro Cárdenas, *Cooperativa Ensenada* represented a cornerstone of the fishing cooperative system in Mexico. It had strong presence among fishermen communities that extended almost 400 miles along the peninsular littoral, the size of its membership varying along time. Most of the fishermen that in the 1980's created Mortera de Leyva and other groups were previously affiliated to this coop.

[The coop leaders] controlled everything. Our product had no value for us, even though we knew that the lobster, the abalone and the sea urchin had good prices abroad. But that money never went down to us, always living in paper-board houses and badly clothed... And if you retired, they gave you a kick in the butt. My father retired after 30 years of work and just received 3,000 pesos [probably between \$50 and \$100 US dollars in the early 1980's].

Bad management, unreliable information about the state and balances of the coop, permanent debts and “red numbers”, arrangements with buyers to sell larger amounts or at higher prices than those registered in the invoices, arbitrary price settings for *anticipos* (advance payments for the product delivered to the coop), minimal retirement funds, no profit distribution, clientelistic relationships... many fishermen in El Rosario and its surroundings perceived these and other elements as related to the control of *caciques* (entrenched leadership) over the coop, which ultimately resulted in the impoverishment of the large majority of members<sup>9</sup>. The situation turned worse in the early 1980's, when the effect of previous over-exploitation of the resource showed in form of reduced production and exhaustion of several banks, putting at risk both the existence of the specie and the subsistence of many *erizeros*<sup>10</sup> (SEMARNAP 1995). When these elements came together, a real sense of crisis developed among fishermen.

In 1983 and 1984, discontent of *erizeros* and other coop members spurred in the area, particularly in El Rosario and Ejido Uruapan. Several families of fishermen started meeting and looked for alternatives to deal with the situation. They soon discarded the possibility of internal fighting against the coop's *caciques*, for the power relationship was very asymmetric. They also eliminated the idea of forming a new coop, because the

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<sup>9</sup> The research of Tendler (1983) on several coops in Bolivia suggests that entrenched leadership does not necessarily leads to the a problematic elite-biased distribution of benefits. Even more, the fact that the distribution is biased does not automatically preclude the coops of doing relatively well for the rest of members.

<sup>10</sup> Over-exploitation was due to the fact that *erizeros* were receiving a low price for their product, so that they tended to compensate the price effect by capturing large volumes until depletion started to be evident. By mid 1980's various groups of fishermen got together to lobby for the government to limit the capture season to 9 months each year and monitor the sea urchin population in the littoral.

*Cooperativa Ensenada* would easily obstruct their efforts and the national leadership of the cooperative sector would not support them either.

Then, some of these fishermen identified two factors that combined would be crucial for their future development. One, that the agrarian law allowed for semi-independent “units of production” to be formed in *ejidos* if supported by its authorities<sup>11</sup>. Second, that unlike the lobster, abalone and other five species, the sea urchin was *not* among the resources which exploitation was reserved for cooperatives. Given that some of them were among their *ejidos* leadership and had experience in the fishery of the sea urchin, a window of opportunity opened for them<sup>12</sup>.

Yet, the local market for sea urchin was very much controlled by the coops, a few private producers and a few traders from the city of Ensenada. Had these individual *erizeros* tried to work on their own, it would have been relatively easy for their current adversaries and potential competitors to starve them by means of boycotting their sales. Moreover, in the kind of political-economy environment *erizeros* were inserted, the support or sympathy of the government authorities and rural politicians would be crucial for them to register as producers and get fishing permits. Thus, they needed to get at least some minimal market power and political strength from the very beginning, none of which any of them could have had if isolated. Thus, collective action was perceived as imperative for their economic survival.

### **Farmers: Credit is--Almost--Everything.**

The negative perception *erizeros* had regarding the leadership of their coop is very similar to that one farmers from VIC-TOR had about their own. All of them were

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<sup>11</sup> *Ejido* is a figure of social and productive organization in rural areas. It assigns the ownership of parcels to a community, which in turn gives rights over the use of the land to individuals and families. In this scheme, the former are unable to sell the property of their assigned land, but does not preclude them or rent their rights upon it. For more information see H. Cámara de Diputados 1993.

<sup>12</sup> There are two *ejidos* in El Rosario: Ej. Nuevo Uruapan and Ej. Reforma Agraria Integral. Fishermen from Mortera de Leyva had representation among the latter's authorities.



affiliated to coops, the majority to the *Cooperativa Luis Echeverría Alvarez*, one of the most powerful in the country<sup>13</sup>. However, from my own knowledge it seems that the direct dependence of these and many other of the 14,600 Mexicali farmers with respect to the coops has declined in the last 15 years<sup>14</sup>.

Around the early 1990's the economic situation in the valley showed striking contradictions. On the one hand, agricultural production as a whole was rising in spite of a plague of white fly. On the other hand, many small farmers--normally holding around 20 hectares--were not able to pay or restructure their *carteras vencidas* (overdue accounts), and prices for wheat and cotton were still low relative to the cost of production and the opportunity cost of rural labor in the area<sup>15</sup>. Rentism then became a widespread feature, unofficial estimates accounting for about 70 or 80% of the total arable land<sup>16</sup>.

By that time, farmers that would eventually form VIC-TOR had practically abandoned the coops and were working on their own. They had managed to endure their problems without renting their land or procuring other people's. They had paid back their loans and were then suitable for continuing accessing credit from BANRURAL,

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<sup>13</sup> This coop was created in the 1970's. It carries the name of the current President at the time, which was very supportive of the Mexicali Valley farmers. As the coop became stronger, its leadership extended their influence and made alliances at the central level and with other coops and *ejido* leaders throughout the state, so that until very recently they had political control of the majority of communities in rural Baja California. The coop is affiliated to the National Confederation of Farmers (CNC).

<sup>14</sup> This might be due to various factors affecting the valley's economy, historically engaged with cotton. First, the decline in the international price of cotton along the 1980's forced many farmers to switch to other crops, mainly wheat but also other grains and grass for livestock and a variety of high-value vegetables. Diversified production then made it more difficult for any single organization to amass output and control farmers. Second, wheat--the crop most VIC-TOR members were producing before they associated--is an staple food highly controlled by the government, so that there were various outlets other than the coops for farmers to sell their harvests at fixed prices. Third, as it happened elsewhere in Mexico and the world, the macroeconomic stabilization programs that started in the mid 1980's decreased the influence of social and political organizations in policy-making. This was specially evident in the rural sector, where the loss of bargaining power of traditional groups accounted for weakening their support base (Fox 1992).

<sup>15</sup> It is important to notice that the Mexicali Valley is close to the Imperial and Coachella valleys in the US, both employing large quantities of immigrant labor, either legal or illegal. Since many of the families in Mexicali's rural area have relatives across the border, being a "*Rodino*" (green card-holder) is an option relatively accessible for the locals.

<sup>16</sup> Exact calculation of these figures implies several empirical problems in an area where most land is owned collectively and arrangements are often informal. However, from 1990 and onwards these percentages are widely accepted as "rules of thumb" by most government officials, researchers and private consultants, from which I got the data.

Mexico's agricultural development bank. The mere fact that they had survived having small landholdings when many had been driven out of the activity suggest they were good producers.

Things changed for them in 1992. Federal congress was reforming Constitution's Art. 27, milestone of the Mexican Revolution containing most of the agrarian agenda. Modernization vs. traditional views divided the sector and, apparently, increased uncertainty among many small producers, particularly *ejidatarios*<sup>17</sup>. More important, various of these farmers had found trouble in their recent deals with the banks, even though they had paid previous debts. This and the negative experience of other similar producers to renew loans indicated them that credit was being severely tightened. They thought the situation might be worse over time, and wondered about the possibilities to get credit for next year. Thus, they considered it absolutely necessary to secure access for credit in the future, because without credit they would not be able to continue working.

But some of these peasants also perceived that credit squeezing was not affecting all rural producers in the same way. They believed that owners and renters with larger landholdings--say, 100 hectares--were more likely to receive loans than small ones<sup>18</sup>. This logic indicated that if they could be somehow larger, they would be in much better position to secure credit. The problem translated then in figuring out how to be "larger". As individuals they did not have money to buy or rent more land, nor they would go give up the rights on their land to go collective either. But they came up with a plausible alternative: to make a single, comprehensive credit application for a group of credit worthy farmers, in a number large enough so that the bank officials feel more confident--and pressured--to lend them all.

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<sup>17</sup> Out of the current 23 members of VIC-TOR, 19 are *ejidatarios*.

<sup>18</sup> Their explanation was simple and powerful, pure farmer microeconomics with a touch of rent-seeking. First, economies of scale in agricultural production would generate more profits for large than for small producers, then increasing possibilities for repayment. Second, economies of scale in lending decrease transaction costs for the bank, being easier to make one single deal around 100 hectares than 5 deals of 20 hectares each, assuming all other things equal. Finally, larger credit deals open more possibilities for bank officials to benefit themselves. According to their testimonies, word of mouth and the cases of several neighboring large producers proved them right.

For that to happen, it was necessary that these originally enlightened producers cooperate with others and create an association legally able to get the credit for all of them; otherwise they would fail. As one of the initial promoters says:

Our idea was to get together to do what none of us could do alone--in this case to secure credit. That's it... And that's our motto ever since.

### **Continuous Forms to Continue Printing**

In the city of Mexicali there are between 200 and 250 printing businesses to serve a population of approximately 500,000 people. At least 3 out of 4 of these firms have less than 10 employees and use outdated machinery, the market being dominated by 50 producers usually having between 10 and 30 workers and relatively newer equipment<sup>19</sup>.

Printing relates to a wide variety of manufactured products, which for practical purposes I divide in three main groups. First, commercial forms related to exchange and payment operations, like invoices, receipts and bills; second, commercial items related to publicity, like presentation cards, fliers, calendars and posters; third, non-commercial products like books and booklets, invitations for social events, Christmas cards and rubber stamps. A large part of demand for printed products corresponds to commercial forms, which can be continuous--to be used by matrix computer printers--or non-continuous--to be filled by hand or typewritten.

Practically all printing firms have the capacity to make non-continuous forms, but until recently just a couple of them could manufacture continuous forms. This is because the cost of machinery for the latter product is very high, so that just a few producers could raise the money to buy it. In addition, fixed costs represent a substantial levy, so that the

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<sup>19</sup> Data from the 1990 Population Census and CANAGRAF. According to the chamber's leaders, the exact number of printing businesses and their size is difficult to calculate because many of them are either belong to the informal sector or are not affiliated to the chamber.

mere fact that large volumes of production are needed to keep the activity profitable has greatly increased risk and restricted entry. Conditions were then in place for first--and only--movers to acquire monopoly power (Pearce, 1995). Before 1993, there had been just two manufacturers of this product in the city, one of them being a large, well established printing firm and the other a medium size firm in the process of growth. Practically all their clients were medium and large companies or government agencies, which most often ordered above 10,000 forms<sup>20</sup>.

In recent years, the use of data processors in business of all sizes has rapidly increased, in part helped by the opportunity to buy computer equipment across the border--literally just a few blocks away. This gave rise to a different demand for continuous forms, not in large but in small order size: most new clients wanted to have from 500 to 2,000 forms, and rarely over 5,000. However, it seems that the only printers able to process the forms exercised their market power, either by charging very high prices for this type of orders or by urging customers to increase the volumes required. Clients of monopolistic firms were not just the final users of the forms but very often also other printers that wanted to subcontract the process with them. Generally, prices and conditions applied the same in both cases, putting printers in the obvious predicament of losing their own clients to the larger firm. These sort of situations even made some printers to subcontract with firms in other cities, maybe with lower prices but much higher transaction costs.

By 1991, some of the printers that would later create *Representaciones Impresas* had subcontracted continuous forms with these firms in various occasions. Needless to say, the relationship with their competitors was not cleared of problems. As one of the members explains:

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<sup>20</sup> For the purposes of this paper I define the size of orders as follows: A large one is above 20,000, a medium between 20,000 and 5,000, and small below 5,000. These criteria is based on the rules of operation of *Representaciones Impresas* and the experience of individual members.

The situation was that you put an order with him--the subcontractor--and it was not done in the time he originally said, which obviously upsets your client. [Subcontractor says] "I'm doing it, wait a little bit, tomorrow, tomorrow..." The thing is that it is convenient for him that you look bad so that he can offer the job to your client.

Another member goes further:

We came with him [the subcontractor] with an original and he called the client and said "look, I can do it and I can do it cheaper". We just missed that client.

Adding up to these kind of practices and although continuous forms had not represented a substantial part of these entrepreneurs' sells--mainly because they were diversified and the market was not large or easy to reach--these producers perceived a potential threat on continuing having a disadvantaged access to the forms. Apparently, they thought that once a client was lost for a product--particularly commercial forms that generate an on-going demand rather a one-shot deal--they could also lose him or her for all other products. In the aggregate, these factors could seriously hurt them in a non-distant future. Then, even if was not vital at the moment, they considered necessary to have direct access to continuous forms for remaining competitive in the market in the medium and long-run. They needed to produce, not to subcontract the process.

At that point, these people also realized that the demand for small orders of forms had not been properly satisfied by the monopolistic firms. They had seen potential clients walking away of their own establishments because the price was too high. However, empirical observation indicated them that the price for larger volumes did not seem to create problems with clients. This had some intuitive implications in case of them having direct access to continuous forms. First, fewer profits would be available in medium and large amounts of forms; second, much higher potential returns were expected if tapping into the demand for small orders, because it was clearly underserved. Then things came out clear: they have found a market niche.

But that was not all. A couple of these printers knew something about the equipment the companies currently processing the forms were using. These were big machines that became the most efficient and cost-effective when processing large volumes. But this was not the only technology available: having gone to trade fairs and reviewed brochures, these printers knew that in the US they could buy machines that would be more efficient in medium and small rather than large quantities<sup>21</sup>. Then, if they acquired this technology they would have a comparative advantage over their competitors when tapping the lower end of the market.

But even after having identified these opportunities, huge obstacles remained for individual entrepreneurs to materialize their ideas. First, the cost of machinery was very high--around \$150,000 US dollars. In the best scenario, maybe just one or two of them could access such amount in credit or with their own capital. Second, if they were to receive the credit they would have to compromise most of their assets, which would made the endeavor extremely risky. Third, it was unlikely that any of them could get enough orders to keep the machines working at an efficient, cost-effective level. If alone, producers with machines might have serious problems to make their business sustainable, being very sensible to the established firms reducing prices temporarily to put newcomers out of the market.

In those circumstances, none of the printers that originally thought of processing continuous could afford to do it on his own. They needed an alternative, and the option they came up with was--non-surprisingly--to form a group with other producers, buy a machine together and share its use and costs. They required to associate with more people so that they could get the credit, share risks, buy the technology and secure enough orders. Then they could break the dependence on the established producers and eliminate the

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<sup>21</sup> The initiators of the association were on the board of the National Chamber of the Graphic Arts (CANAGRAF) in Mexicali--the business organization that agglutinated a large part of the printers in the city--and in the National Chamber of the Manufacturing Industry (CANACINTRA)--that integrates industrials and manufacturers. Among other functions, these organizations promote information exchange in issues related with modernization and technology. Then, they might have been in a position of having privileged access to information about the type of equipment stated above.

potential threat of losing clients and competitiveness. Moreover, then they could tap into the market niche in an advantaged position and make their own businesses more profitable.

It is important to notice that at the time printers were trying to figure out how they should work together, SECOFI announced the Program of Integrating Enterprises (*Programa de Empresas Integradoras*), which was designed precisely to promote the association of small entrepreneurs. One of the initial incentives built into the program was a soft-loan package for *integradoras* to acquire machinery and equipment, and a couple of months later SECOFI and the Secretariat of Finance and Public Credit (SHCP) added a provision for a *integradoras* not to pay taxes on reinvested profits. When printers knew about the first of these instruments the incentives to associate enlarged and therefore they speeded the process of becoming associated. Although in practice printers were not able to access the loan package after they consolidated *Representaciones Impresas*--apparently due to lack of coordination among credit institutions and SECOFI--their experience reinforces the notion that appropriate policy instruments can facilitate small producers to associate<sup>22</sup>.

As for fishermen and farmers, cooperation was--if not the only--the best alternative for printers. Just by means of creating collective projects was that enlightened producers could satisfy their own individual interests. Nevertheless, the fact that they acknowledged it does not mean that they will automatically do it. Put it in other words: there is no determinism between incentives and outcomes, between ecological conditions and economic organization. Indeed, circumstances were appropriate for joint action and played a crucial role for associations to emerge, but at the same they are insufficient to fully account for their emergence. As Wade affirms in his analysis about cooperation in

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<sup>22</sup> Both the loan package and the fiscal incentives are supply-side instruments to promote small producers associations. For a study on demand-side instruments to promote the producer associations and clustering of firms see Tendler and Amorim 1995.

Indian villages the concerting of action is itself something in need of explanation even once the incentives have been identified (Wade 1988)<sup>23</sup>.

In the context of these producers I study, there were many more people that shared the same problems and faced the same opportunities. But the actions of most other rational self-interested individuals did not add to collective action. Then, why were producers of the three associations able to synthesize themselves when the rest were not? Which factors influenced and made them distinct from others? What did they do that everyone else did not? In the next chapters I suggest some answers to these questions, analyzing how individuals got together, associated and shaped their joint action.

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<sup>23</sup> For a quick review of the most common restraints and dilemmas to cooperation see Putnam 1992 and Wade 1988.



## Chapter Three

### Trust

In this chapter I focus on trust--the second condition or building block--which I consider was a crucial factor for producers to concert collective action. I argue that trust facilitated people getting together and start developing the idea of collective action. Moreover, the evidence suggest that, had there not existed a minimal level of trust among entrepreneurs, probably these associations would have never emerged.

Therefore, in the following sections I elaborate on the initial level and origin of trust. Certainly, people that tried to get together had some basic confidence among each other; individuals knew or shared something with the rest of the group that enabled them all to give a firm initial step towards cooperation--which actually was start talking about it openly, inviting other to their meetings and figuring out what to do next. Yet, the sources and degree of this reliance were different for each association. They ranged from ascribed, high-level trust--favored by a strong social milieu--to earned, low-level trust--by means of professional prestige or previous exchanges among parties--to minimal levels of it--"I don't know you, but at least I know somebody who does". Needless to say, the implications for structuring the associations and generating collective action arrangements also showed important variances among cases.

#### Some Basics

Most serious researchers of trust would probably agree that it is, still, a quite slippery topic, the best prove being the persistent failure to define it<sup>24</sup>. And these intellectual difficulties to manage it become particularly obvious when trying to go outside the realm of theory and observation into the world of prescriptions and policy. Be

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<sup>24</sup> This semantic limitation was identified and discussed at least as early as Barber (1983), and it certainly continuous being so in most of the subsequent literature. Nonetheless, Gambetta (1988) provides one of the best conceptual frameworks.

that as it may, a review of some of the recent literature (Schmitz 1996, Fukuyama 1995, Sabel 1993, Gambetta 1988, Barber 1983) would at least outline an emerging “new wisdom”--beyond the pessimism of the liberal paradigm and the theoretical impossibility to create trust when most needed<sup>25</sup>.

There are at least three considerations now widely accepted about trust--for the purposes of this paper understood as the willingness to expose oneself to the consequences of someone else’s actions (Schmitz 1996)--which are relevant for my research. First, that trust can be regarded primarily as a phenomenon of social structural and cultural variables and not just as a function of individual personality variables (Barber 1983). Second, that different kinds of trust are useful to elucidate the functioning or malfunctioning of different social systems (Fukuyama 1995, Barber 1983). Finally, that trust matters for economic performance because its presence, absence and forms can have a strong bearing on what individuals and groups *choose* to do and in many cases what they *can* do (Schmitz 1996; Dasgupta 1988).

These intellectual developments and the trends observed in other settings are relevant for understanding why and how producers of the three groups were able to associate and cooperate. At risk of using arguments for which the reader and myself could easily find counter-examples, in the following sections I try to interpret what actually happened in the cases and extract some useful insights.

### **Fishermen: Ascribed Trust**

The first explanatory trait is that the highest, almost unconditional trust is generated in families and small-scale communities. Then, in “familiar” communities people trust each other, this being just a fact of life that does not need further explanation (Luhmann 1988, Barber 1983). When societies grow and become more complex, the

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<sup>25</sup> For a quick explanation of the liberal paradigm and the theoretical impossibility to create trust see Sabel 1993.

preservation of this type of natural reliance among individuals--then by means of kinship, common ethnic background, religion, etc.--serves as the basis for what Schmitz regards as *ascribed* trust. Observed on several industrial districts all over the world, trust generated by socio-cultural ties seem to heighten economic performance (Schmitz 1996, Schmitz and Nadvi 1994).

This feature becomes significant for my study inasmuch as it helps explaining how fishermen that eventually formed Mortera de Leyva relied almost unconditionally on each other. This association is virtually a family business, 15 out of 22 producers being brothers or cousins within the Espinoza family. The rest were very close friends, having grown and been educated together with the Espinozas and regarded by them “as if they were from the family”<sup>26</sup>. It is clear that familiarity greatly eased the way of individual producers towards cooperation, as also happened in other groups that emerged later along the littoral in communities with similar social milieu<sup>27</sup>. For all of them, trust has decreased transaction cost and minimized the *perception* of risk. As one of the Espinozas says:

All of us are family in these groups, because there’s a few people, you don’t have problems of lawsuits or that sort of things, neither have you the heart to say “I’m going to screw them all”. Because, how am I going to screw my brothers, my cousins or my friends; or how are they going to screw me?

Such a simple and powerful statement obviates the need of further elaboration. Unfortunately, the whole argument as it is sets very astringent conditions and in some way seems to add to the idea that trust can be found but not created when needed. But that

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<sup>26</sup> But that is not all. The presence of this family in El Rosario relates to the early 1800’s, when the soldier Carlos Espinoza Castro received the properties of the Jesuit mission as a payment for his services. For eight generations, the story of the Espinozas and the story of the town have practically been mirror images of each other. Along the years other families have moved to the area and, together with the Espinozas, most of them have married each other, buried their dead, fought the same fights to defend their land when troubled times have come and--very important for practical terms--fished the same fish (Espinoza Arroyo 1992). Although all of this has not precluded conflicts, even for a small town like this--in many ways a village--it is difficult to imagine a higher possible level of trust and a deeper sense of belonging.

<sup>27</sup> There are probably other 3 or four communities with very similar historical backgrounds to El Rosario’s and in which the same type of associations have emerged. Among these, probably Ejido Uruapan--with the family Leon--would be the most representative case. For more information see Espinoza Arroyo 1992.

is not precisely the case, because--as I show in subsequent chapters--the argument does not preclude trust from being *enhanced*, which might be then more a purposeful than a given matter, in line with Sabel's propositions<sup>28</sup>.

### **Printers: Earned Trust**

The second trait relates to the notion that trust can be earned, and it is useful to explain the case of printers. As Schmitz (1996) and Wade (1988) suggest, reputation of honesty and competence matters for individuals to make choices about whom to rely on, this feature being specially salient when the marketplace--this is, the number of people which whom an individual producer can exchange--is relatively small<sup>29</sup>.

But helpful as it is, in fact prestige for the individual producer--*me*--is just a reference based on experiences other people--*them*-- have had with the counterpart of a deal--*you*. And that indirect knowledge might not be enough for *me* to trust *you*. For that to happen honesty and competence might need to be proven directly between *us*. This might be done by means of social or economic exchanges even in the absence of trust, which does not represent a problem because not all exchanges involve substantial risk. However, all exchanges are a form of communication, people saying things about them through the things they do. If this is true, then exchanges might start or enhance the appreciation of shared understandings of partners originally mistrustful between them--assuming shared understandings exist and communication is appropriate, which is not always the case.

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<sup>28</sup> He goes back to the philosophic notion that we people constitute ourselves and our humanity by trying to make ourselves intelligible and by understanding other's efforts to do the same by means of language--and I would go step further and talk of communication. Being communication so imperfect and mutual intelligibility so dependent on hard fought collaboration, shared understandings and then trust are always extensible in this view too, particularly by means of creating the subsequent arrangements--social and economic exchanges I presume--that are the foundations of trust (Sabel 1993).

<sup>29</sup> For instance, social reputation based on "knowing and being known" locally has found to be a critical part of the social capital of a cluster of surgical instruments in Pakistan. In that case, apparently reputation has a more important function in strengthening inter-firm relations than caste of family kinship (Navdi, in Schmitz 1996).

For printers both arguments about earned trust simultaneously hold. Most producers participating in CANAGRAF--probably around 100--had developed a reputation based on their performance, attitudes and the experience of exchanges with members of the printing community at large. Anyone might find things about somebody else merely by asking other people, particularly the “older” producers. Thus, it is not a coincidence that most producers that finally associated were widely regarded as good and honest, chances being that they were in fact good and honest and that they knew they were regarded so. Therefore, they could trust each other<sup>30</sup>.

In addition, virtually all these producers were on the board of CANAGRAF and/or had actively participated on the constitution of this and its preceding organization in the period 1991-1992<sup>31</sup>. Then, by the time some of these individuals started to talk about associating to manufacture continuous forms--mid to late 1992--all of them had worked together and found some common understandings between them. Thus, the sum of direct and indirect knowledge about each other accounted for initial trust, at least enough for originally enlightened producers--2 or 3--to share their idea with the rest and give the first serious steps towards making it possible.

### **Farmers: Minimal Trust**

The arguments that help explain how trust was present among fishermen and printers before they got together might also be relevant for the case of farmers. Not just they are useful to show why it was there, but also why initial trust was *minimal* in

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<sup>30</sup> One of Axelrod's (1984) elaborations on the prisoners' dilemma suggest that even individuals that want to collaborate can refrain from doing it not just because they do not trust the counterparts, but because they may think the counterparts might not trust them. Therefore, I argue that the acknowledgment of one's own reputation is important to facilitate cooperative exchanges.

<sup>31</sup> This previous organization was the Association of Printers of Mexicali, which last a few months and later was diluted by consensus, all members moving to CANAGRAF in order to incorporate to the national level organization.

VIC-TOR, unlike in *Representaciones Impresas* or Mortera de Leyva where these levels were clearly higher<sup>32</sup>.

When tracing producers' origin and characteristics it is possible to find various trends helpful to account for initial trust. First, a few of them were relatives and some more were *compadres* or close friends, which adds to an argument of trust based on familiarity<sup>33</sup>. Second, most producers lived in the same geographical area--although not necessarily in the same towns or *ejidos*--so that some knew each other or could easily know something about each other, which goes back to the notion of trust in small-scale communities. Third, some have already developed a reputation as good producers in their own communities which make them look trustworthy<sup>34</sup>.

However, on the same grounds it is possible to explain why trust was minimal: just a few were actually close people, many did not know each other and only some had a widely acknowledged reputation. Then, even though they were present, ascribed and earned trust became blurred because not everybody or not even the majority had these features in common with the rest of the group. In other words, connections and shared

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<sup>32</sup> For practical purposes I use the term *minimal trust* to account for the least trust possible for individual producers to start exchanging information, meeting and taking decision together about their *potential* collective agreements in the future. I recognize one could argue that in these scenario individuals would be really trusting each other just if a) there was some risk involved in the start-up process--which there was as I explain later--and b) the potential gains did not offset potential losses--if they did, then it would be more a question of rational choice than a matter of trust (Luhmann 1988). I admit that in this case I am not sure about how individual producers perceived these traits when they started efforts to associate. This is because at that point all farmers had credit and knew they would be eligible for credit next year. What there were not sure about was if they were actually going to get it if acting alone: some might, some might not, or maybe all would have gotten it anyway. Then, the whole process of associating starts from *perceived problems in the future*. In strict terms, this is pure speculation, which makes difficult for me to account for the perceived potential gains relative to the perceived potential losses. Nonetheless, other lines of reasoning that I put forward in the section indicate that there *was* a minimal level of trust between farmers for the start-up process--but maybe not for the process of getting associated as I develop in subsequent sections.

<sup>33</sup> *Compadrazgo* refers to the relationship established between the parents of a child and his or her Godparents. *Compadres* or *comadres* are usually members of the same family or very close friends.

<sup>34</sup> In his study about Indian villages Wade (1988) suggest that good reputation is not a trivial thing in small agricultural communities. Whether for the desire of social acceptance or because loss reputation has material consequences in terms of contracts foregone, people care about reputation is not lightly exposed to attack.

understandings were much looser than in the other two cases, which makes me regard VIC-TOR as the association with the least, minimal level of trust.

On the other hand, precisely this minimal level of initial reliance on each other makes the study of their case more appealing from a policy perspective: if they were able to associate in spite of a lack of trust, it should be that farmers *did* something to make up for their limitations, that they somehow *compensated* for the trust they did not have. I elaborate on this and related issues in subsequent chapters.

## Chapter Four

### Restricting Entry and Size

In this chapter I develop on the third building block for cooperation, the notion of restricting entry and size. I claim that these restraints were in part related to the previous arguments about pre-existent trust, in part due to specific requirements to make projects viable, and also based on perceptions about the appropriate number of members associations should have. Hence, access was restricted implicitly--for instance, all producers belonging to a certain group or a sort of network--explicitly, based on objective selection criteria--i.e., financial capacity or land ownership--and intuitively, based on past experience and common sense about economies and diseconomies of scale, as well in purely economic as organizational terms. For all cases, it seems that the three types of restrictions simultaneously applied.

#### **Entry: Fiduciary Responsibility and Technical Competence**

Why would people want to restrict entry to an association of this kind--a quasi-cooperative--if usually the larger the number of members to share the benefits and costs the better? I think part of the answer relates to the previous section very clearly: in general one does not trust everybody because one does not know everybody, either directly or indirectly; and even if one knows "everybody"--the world being reduced to the immediate small community--one would not trust those persons which their past behavior indicates they are not reliable, this meaning that most often people would neither trust "raccoons" nor "chicken"<sup>35</sup>.

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<sup>35</sup> For the sake of the argument, in a cooperative scenario a non-trustworthy person could be that one a) willing to sacrifice future collective gains for immediate individual gains--in other words, cheating, free-riding and exploiting the rest, which I call "raccoons" --or b) willing to cease the deals at the last-but-one exchange or before because of fearing to be ultimately cheated--this is, unable to hold-up until the end by mere backward induction, which I call "chicken". It is this fatalist logic of breach of trust which usually refrains all parties from exchanging at all (Sabel 1993).



But “trustworthiness” in economic terms is not an univocal concept, for it may be understood not just in terms of expectations of *fiduciary responsibility*--for which the previous statement apply--but also in terms of expectations of *technical competence* (Barber 1983). Unlike in the first case which depends very much on the subjective notion that is better to rely on some “kind” of people than on others, for expectations of technically competent performance it is relatively easy to set objective standards. In practice, standards would likely be set based on the minimal economic requirements individuals need to fulfill in order to make collective projects viable. These requirements might relate to financial capacity and soundness, technological endowments, market access, knowledge, etc., depending on the particular needs of collective endeavors.

Then, when thinking of becoming associated, people would likely establish a sort of selection criteria based on both type of expectations. However, the specific weight assigned among these two expectations and among the variables included in each set of expectations are likely to vary for particular cases. This is because the perceived risk and scope of each collective project might--and would likely be--different<sup>36</sup>. Then--at this point--it follows that for producers to trust each other and cooperate it is necessary a mutual consideration of their selves as willing *and* able to honor any kind of collective commitments to be made.

For each of the three associations, fiduciary and competence expectations generated a selection criteria to restrain access. Not surprisingly, fiduciary criteria tended to be implicit and competence criteria to be explicit. I regard part of the process of restricting entry as having been *implicit* because of the way in which a) originally enlightened producer invited or allow other people to participate in their preparatory meetings, and b) either originally enlightened or invited producers exclude themselves from becoming associated.

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<sup>36</sup> For instance, if a collective farm is going to be created, potential members better be sure that that there is enough social pressure or solidarity among them to maximize fiduciary responsibility and minimize free-riding, therefore probably looking for their next of kin or friends in the first place. But if the project mainly consists of buying a new tractor, they would probably emphasize the financial capacity of people benefiting from using the tractor.

In the case of fishermen, the original promoters invited “everybody” to participate in their meetings, which by itself reduces the invitation to the small-scale well-known community. Moreover, most people that finally associated were either members of the extended family or close friends, which suggest that probably non-family and non-friends did not rely enough on the rest as to join them<sup>37</sup>. Farmers on the other hand did not make an open invitation. The calls for meetings were made through a sort of network of trust: one producer invited his *comadre*, she convened her brother, the brother summoned a friend and so on. Finally, for printers the idea of associating arose informally during the meetings of the directive of CANAGRAF--to which most of them belonged and for which they had worked together on other issues. Afterwards they just started to meet separately to discuss the issue, just inviting one or two more persons--a relative and a friend of the original promoters. Thus, in the three cases not all the community of similar producers was invited to the preparatory meetings nor finally joined these associations. At the same time, none of these restrictions for access seem to have been set purposefully: they just came natural, and therefore I regard them as implicit.

On the other hand, there were also explicit selection criteria coming into play for inviting people and becoming associated. Producers--either promoters or invited--established competence criteria as they were working on their preparatory meetings, which were clearly related to the economic nature of their collective projects.

It is among fishermen that these criteria was much looser relative to the rest of cases. Promoters say they invited just “trustworthy, like-minded, good working people”, which although looks like being very subjective considerations to be regarded as selection criteria, in practice they might not be so<sup>38</sup>. In addition, considering that they would start

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<sup>37</sup> Another possibility is that self-excluding people just did not believe in the project as it emerged. But for the sake of the argument this option is not taken into account because anyone could be a non-believer regardless of kin or friendship. The same logic applies for the other associations too.

<sup>38</sup> As an outsider I admit that I have a difficult time trying to consider these as objective criteria, but in their perspective it is not like that. People in El Rosario know each other very well, know their parents and grandparents for generations. They know who stole someone else’s cow years ago, who is the best diver and

just by selling their product together and being paid fairly, there was not so much risk involved given high fiduciary trust. On the contrary, farmers were very clear in this regard: from the very start they required everyone to have credit--which means that they were currently producing and not renting--and to be eligible for credit next year--meaning that they would be able to repay their current debt. If that was the case, therefore they should be good producers and, more important, they all would be able to apply collectively for credit<sup>39</sup>. Finally, printers required to buy a machine--either with credit or with their own assets. Then, minimal financial capacity and collateral was a requirement that even the relatively poorest members must fulfill.

### **Size: Economies and Diseconomies of Scale**

When thinking on cooperation, one of the first things that usually come to my mind--and probably to the reader's also--is the notion of economies of scale by the aggregation of individual assets and productive capabilities, so that returns for the collective body--and presumably for individuals--are enlarged<sup>40</sup>. However, it is not so intuitive to think of diseconomies of scale by aggregation, although empirically they seem to be very obvious.

To show this, imagine two large farms of the same size, one owned by a single person and the other being collectively owned. Other things equal, it might be assumed that returns should be the same for both. They certainly are *in the aggregate*, but in practice the sum of individual gains might not be equal to collective gains in the cooperative farm, because of the transaction costs embedded in all internal exchanges. In other words, there are cost arising from taking decisions, adding up resources, dividing gains and keeping people accountable--which the large landlord by definitions does not

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who is honest up to ignominy. Then, in a world of almost perfect information, privileged personal knowledge solves the problem of "trustworthy, like-minded, good working people" quite easily.

<sup>39</sup> In addition, there was an additional self-selection instrument: the mere fact that producers to be associated had to put some money down for paying a consultant would speak of individuals highly valuing the collective good pursued. Just those that agreed to pay could eventually become associated.

<sup>40</sup> Economies of scale are regarded as reductions in the average cost of a product in the long run resulting from an expanded level of output, given fixed input prices (Pearce 1995, Frank 1991).

have. Moreover, transaction cost will be a function of the number of exchanges, but in such a way that the higher the number of members in the collective farm the higher the higher total *and* unit cost of transactions. This is because the organization becomes increasingly complex and difficult to manage the more individuals are included, so that internal exchanges are increasingly expensive both in total and per unit terms.

This leads me to think that just as corporations find diseconomies in terms of management and flexibility as they get very large (Piore and Sabel 1984), collective projects find their own inefficiencies in the mere fact of aggregating more members. Wade (1988) hints at a similar concept when he proposes that the likelihood of successful organization depends--among other variables--on the size of the group: the smaller the number of users the better the chances of success, down to a minimum below which the tasks able to be performed by such small group cease to be meaningful.

However, with the previous arguments I do not mean to say that larger groups cannot be successful, first of all because such a claim would be empirically proven wrong just with a quick review of the studies about collective action entities with relatively large membership (see Wade 1988 and 1986, Attwood and Baviskar 1987, Ostrom 1987, Tandler 1983, Wells 1982 and 1981). It is just that the larger a group is, the larger the internal transaction costs are likely to be. Of course, costs can be minimized if trust and/or the appropriate institutions are in place, for both elements ease transacting. But, other things equal, it still would be easier to find and develop trust and less expensive to design and implement institutions in small rather than large groups. Thus, I argue that economic gains are a function not merely of the size of the collective action group, but of the balance between economies of scale and transaction costs.

Olson (1977) provides a more behavioral interpretation about group size to affirm that relatively small groups tend to be more effective than larger ones. He puts forward the example of meetings and says that when the number of participants in a group is large, the typical member will know that his or her own efforts will probably not make

much difference to the outcome, and that she will be affected by the meeting's decisions in much the same way no matter how much or how little efforts she puts into studying the issues. Then, she may not take the trouble--or incur in the cost--to study the issue as if she had been able to make the decision by herself. In smaller groups, the situation is reversed because she knows she can make more of a difference and then she will have better incentives to contribute to the "public good"--in this case the collective decision, but the same logic may apply in terms of economic performance, group pressure or mere compliance with internal regulations. Thus, the small group is in a better position than the large one for some or all of its members will have an incentive to see that it does not fail<sup>41</sup>.

But, how is the problem of size solved in practice? Here I think that analyzing the way producers of the three associations dealt with the question might contribute to enhance the general understanding of the issue. Fishermen--those that convoked more openly--thought that a large group would be hard to manage, so that they did not invite more people when they "felt" the group was becoming very large--probably close to 50. The "gut feeling" came from the discussions they were having at the preparatory meetings, when the more people the harder to organize and take decisions together. Finally, 40 people associated in 1986, some of which were just morally supportive but never actually made economic contributions to the group<sup>42</sup>. In regard to economies of scale, it is difficult for me to account for how they perceived the question of minimum size because they were emerging almost in parallel with other 3 similar groups along the littoral, so that as part of a federation they already had a larger scale for marketing and lobbying.

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<sup>41</sup> For other groups with cooperative features like rural communities and villages, Olson also makes the argument that social pressure to hold people accountable could best function when they are relatively small.

<sup>42</sup> By 1990 they were down to 22, after a split resulting in a new sister association and making Mortera de Leyva to become differentiated in *Grupo "A"* and *Grupo "B"*. From then onwards the number of members has not changed. It is interesting that most other 15-20 collective groups have a size ranging from 15 to 34 members, which might suggest an idea for minimum and maximum size of these type of groups.

Farmers got the idea of minimum and maximum size by looking at the experience of larger producers in both sides of the border and by their own happenings in the meetings of *ejidos*. One of the main promoters says the following:

We needed to have 500 hectares. Why?... because in 500 hectares you can land any project; with less you can't. You can buy inputs cheaper, you can buy a tractor and pay it easily, you can buy a threshing machine and pay it back just like that because of your payment capacity when you come together. Why not more than 500? Because if we go for more than 500 we go above 25 members, which is the ideal for us... as long as every person has a different mentality, and if you put 50 people in a meeting it becomes a melee and it's difficult to concert things. Then we think 22-25 is a manageable, not very problematic number.

In the case of printers, at first it seems that the number of members was very much a function of the people attending CANAGRAF's meetings--about 8-10. Some of them just started to talk about the idea of manufacturing continuous forms together, and nobody felt good about excluding someone else for everybody to see that there was "good faith" among them. But they decided *not* to invite anyone else in order to facilitate agreements and to keep the project between people who knew each other well. It might have been in part a question of chance, but with 8-10 members they could have gotten credit to buy the machine and decreased individual risks enough to make the project attractive and possible--just as they actually did.

Then, the experience of the three groups indicates that it should not be so hard to find an appropriate size and scale with a little of common sense. Unfortunately, years of development experience suggest that, often, common sense is everything but common.

## Chapter Five

### Institutions

In this chapter I elaborate on the fourth building block for cooperation, the institutions producers established to shape their own behavior and order collective functioning. They created a coherent, mutually constructed and self-enforcing set of agreements, codes, rules, monitoring and enforcement mechanisms to make their environment less uncertain, more predictable. These institutions were at the heart of each group, assigning benefits and responsibilities, fixing the limits of cooperation, setting operation proceedings, placing monitoring instruments and defining sanctions for non-collaborative members. I argue that institutions were critical to overcome the last resistance to cooperation--rational self-interest, very much like an entrepreneurial instinct of conservation--allowing them to associate and perform collective tasks successfully. In subsequent sections I support this claim in light of the current knowledge and the evidence arising from the cases.

Before moving forward it is convenient to clarify some of the arguments previously presented as they relate to the topics in the following sections. In chapters 3 and 4 I claim that various forms of trust were *sine qua non* for producers to get together, organize and start developing their collective projects. However, that is not to say that trust was enough for them to *associate* and start economic exchanges<sup>43</sup>. For individuals to cooperate with others it is necessary not just to trust each other, but to believe that it is in the best *interest* of their counterparts to fulfill the commitments to be made--cooperation requires trust and good will, but not love and sacrifice. Institutions such as beliefs, norms, rules and sanctions have a bearing in defining this interest. In subsequent sections I

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<sup>43</sup> Olson (1977) explains that in formal organizations with significant initial or fixed costs, obtaining the first unit of collective good would be disproportionately expensive. Thus, people leaving or defecting at early stages could aggravate the situation for remaining members quite easily. Using a Mexican saying, one of the printers told me they feared "*que otra gente nos quitara la escalera y nos dejara colgados de la brocha*", ("other people took take away the ladder and left us hanging from the paint brush). Therefore, they were very emphatic about setting the rules of the game before the game started.

explain why they are needed to cooperate, analyze their role in economic performance and illustrate some of the institutions that were developed in the case studies.

### **Because “in Trust --We All--Have Found Treason...”**

By evoking these words of Queen Elizabeth I in front of the British Parliament, Hawthorn (1988) highlights a deep internal fear most of us have about human nature: betrayal. Universal history and the biographies of our own are at times marked by the disillusion, defection and treachery of people we have trust in. Therefore, for a rational individual to trust might seem naive, closer to altruism than to cooperation. Nonetheless, by mere intuition we can trust in other people insofar as we can trust ourselves, meaning that a rational person would expect the compliance of her counterpart if she herself, being the counterpart, would comply to the commitments made. That is, we look at other people's motivations, incentives and beliefs so that we can exchange with them. In a radical and obscure version of this view, I would say that it is safer to have accomplices than friends because it is more costly for the first to defect.

Along similar lines, for Lorenz (1988) “trusting behavior consists in action that 1) increases one's vulnerability to another whose behavior is not under one's control, and 2) takes place in a situation where the penalty suffered if trust is abused would lead one to regret the action”. In summarizing various notions on the topic, Gambetta (1988) states that “when we say we trust someone or that someone is trustworthy, we implicitly mean that the *probability* that he will perform an action that is beneficial or at least not detrimental to us is high enough for us to consider engaging in some form of cooperation with him. Correspondingly, when we say that someone is untrustworthy, we imply that the probability is low enough for us to refrain from doing so”. (Italics mine).



But how are these probabilities of compliance calculated? Where do we get them from? In my perspective, the privileged sources are rational behavior and self-interest<sup>44</sup>. In principle, rational individuals would likely do the sort of things which provide them the most gains, so that if we think the counterpart will be better off by sticking to a cooperative agreement and assume she thinks the same about it, then probabilities of compliance are high. On the flip side, if we think the costs of defection for her are high, then probabilities of compliance are also high. And the same logic applies in reverse for non-compliance.

It is based on these perceived benefit/cost ratios that we can make decisions on whether or not to interact and cooperate with others. Thus, the problem gets reduced to identifying and being able to influence these benefits and costs, to setting the appropriate incentives that would decrease uncertainty, minimize risk and make behavior more predictable<sup>45</sup>. Certainly, individuals, organizations and society can enlarge or reduce these gains and losses; we can define parameters for “good” and “bad” conduct and implement instruments to get more of the former and less of the latter. The best thing is that we can somehow agree and share understandings about setting these incentives: you comply to our contract, we both gain, you commit fraud, you go to jail; she gives me a good service, I keep buying with her, she does not, I buy elsewhere; he wears tennis shoes of brand X, he is “cool”, he does not, he is “uncool”. It is by means of establishing, destroying and transforming these collectively agreed incentives that we create institutions.

## **Institutions and Economic Performance**

For the purposes of this paper I use Scott’s definition of institutions (Scott and Christiansen 1995), which regards them as cognitive, normative and regulative systems that provide stability and meaning to social behavior. Institutions are transported by

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<sup>44</sup> Other sources could be ideology, moral, religion. etc., but for the effects of my analysis I do not concentrate on them.

<sup>45</sup> For the problems this type of approach has relative to information on incentives see Williams 1988 and Gambetta 1988.

various carriers--cultures, structures and routines--and they operate at multiple levels of jurisdiction. He argues that in studying society and organizations, an institutional approach highlights the importance of *ideational forces*--knowledge systems, beliefs and rules--as opposed to emphasizing *materialist forces*--like technology, resources and production systems.

Institutions determine and are determined by society and organizations--groups of individuals that aggregate for a common objective, like the state, corporations, political parties, unions, coops, etc. The forms and functioning of organizations will reflect the nature of the existent institutions; at the same time, organized individuals destroy and create institutions according to their needs and interests (North 1994).

French sociology emphasizes institutions as phenomena of collective conscience, of massive adhesions. That is, individuals consider institutions as *theirs*, and hence these are accepted, sustained and transformed based on social consensus. From a different view, given that the State is the legal and material base of all institutions, for they cannot exist outside its framework, Weber considered that coercion is indispensable for their survival, emphasizing that "brute force" is at times the only support for institutions (Lapassade and Loureau 1981).

For the purpose of analyzing the case studies, I focus on institutions primarily as *regulatory systems*<sup>46</sup>. As Scott (Scott and Christiansen 1995) points out, in this view institutions can arise when it is convenient for all actors to develop and enforce rules that bind their own behavior in certain aspects. Individual and collective actors have interests which might conflict with the interests of others, so that rules and laws are established to resolve differences. These vary from positive to negative incentives--to do or not to do a particular activity--and include a mixture of display, inducement and threat that might go from the subtle to the utterly oppressive (Hawthorn 1988). Actors are expected to obey

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<sup>46</sup> For a quick elaboration on institutions regulatory, normative and cognitive systems see Scott, in Scott and Christensen 1995.

these regulations mainly out of self-interest and expedience in order to avoid sanctions; therefore, the privileged control mechanism is coercion (Scott and Christiansen 1995).

According to North, institutions “provide the basic structures by which human beings create order and attempt to reduce uncertainty in exchange”<sup>47</sup>. Therefore, as long as economics implies people doing exchanges, the admixture of rules, informal norms and enforcement mechanisms will determine economic performance<sup>48</sup>. For him, institutions matter because they determine the transaction costs--that is, the costs of monitoring compliance, enforcing agreements and assessing losses--that add up to the costs of production. Therefore, the better a given set of institutions minimizes the costs of transacting, the less the costs of producing will be and viceversa (North 1981 and 1994). Likewise, Williamson (1985) thinks of firms as governance structures rather than mere production functions; that being the case, he argues that in cooperative organizations institutions can play a substantial role in reducing transaction costs and enabling individuals to solve more efficiently the problems of collective action.

In this view, transaction costs are regarded as the “friction” among parties to an exchange, whereas institutions and trust are regarded as “lubricants”. Hence, when thinking of creating an organization, individuals should devise an economic strategy--in terms of technology, resources and production systems--and implement it within an institutional framework to set the appropriate incentives for individual behavior and minimize transaction costs embedded in their proposed functioning<sup>49</sup>.

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<sup>47</sup> North, Douglas 1989. Institutional Change and Economic History. Journal of Institutional and Theoretical Economics, Vol. 145. Cambridge, UK. Quoted in Scott *et al* 1994

<sup>48</sup> Property rights regimes, laws, social and moral ordinances, markets, contracts, hand-shakes agreements and sanctions are all institutions that have a bearing on defining transaction costs. For further elaboration on the links between institutions, transaction cost and neoclassical theory refer to North 1987 and Williamson 1985; for the original development see Coase, Ronald 1960. “The Problem of Social Cost”. Journal of Law and Economics, Vol. 3, No. 1, October.

<sup>49</sup> This notion is substantiated with Ostrom’s principles for successful institutional design: “that the boundaries of the institution be clearly defined, that affected parties participate in defining the rules, that violators be subjected to graduated sanctions and that low cost mechanisms be available for resolving conflict”. Ostrom, Elinor 1990. Governing the Commons: The Evolution of Institutions for Collective Action. Cambridge University Press, New York. Cited in Putnam 1992. See also Ostrom 1987 and Wade 1986.

That seems to be precisely what producers of the three associations did, as I illustrate in the following sections with the analysis of their self-enforcing agreements (SEA's), central instruments of the associations' regulatory systems<sup>50</sup>. I have chosen these particular instruments because they are meant to change the payoff structure in such a way that the rational, self-interested individual would find the choice of deceiving less attractive than the choice of compliance, and therefore he would likely honor the commitments made.

### **Reinventing Machiavelli: Self-Enforcing Agreements in Theory**

In this regard, Axelrod's (1984) fascinating description of the live-and-let-live system in trench warfare during World War I, illustrates how under certain conditions enemy soldiers can learn to cooperate and care for the opponent's well being. In reference to modern trench warfare, Hawthorn (1988) reports that Brzezinski, Jimmy Carter's National Security Adviser, when asked before the start of the arms talk in Geneva in 1985 whether the Americans could trust the Soviets, answered: "The point is not to trust them; it's to find an agreement that is self-enforcing". Finally, Telser (1980) evokes one brilliant insight from Niccolo Machiavelli's *The Prince*:

... a prudent ruler ought not to keep faith when by so doing it would be against his *interest*, and when the reasons which made him bind himself *no longer exist*. If men were all good, this precept would not be a good one; but as they are bad, and would not observe their faith with you, so you are not bound to keep faith with them. Nor have legitimate grounds ever failed a prince who wished to show colorable excuse for the nonfulfillment of his promise. (Italics mine).

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<sup>50</sup> North describes the importance of enforcement mechanisms as central to a viable institution: "[Institutions] are perfectly analogous to the rules of the game in a competitive team sport. That is, they consist of formal written rules as well of typically unwritten codes of conduct that underlie and supplement formal rules... the rules and informal rules are sometimes violated and punishment is enacted. Therefore, an essential part of the functioning of an institution is the costliness of ascertaining violations and the severity of punishment... Continuing with the sports analogy, taken together, the formal and informal rules and the type and effectiveness of enforcement shape the whole character of the game". North, Douglas 1990. Institutions, Institutional Change and Economic Performance. Cambridge University Press, Cambridge UK. Quoted in Scott, Meyer *et al* 1994.

For Lorenz (1988), an agreement is self-enforcing “if the threat to terminate transactions (with a subsequent loss of business) if one party is caught cheating is sufficient to deter opportunism and ensure that contractual obligations are met”<sup>51</sup>. The conditions for SEA’s to hold are that a) the threat of terminating exchanges is in fact sufficient and credible, b) there is common knowledge about each players gains and losses--that is, about their interest and incentives--and c) the sequence of transactions is open-ended, so that there is always the probability of maintaining the deals<sup>52</sup>. If it is considered important to exercise his power about terminating or continuing exchanges, the damaged agent might decide whether the infringement has been purposeful or not and act accordingly.

SEA’s arise in many economic transactions because it is difficult and costly to depend on third parties such as the judiciary system to enforce agreements and asses losses when they are not honored. Therefore, the parties to an agreement *devise* its terms to make it self-enforcing, if this can be done easily and cheaply enough (Telser 1980). Therefore reliability, expected honesty and compliance are, at least in a substantial part, a function of the terms.

If the conditions for SEA’s exist, then apparently the prisoner’s dilemma is solved and there is no longer need for trust because each side would be certain of the rational behavior of the other<sup>53</sup>. But that is not quite the case, for the approach has deficiencies and shortcomings. As Lorenz (1988) explains, a *prior* bond of trust is necessary for the information from the contracting parties about their gains, losses and incentives to be reliable. In addition, the SEA’s model does not account for *unforeseeable* events that

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<sup>51</sup> Telser (1980) defines a self-enforcing agreement as one in which “each party defines unilaterally whether he is better off continuing or stopping his relationship with the other parties. He stops if and only if the current gain from stopping exceeds the expected present value of his gains from continuing. No outside party intervenes to enforce the agreement, to determine whether there has been violations, to asses damages, or to impose penalties... If one party violates the terms then the only recourse of the other party is to terminate the agreement after he discovers the violation”. In his paper he develops a theoretical model for SEA’s.

<sup>52</sup> For further elaboration on the conditions for SEA’s see Telser 1980 and Dasgupta 1988.

<sup>53</sup> Axelrod (1984) argues that, “if the punishment for defection is so great that cooperation is the best choice in the short run, no matter what the other player does, then there is no longer a [prisoner’s] dilemma”.

could trigger opportunistic behavior in the future--which adds to my own arguments and findings presented in previous chapters.

Producers in the three associations devised the terms of their agreements to make them self-enforcing. This comes clear from comparing a) the perceived benefits from being a member and the opportunity costs from not being a member--that is, the incentives to honor the compact and continue exchanging--with b) the gains derived from the non-cooperative activities which cause exclusion--that is, the incentives not to honor the compact and stop exchanges, which I distinguish from other types of sanctions. As I proceed to demonstrate, the fact that incentives to comply outweigh those of defection and that most of these non-cooperative activities are relatively easy to monitor, makes the agreements self-enforcing.

### **Self-Enforcing Agreements in Practice**

At the point when fishermen were about to consolidate their group and carry on their project, for most of them it was already clear that the benefits from cooperating would be substantial. First of all, producers would be able to get fishing permits, which they might also get if remaining in the coop but hardly by themselves<sup>54</sup>. Second, people that had their own equipment would incorporate to their teams other producers that did not have any. The newcomers would be paid as associated members and not as employees. Moreover, equipment would be shared if necessary. Third, they would soon start processing in their own plants and adding value to their product<sup>55</sup>. Fourth and most important, rather than receiving a 40% in *anticipos* from the expected selling price of the product as they were in the coop, there would be a much higher fixed price and the

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<sup>54</sup> If caught by the authorities fishing or selling product without permit they would be legally liable, and that was always a possibility

<sup>55</sup> The process consists mainly of killing the animal, extracting the glands, cleaning and disinfecting, discriminating and selecting by quality, packing or arranging them in various presentations and freezing. To do this efficiently a minimal industrial scale is necessary, household processing being practically impossible. For more information see Arredondo Gómez 1994 and Payeiro Nayar 1982.

remaining profits would be distributed at the end of the year. This is what an individual would lose in case of being expelled from the group<sup>56</sup>.

Given that these and other benefits would be possible to accomplish only if they captured and sold together, fishermen agreed by consensus that members would be excluded if they exploited species not allowed by the group, did not produce for more than two months without any justification or sold the product outside the association<sup>57</sup>. From these contingent events, the last one would likely be the most profitable for a non-cooperative individual, since he would get the full value of the product while part of his costs would be shared with the rest of the group.

However, it would not be easy to do sell outside without being discovered: first, men fish in teams, so that the free-rider-to-be would have to bribe at least two more people; second, there are not that many buying outlets for the sea urchin nearby which would assure his confidentiality; finally, El Rosario being a privileged world of almost perfect information, it might be easier to hide a gray whale--beautiful there every year--than five barrels of sea urchin or the money from their sale. Then, chances of getting away with it would be very little. But even if he succeeded he would not be able to process the sea urchin and would have to sell it alive, losing added value. Hence, net gains from any single outside sale and even from accumulated sales probably would not exceed what he received from the group, because the aggregated production of the association is sold in better markets at higher prices. On the contrary, potential losses would be very high, primarily in economic but also in social terms--alienation from your own family and friends is not particularly appealing.

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<sup>56</sup> In addition, the fact that in the neighboring community of Ejido Uruapan a group of fishermen had already started working outside the coop and were having good economic results--although their formal organization was different--might had given producers from El Rosario an image of the potential benefits.

<sup>57</sup> Obviously, in the three associations as elsewhere there are various activities for which members would be excluded, regardless of the particular nature of each group--like fraud, negligent or intentional damage to collective assets, not paying quotas and so on. Yet, I focus primarily on those excluding clauses related to the specific functioning of each association.

As for farmers, although obtaining credit for working capital was the original reason to associate, in the process of organizing they identified a series of new opportunities if collaboration was expanded: they could get better prices for their wheat together, buy inputs and services cheaper, produce their own seed, access credit to buy a tractor with laser-ray leveling equipment, acquire vacuum tanks for fertilizer, build a storage facility, have their own insurance fund and other advantages related with economies of scale which none could have on his or her own. They calculated that in the second year of operation individual profits would presumably enlarge around 30% to 50%. Even putting credit aside, benefits from being and remaining associated would likely be substantial and increase the more they cooperated.

On the other hand, the most attractive opportunities for an individual to cheat on the rest--which would obviously cause immediate expulsion--would be the following: first, not to pay her own part of the credits negotiated by the association; second, not to reimburse the group for inputs and services collectively acquired; and third, to market harvest outside the association in case it had been agreed to sell together--which was not always the case. Needless to say, defecting on credits would represent a considerable gain for the non-cooperative member, but this was actually prevented by both exclusion and pecuniary sanctions, and the same applied for not paying for the services received. Therefore, I briefly illustrate these two instances in the last section of this chapter.

As for the third clause, a member selling the harvest on her own would represent a loss for the rest insofar as a small fraction of the whole deal would be used to pay transaction costs or be reinvested into the association. But in practice she does not have any real incentive to do it, for it is practically impossible that she would get a better price for the product on her own than if she sold through the group: even discounting for retention's, she is better off if continuing exchanging with the rest of the members. Therefore, if they all decide to sell together she would not defect<sup>58</sup>.

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<sup>58</sup> Internal regulations state that exclusion of the member would be applicable if the administrative council, based on the assembly's consultation, had decided they all should sell the harvest together. In the first harvest the council did not bind members to do it. but actually seven farmers did sell their product jointly



In the case of printers, the association would enable them to sell continuous forms and get good profits, which in turn would be possible by subcontracting the process with the *empresa integradora* at low cost. Because in their own firms they would work individually, they would have more gains the more and the larger orders were. Therefore, to assure that everybody benefited from the service, they decided to control internal competition and set a two-fold price system, which consisted of a fixed price for members, based on the costs of processing, and a floor price for them to sell the product to the public--both are prices per unit, or "per form". The margin between the two prices would be their minimal profit, and they could quote above the floor price as much as they wanted, but never below it because that would affect the rest of the associates. If somebody sold forms below the floor price, he would be excluded from the group<sup>59</sup>.

Monitoring compliance in this case seems difficult because the arrangements on sale price would be made between the member and the client. Nonetheless, there were some factors that restrained firms from cheating and made monitoring easier as well. First, all producers would likely quote above the floor price because they want to maximize profits; thus, any of them could probably offer the floor price, get the order and still profit safely. Second, if one of the associates decided to go below this mark he would sacrifice some gains per unit; and because every entrepreneur is supposed to be risk averse by nature and risks need to be compensated; deceiving would be worthwhile only for large orders, which are not very common. Third, for a large client to have enough bargaining power with a supplier to decrease price so much when there are very few producers in the market--7 in the association and 2 outside--it might be assumed that the client has got quotes from other firms already. If this is the case, chances are that some of them are also members of the *integradora*. This would obviously create a major problem to the non-cooperative member because the probabilities that he is discovered would be

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and got a better price. Having seen this "cooperative advantage", in the next harvest all of them decided to sell together, which would have made the exclusion clause applicable.

<sup>59</sup> They actually devised a series of arrangements to deal with controversies about prices, which included the exceptional cases in which any of them could sell below the floor price if authorized by the rest of producers.

very high, given that everybody else processes the forms in the same place and is likely to get very suspicious with orders he did not acquire. Thus, incentives to deceive were in fact not so large, whereas risks and costs from not playing fair were far from being small.

### **Institutional Insights**

Because producers of the three groups identified the major temptations for free-riding and cheating, they set the exclusion clauses around these. Moreover, from the practice of their business they knew they could monitor and be monitored by their peers to a fair degree<sup>60</sup>. The combined result was that incentives to comply--remaining in the association and getting profits all along--were larger than incentives to deceive--not much money, short-term, high risk. Finally, for any disciplinary mechanism to function the threat of effective punishment should be credible (Dasgupta 1988), which in each case it was and there were subsequent opportunities to probe it<sup>61</sup>.

Engineering the agreements to combine critical needs and monitoring mechanisms reduced uncertainty and allowed for these compacts to be self-enforcing, which in turn facilitated producers to rely on each other out of each other's expected self-interest and rational behavior. Likewise, the fact that there was no need for a third party enforcing, monitoring or assessing losses substantially reduced transaction costs and therefore made their functioning more efficient.

In regard to institutional design, an interesting feature of the farmers' case is that they contracted a small consulting firm--*Alianza Consultoría Integral*--to help them with the legal proceedings about the application for working capital credit. But soon the main

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<sup>60</sup> In his study on village-wide organizations in India, Wade (1988) suggests that the ease of enforcement is related to a) the possibility of undetected cheating; b) the bite of available sanctions; c) the costs of conforming and d) habit. In this section however I decided to focus in the first two, which I consider are the most relevant to my own case studies.

<sup>61</sup> Farmers have expelled one member because of malfeasance with funds and printers another for selling below the floor price--which probes their monitoring mechanism to be good enough--and no more of these problems have arise ever since. As for fishermen, at least after their group consolidated in early 1990's there has not been any (detected) cheating that caused exclusion.

consultant--an agronomist engineer and former official of BANRURAL--started also to help structure their productive and institutional functioning, so that they together identified new windows of opportunity as those described earlier in this chapter and developed the association's regulatory system. Once associated, he assisted them with feasibility studies and negotiation of credit for equipment and storage facilities with government agencies and the bank. After the success of its initial experience with VIC-TOR, *Alianza* started helping other similar groups in the Mexicali Valley to become associated. This event suggest that external agents with specialized knowledge and expertise can effectively assist producers at institutional design and not just at technical matters<sup>62</sup>.

The institutional framework of the three associations also makes use of informal norms, formal rules, non-exclusionary sanctions and third-party enforcement. With a similar rationale as the one used for SEA's, producers tried to put together free-riding opportunities, monitoring mechanisms and enforcement instruments to generate the institutions that best fit their particular needs. And institutional design should not necessarily be considered a Herculean task, for it basically requires knowledge of the activity and the environment, a little suspicious mind and a touch of fairness--not to say common sense. To illustrate how this works in practice, I quote what three farmers consecutively said on the issue:

Here everything is locked based on the *mañas* [bad habits or vices] we found in other places... [For example] in the group, the president or the administrative council cannot get a credit just like that; they need the authorization of all the associates before taking a peso from the bank... And just to see how serious and

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<sup>62</sup> Wells (1982) documents that "brokerage" of private agencies which have the information, communicative skills, status and sources of recommendation can be crucial to link coops into the larger economic and political system, arguing that in California broker agencies have been the most active local sponsors of production cooperatives. In VIC-TOR's case, the consulting firm went beyond that and helped farmers at structuring and start up. In a very close parallelism with one of Wells's study cases, the relationship between the parties finished when farmers felt that a sort of tutelage relationship was arising, but the prestige of the consulting agencies had already boosted and served them to engage in deals with other groups. In both Wells's and my case study government bureaucrats and bankers doubted that the groups could have succeeded without the private agencies' intervention. These latter statements being true or not, my own findings confirm that technical assistance and political mediation of private consultants can be very effective in supporting cooperative groups, particularly at start-up.

maybe rigid we are about these things, if somebody makes bad use of the credit he's automatically out, but his land still responds for the money he made bad use of... But if he loses the harvest and is not his fault--say, a plague or something--we have the money to say 'you don't owe anything' and we pay for him.

In the aggregate, these institutions helped producers to overcome the final resistance to cooperation, giving order and meaning to individual behavior in a collective setting. Then they could associate and start exchanges in a more certain and predictable environment, automatically increasing the probabilities for all of them to succeed... as they just did.

## Chapter Six

### Conclusions

This thesis has analyzed the conditions and factors which allowed the self-interested individuals in the study cases to cooperate and associate. The literature reviewed and the evidence gathered in the field suggest that meaningful and sustainable collaboration among producers was based on four major building blocks: 1) perceived opportunities and/or crises individuals could manage only if working together with others; 2) a pre-existent minimal level of trust among them to approach each other and start designing collective projects; 3) the restriction of entry to the emerging group by means of selection criteria, and the restriction of size to balance economies and diseconomies of scale; and 4) the institutionalization of cooperative arrangements in the form of self-enforcing agreements, rules, monitoring mechanisms and sanctions.

The first building block relates to the context in which the associations arose. In the three cases some producers perceived crises and/or opportunities which they could manage only if cooperating and associating with others. As for the crises, fishermen considered they were not benefiting from working at the coop, while its leadership was taking the lion's share, and this situation had led them to over-exploit and endanger the main resource they were making a living from. Farmers were threatened by the tightening on credit for working capital, indispensable for them to continue producing. Printers had to process continuous forms with monopolistic firms, being exposed to high prices and unfair competition, which ultimately was affecting their competitiveness in the larger market of printed products.

As for the opportunities, fishermen realized they could process the sea urchin and sell it in better markets outside the coop. Farmers thought they could reach a larger landholding or loan size to make their credit applications more attractive to the bank. And printers ascertained they could buy a modern machine and tap into a market niche for

continuous forms in small volumes. As for the incentives to cooperate, fishermen found it necessary to associate so that they could obtain fishing permits, get a minimal initial market power and avoid boycotts from their adversaries and competitors. Farmers would not have secured credit unless they made a collective application. And printers considered it too risky, expensive and inefficient to buy and operate the machine for continuous forms on their own, so that becoming associated was their best alternative. Therefore, cooperation arose from self-interest, for it was the only way originally enlightened producers could have moved forward.

The second building block relates to trust. Producers recognized that collaboration was necessary, but they also recognized that it embodies high risks and uncertainty, and therefore were reluctant to cooperate. As I have shown, pre-existent trust made it possible for people to approach each other and start developing their projects together. The origin and initial level of trust varied among cases: for fishermen it was ascribed, high-level trust favored by a strong social milieu; for printers it was earned, low-level trust by means of professional prestige or previous exchanges among them; finally, for farmers trust resulted from a weak combination of familiarity, friendship, prestige and previous exchanges, and therefore they had the lowest level of trust relative to the other cases; still, it was enough for them to invite more people and initiate the preparatory meetings of their association.

The third building block relates to the restrictions on entry and size of the groups. Restraints in entry were associated with trust in the forms of fiduciary responsibility--mutual expectations of not being deceived--and technical competence--expectations that all parties were able to fulfill the minimal economic requirements to make projects viable. Hence, access was restrained implicitly--for example, all producers belonging to a certain group or a sort of network--and explicitly--based on objective selection criteria, like financial capacity or land ownership. Size, however, was restricted intuitively, based on past experience and common sense about economies and diseconomies of scale by aggregation: producers tried to balance economic incentives to grow larger with

organizational incentives to remain relatively small. The evidence suggest that in all cases the three types of restrictions simultaneously applied.

The fourth and last building block relates to institutions. The evidence indicates that for individuals to cooperate it was necessary not just to trust each other, but to believe that it was in the best interest of each other to fulfill the commitments arising from their future interaction. In addition, for their organizations to be efficient it was necessary that transaction costs were minimized, meaning that commitments had to be fulfilled with minimal third-party monitoring and enforcement. Therefore, in each case producers created a coherent, mutually constructed and self-enforcing set of agreements, codes, rules and enforcement mechanisms to shape their own behavior and order collective functioning. These institutions were primarily directed to change the payoff structure so that the incentives to comply were stronger than incentives to deceive, making their environment less uncertain, more predictable.

As I have shown, institutions were critical for people to overcome the last resistance to cooperation. The analysis of the benefits, costs and monitoring mechanisms embedded in their self-enforcing agreements indicates that producers identified those activities likely to attract troublesome non-cooperative behavior--selling the product outside the group for fishermen and farmers, and selling below the floor level for printers--and set exclusionary clauses on them, so that a rational, self-interested individual would rather comply than deceive. Other institutions such as norms, rules, non-exclusionary sanctions and third-party enforcement completed the institutional framework that allowed them to associate and perform collective tasks successfully.

Besides the crises and opportunities, most other facilitating conditions or building blocks were meant to decrease risks and uncertainty, and therefore they expedited cooperative exchanges. In other words, people needed to be sure--or as sure as possible--that all members of the associations would be *willing, able and incentivized* to collaborate and honor the agreements to be made. Then cooperation would be eased, collective gains

arise and their associations be better able to last and prosper. Had this not been the case, free-riding, unfair competition, breach of trust, conflicts or mere lack of capacity for implementation could have become extensive, most likely restraining collaboration and making their projects fail. Therefore, I believe these building blocks have substantial explanatory power to account for the emergence and subsequent success of these associations. At the same time, I suggest that their absence can be helpful to explain why such events do not occur in other cases elsewhere.

All this does not mean that the groups have been free of problems. Producers have faced serious conflicts of interest and non-cooperative behavior among members before and after they became associated; some have got out by themselves or even been excluded. But it has been precisely the combination of these factors and conditions which has enabled people to solve most of their differences at minimal costs, so that they keep working together.

Further, because initial economic goals were attained in the early months and years after they associated--marketing for fishermen, credit for farmers and processing for printers--collaboration has expanded to other profitable areas. Fishermen now have their own retirement fund, process sea urchin in various commercial presentations and--together with other similar groups--have their own exporting companies to sell directly to Japan. Credit put aside, farmers do not only sell, buy inputs and services, build facilities and have modern equipment and an insurance fund: for the 1996 season they expect to start commercializing wheat from other less developed groups and individual peasants, since profit opportunities are larger in this area than in production itself. Printers have already applied for credit to buy another machine with a larger capacity, in order to expand to local and regional markets for large orders of continuous forms.

These preliminary findings suggest that producers have learned to trust and cooperate among themselves and--in the case of fishermen and farmers--looked forward to cooperating with other similar groups to achieve larger scale economies. Still, the



accomplishments of federated groups of fishermen have not been formally explored yet and the results of farmers' and printers' present endeavors are difficult to predict. Therefore, research opportunities on the processes of learning and expansion of cooperation in these and allied groups look very promising.

On the other hand, it seems striking that fishermen and farmers that had had negative experiences with their previous groups--the coops--were able to overcome not just the dilemmas of collective action as anyone else, but also what could have been considered as a bias against cooperative organization. The evidence indicates that producers actually learned from the coops at least what *not* to do, incorporating the lessons in the designing process of their own associations. Moreover, both already have strategic partnerships with other similar groups and look forward to extending cooperation with them even more. Therefore, their experience suggests that trying to organize former members of "bad" coops is far from being a hopeless effort. In the context of many developing countries, in which coops have often either become corrupted and/or weak for the lack of external support, the insight from these Mexican producers can be valuable and encouraging for governments, donors or NGO's interested in promoting prosperous collective organization based on former coop members--or former coop members to-be.

The literature on flexible specialization and clusters suggests that collaboration is often associated with a prior bond of trust among parties due to kinship, ethnicity, caste or similar traits (Schmitz 1996, Navdi and Schmitz 1994, Sabel 1989). Whereas my own findings support this view, they also indicate that prior trust need not be high for people to cooperate, and even more, to become formally associated, which implies much larger initial and fixed cost than mere informal collaboration--say, in a subcontracting line. The groups studied in this paper had both different origins and initial levels of trust, and all three were able to consolidate and be prosperous. Indeed, fishermen were in the best position to cooperate, for ascribed trust was very high among them, while printers and farmers had much diffused or no assigned ties. But for printers, trust appeared by means

of prestige and having shared other professional tasks, and this trust does not seem to relate to individual personality variables as much as to individual performance variables. In other words, they do not particularly like each other nor are they still friends because of how they *are*; instead, they look at each other with respect and confidence because of how they *work*. This does not suggest that trust can be created on purpose--for they had not been good printers or good leaders of CANAGRAF thinking of eventually becoming associated--but it does reinforce the notion that trust can be *earned* out of reputation and previous exchanges.

Farmers had a minimal level of trust, just enough to initiate the process of discussion and organizing their project. It seems as if they had intuitively acknowledged this fact and tried to compensate for it. Although it might be partially attributed to the risk embedded in a collective credit application, it does not seem to be a mere coincidence that out of the three groups, VIC-TOR a) used the most constrictive channels for inviting people to the preparatory meetings, b) set the most explicit criteria for restricting entry, c) had the clearest idea for restricting size, d) was the only group that received external assistance for defining their institutional arrangements and e) has the harshest sanctions and enforcement mechanisms. And they are definitely very successful. Thus, their experience suggests that when the stringent conditions for more than minimal trust do not exist and therefore uncertainty is higher, individuals can compensate by *deliberately* making more stringent other conditions for cooperation related to entry, size and institutions, so that uncertainty is reduced and the working environment more predictable. If this is true, the implications for policy are not just clearly relevant but also very promising.

Entering in the realm of the positive and the prescriptive, the question would then be “what can we do to promote producers to associate and be successful?”. After reviewing the experience of the study cases, it is clear that a developmentalist agent cannot do anything to create trust out of nowhere, and hopefully would not try to make a crisis even worse to induce collaboration--although in practice worsening a crisis has

proven to be very easy. Fortunately, there are various conditions that can be manipulated so that cooperating becomes easier and associating more attractive. For instance, external agents may want to enlarge the opportunity and incentives to collaborate just as the program of *integradoras* intended to do using financial and fiscal incentives; they can help producers build their institutional arrangements as the private consultant did with farmers; they might choose to assist small rather than large groups or concentrate activities on small rather than large communities and markets, where trust might be easier to find due to personal knowledge, reputation and social pressure. In sum, from a policy perspective, a “building blocks approach” to cooperation might be helpful to a) identify critical areas of intervention to improve and consolidate cooperation in particular groups; b) target assistance to groups with greater probabilities of positive outcomes; and c) further ideas about how the emergence and success of associations can be promoted elsewhere.

In analyzing the experience of these three associations, I have focused on their cooperative processes and arrangements, that is, on their ideational forces. However, resources, technology and production systems, the materialist forces, have also played a role because it is precisely through them that ideational forces become concrete. Therefore, one could fairly argue that their prosperity is due to increased productivity, better technology, larger scale and so on. This is actually true, but none of these things would have appeared if producers had not been able to associate and cooperate successfully in the first place; and it is also true that they could have worked together around technologies or production systems which were not appropriate, and therefore they could have failed anyway. The analysis of these materialist forces falls out of the scope of this paper, and it might be interesting to study, for instance, how do these groups perform relative to other similar groups or private firms. But until then, I would borrow some Aristotle’s wisdom, to end this discussion by saying that “theory without practice is a nullity, but practice without theory is a barbarity”.

Finally, just to illustrate the potential associations and cooperative groups have for industrial restructuring, poverty alleviation and broad-based development, I refer to a proud fisherman who is actually El Rosario's local historian:

[Some people say] that Mexican *erizeros* don't know what we are doing, and yes, maybe some of us are not at a good level [of organization]... But then, why so many Mexicans visit Japan lately? Before the Japanese came and bought our sea urchin at the shore, as soon as we brought it down from the boat. But we, the fishing units, went gaining on them. Now we put the product on *their* tables, not them... If we didn't know what we were doing, then how we did it?... Why a fisherman that more or less reads and writes is doing international business without a tie? Because we *do* know what we are doing... because our fishing units from 89 to 95 have achieved what the coops couldn't since 39... The Japanese know that, they respect our fishing units and therefore they treat us well.

How they actually did it would indeed be an exciting area for future research.

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