PARTNERSHIPS, LEARNING AND ADAPTATION: THE CASE OF TOMÉ-AÇU MIXED AGRICULTURAL COOPERATIVE (CAMTA)\(^1\)

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1. Introduction

According to a Brazilian saying, the frog does not jump because it is beautiful, but to survive. Tomé-Açu Mixed Agricultural Cooperative (CAMTA) has implemented agro-forestry system (AFS) by necessity even before sustainability was added to international policy and research agendas.

CAMTA leaders encouraged the research for crops that might prosper in the tropical environment (Piekielek, 2010). Diversification was conducted on the agro-forestry systems, since the risk of monocultures in tropical environment became evident. Intercrop production of pepper and cocoa was the first alternative. Gradually, other crops were entered into the system. The current AFS combines different species such as fruit, forest, legumes and even medicinal plants (Lopes et. al., 2011).

This paradigm shift, however, was not the only one in the CAMTA’s history. Since the first wave of Japanese immigration came to Tomé-Açu, Para / Brazil, CAMTA was overcoming various crises, such as struggle against an unknown environment, poor developed infrastructure, and hard political constraints during the 2nd World War. Even under less stringent conditions several organizations would have disappeared.

Indeed, resilience is a trait stressed by almost all researchers that wrote about CAMTA. Like any other social phenomenon, the resilience of an organization is the result of many factors. Social capital (Piekielek, 2010), ethnic identity of the members (Silva Neto, 2007), external support, leadership, partnerships, and competence in management (Lopes et al., 2011) has been cited with frequency in the case of CAMTA. Equally important seems to be the ability of the organization takes advantage of luck (Barney, 1986, 1991). Indeed, CAMTA case study show us luck was a key factor in growth resumption ability in times of crisis.

This paper aims to discuss the resilience of CAMTA and its supporting social group. Three moments are highlighted in the paper: i) the arrival of Japanese immigrants in Brazil and their adaptation in a hostile environment to their culture; ii) the learning process with the introduction of agro-forestry production system; and iii) the imminent failure of the Cooperative in the 1980’s and its rebirth with cocoa production special.

The paper is structured as follow. In the first section, we introduce collective action subject, in order to illuminate the conditions that gave rise to the resilience of CAMTA throughout its history. This is the focus of interest of the second section of
2. A Look into Collective Action

Mancur Olson, in the book The Logic of Collective Action: Public Goods and the Theory of Groups (1965), argues that rational individuals, in the sense of self interested individuals, only act in a collective interest perspective if they receive some type of personal and exclusive incentive.

Having this in mind, once could consider that members of diffused groups, even having same interests, they should not chase a common objective, except if they were sufficiently motivated. Collective action does not follow the logic of self-interested agents. Generally, the benefits can be enjoyed by a free rider that does not incur in an individual cost of action and in the cost of the organization. Organizing a group takes effort, time and money.

Small groups; with a direct interest in the collective action tend to organize and chase their common objectives more easily. One of the reasons for this, besides intensity of the incentive, is the vigilance and the coercion that the small group exercises over the potential free riders.

Akerlof and Kranton (2000) incorporated the concept of identity in a general mode of behavior and sought to demonstrate with identity that is built socially influences in the results of economic activity. Depending on the case, identity can have a negative or positive influence on economic performance. The model assumes that (1) identity affects payoffs associated to individual actions; (2) the payoffs associated to the actions of others are also sensitive to the identity of the players; (3) payoffs can be persistently affected by third-party actions (such as in the advertisement of goods and services, for example); and (4) in some cases it is possible for the individual to select his own identity (for example, cheer for a certain football team), but in some cases this choice is not possible (gender and ethnic, for example).

Akerlof and Kranton employ the concept of identity and understood it simultaneously as self-image and as the categories in which society places the individual. For each category or group, there is set of prescription over the adequate behavior for different person in different situations or social contexts. The use perceived by the individual depends on the group to which he belongs, with his set of prescriptions, actions of the individual, and the actions of the rest of the individuals. In
the simplest case, the individual chooses his own actions in a manner to maximize his usefulness, given the group to which he belongs and given the conjectures about the behavior of the others, belonging or not to the group of the individual in question.

Having this in mind, it’s quite natural to associate the Japanese immigrants with a collective group with own identity and own interests. Point of view especially true when taken to the regions that were unpopulated and hostile to the food and social culture of the Japanese population. This was the case of Japanese immigration in Brazil at the beginning of the XX century.

On the one hand, Japanese immigrants brought strong ethnic identity and “social capital” which facilitated the maintenance of the community. On the other hand, they suffered the hardship of a strange and hostile environment. Situation aggravated by the loss of their civil (and possibly human) rights during the 2nd War. What is surprising is that the group was able to reborn few years latter even after a huge economic crisis in the 1980’s.

Next section is focus on that historical process, in a three-act structure: ‘Act one, the setup: Ostracism and identity strength in a hostile environment’; ‘Act two: The agro-forestry production’; and ‘Act three: From the bankruptcy to the rebirth’.

3. The Resilience of CAMTA and its Supporting Collective Group

3.1. Act one, the setup: Ostracism and identity strength in a hostile environment

The first registers of Japanese immigration in Brazil indicate the year 1908 with the arrival of the first ship bringing 780 immigrants. In the five years following, eight ships landed in the country, bringing more than 10 thousand Japanese immigrants. In 1920, the total of number of Japanese that lived in Brazil was about 24 thousand. It was in the 30’s however the largest contingent of immigrants came from Japan to Brazil. Almost 80 thousand Japanese immigrants arrived between 1931 and 1940 (Sakurai, Coelho, 2008).

In that period, more precisely in 1929, the first Japanese arrived in the city of Tomé-Açu, located in the Amazon region, see Figure 1. From 1929 until 1938, 21 trips (362 families, in a total of 2,014 people) arrived in Tomé-Açu.

At this time, Japan and Brazil have signed an agreement promoting what they believed to be an solution for both: Brazil was looking for people to exploit the region, while Japan was seeking opportunities to an excess of peasants which lived in precarious conditions in your country. ‘Nantakun’ – Japanese Company of Brazil’s
Plantation (Companhia Nipônica de Plantação do Brasil S/A) – took a decisive role in this immigration process.

The success of this agreement required from the Japanese immigrants deal with a context that they could not expected. In terms of economic issues, the huge difficulty was the non-definition of which cultures would be best adapted to the region conditions, having at the same time consumer market acceptance.

On the one hand, climate and soil conditions challenged Japanese accumulated knowledge in vegetables production that from the beginning Japanese introduced in the region (such as tomatoes, turnips, peppers, eggplant, and cucumber). In add, local consumer did not have the consuming habit of vegetables and precarious logistic impact quality of the products negatively. Nevertheless, Japanese unfamiliarity with both tropical perennial crops and monoculture system were determinant in the failure.

4 Besides all these difficulties, Japanese immigrants had the additional challenge of facing ‘malaria’. That time, this tropical disease culminated about four deaths per day. As a consequence the exodus for other Brazilian States was inevitable: about 25% of Japanese immigrants left the Amazon region.

Figure 1. Location of Tomé-Açu in the State of Para; and its location in Brazil. Note: Tomé-Açu is placed about 200km from the capital city of Para state (Belem). Source: Webcarta.net, and Wikipedia.
of investments on Amazon cultivars, i.e. cassava, sugar cane and cocoa. With time, vegetable became more frequent at the local tables changing the habit of consumption in the region. One of the implications of this was the introduction of the refrigerator aiming to increase the conservation of vegetable products. Even with the increase of sales, the price of the products sold was less than the expenses of the first needs of the immigrants (Tafner Jr., Silva, 2010). Bringing vegetable to be sold outside of the region was made more difficult by the distance and given how the produce was perishable, such that the community maintained itself with precarious subsistence. Despite this, it was easy to Japanese immigrants keep on vegetable production in a cooperative system – resulting in the foundation of a cooperative dedicated to it. This can be understood as the birth of came to be the CAMTA years later – which formally took place in 1949, as discussed in Section 3.2.

Between 1938 and 1942, the Brazilian government imposed severe restrictions on the activities of immigrants – when it was highlighted the presence of Japanese and Italians immigrants in Brazilian territory. It was prohibited to teach a foreign language. Immigrants were also disallowed to speak their native language in public. Meetings with more than five people were also denied – culminating in the dissolution of any kind of immigrants associations. The possession of radio receptors was controlled by Police authorities.

In 1941 – before Brazil declared war against Germany and its allies (Italy and Japan)\(^5\) –, the last ship from Japan (named as ‘Buenos Aires Maru’) landed in Santos port (the official entry of immigrants into the Brazil at that time). From 1942 the diplomatic relations between Brazil and Japan were suspended. Japanese immigration would only be taken up again in 1952.

Japanese and Italian families located at Sao Paulo city were removed from their residences\(^6\). Police from the feared DOPS – Department of Political and Social Order (Departamento de Ordem Política e Social) delivered eviction orders for “reasons of national security”, which were executed immediately. Japanese and Italian immigrants – and their descendents – were confined in concentration camps, such as one located in Santos.

\(^5\) What happened on 22 August 1942.

\(^6\) Since this time, a high concentration of both Japanese and Italians immigrants living in the city of São Paulo, respectively in two districts ‘Liberdade’ (‘Freedom’ in english), and ‘Bela Vista’ (‘Lovely View’).
In Tome-Acu the repression of Japanese immigrant was no different. In fact, a similar violation was followed in the Amazon region, where Japanese families were brought to concentration camps as well.

It’s worth noting that the ethnic identity is not exempt from conflicts. A dramatic case was the creation of a secret society\(^7\), *Shindo Renmei*, which arrived at having 200 thousand collaborators. Formed by immigrants who denied the defeat of the Japan in the war, the society promoted attempts against their own leaders – recognized as traitors.

### 3.2. Act two: The agro-forestry production system

In 1933, the plantation of pepper began and it was brought from Singapore. The version widely repeated is that, because of the death of an immigrant, the ship on its way to Brazil was forced to stop at Singapore where the captain of the ship acquired 20 seedlings of this spice. However, it was only in 1949 that the Cooperative began to have considerable returns from the culture of pepper, known as the “black diamond” of the Amazon. In that time, the members of the Cooperative decided to named it as Mixed Agricultural Cooperative of Tomé-Açu (CAMTA).

With the devastation of the pepper production in the countries where they had greater productions (Malaysia, Indonesia and India) the critical post-war phase was attenuated in the region of Tomé-Açu by the rise of the prices, up to at 2000%, Figure 2.

Beginning at the end of the 60’s, the Asian production of pepper showed signs of recovery, shooting down the prices on the international market. Furthermore, the plantations in the Amazon were invaded by a fungus called *fusarium*, decimating most the crop in the region. The sickness and the fall in prices of the commodity brought the end of the “black diamond”.

There were 18 years of an economic boom. The producers associated to the Cooperative realized a series of good deeds in the city. The installations and the storehouse of the Cooperative were constructed and the city prospered with the building of a school, hospital and other infrastructure. That the city was able to do this with their pepper exports is difficult to disassociate from the capacity to extract everything they can from this elementary product.

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\(^7\) Immigrants associations resisted in a clandestine way in Brazil during this conflict time.
Nonetheless, illness and 30 more years of experience, showed the Japanese immigrants and their descendents the burden of the monoculture system to the income of the producers and the health of the land.

From the 70’s, with the support of the Secretary of Agriculture of Para State the Program for the Cocoa Project (PIPC) was begun, revisiting the planting of this culture, in a diversified manner with system agro-forestry (SAF).

This system is based in the conservation of the soil and in the diversification of the cultures. The diversity of cultures allows both to mitigate the incidence of plagues or specific illness in a determinate culture; as well as to improve income for the producer.

From that point on the SAF was enlarged and new cultures were showing potential for development in the soil and climate conditions of the region. There was also financing by the International Cooperation Agency of Japan (JICA), in a project to restructure the pepper culture, encourage the planting of cocoa and strengthen the planting of other cultures, already aiming to diversify.

3.3. Act three: From the bankruptcy to the rebirth

During the decade of the 80’s, the growing of tropical fruits began to be introduced to this new system which highlighted cocoa, passion fruit, melon, papaya and medicinal plants (Lopes et. al., 2011). The plantation began to be led in consortium
system with cocoa, pepper, palm and forest essences, taking Tomé-açú to an outstanding position in the implantation of agro-forestry systems and with CMTA designating this is the agro-forestry system of Tomé Açú (SAFTA).

At a first moment, from 1982/1983 the diversification of rural production was directed at producing fruit juices through investments by CAMTA in a manufacturing plant using resources coming from Japan. At that time, the Cooperative created a nonprofit entity – Association for the Promotion of Agriculture in Tomé-Açu – to receive these resources that came from Japan International Cooperation Agency (JICA).

At the beginning, the manufacturing plant was leased to CAMTA. The objective of this manufacturing plant was to process passion fruit for the production of pulp. Few years later, the need to inject new resources for the expansion of manufacturing, allowing the processing of other products, the plant has been donated to CAMTA. However the plant was created without an economic viability study. The production of the members was less than the capacity of the plant; causing great idleness. After other fruits (açai, pineapple, acerola, etc.) they were aggregated bearing in mind the difficulty of the supply of passion fruit. Due that more resources were necessary and so CAMTA contracted debts.

From 1994 came the debacle. Besides offering a unfavorable exchange rate, the quotation for pepper continued low. But, even so, an extreme and not really recommended, decision was adopted, the Cooperative decided to sell the product to have cash flow and to buy raw material to make juices. They changed the inventory from pepper to pulp.

A little after the price of pepper exploded in the market and CAMTA had no way to pay the producers and even less the Banks. In 1997 the crisis was so large that for the first time in the history of CAMTA, they were thinking of dissolving the Cooperative.

At that time, a new team was at the head of CAMTA, with the challenge of reversing this situation and cleaning up the Cooperative. The team that took over had to adopt measure of austerity and reducing expenses to reverse the situation of the Cooperative. In two years, the results were already positive, when the audacity of the group that assumed CAMTA was rewarded by a case.
This because, on the one hand, the measure to combat inflation of the Federal Government was one of the catalysts of the crisis, and the other, the privatizations brought the solution.

For this it was necessary to return to the end of the 80’s, when the Japanese government, through JICA, decided to inject 3.5 million dollars in electricity and telephone for the Japanese community of Tomé-Açu. At that moment the Cooperative of Rural Electricity and Telephone of the Geo-economic region of Tomé-Açu, and CELPA – Electric Centers of Pará were informed that it was not permitted to install in third party networks. This being the case, and seeking to solve this question, the Cooperative decided to donate to CELPA the entire network. Nonetheless, the donation required a payment because CELPA received assets of a significant amount and needed to pay taxes to the State Government. This was an amount that CELPA did not have available. This impasse was only solved with a study that proposed that Electrical Centers of Pará emit stocks to the Cooperative of Rural Electricity and Telephone of the Geo-economic region of Tomé-Açu (COERTA), a Cooperative created and owned by CAMTA.

In 2000, with privatization, the companies that wanted to participate in the auction to acquire Celpa needed a determinate lot of stocks and the Cooperative was sought by many of those interested to buy CELPA. Taking advantage of this, CAMTA realized the auction and received 3.8 million dollars almost the entire amount invested in the Cooperative, which CAMTA could invest in expanding the factory. Part of this amount US$ 1,400,000.00 was destined to the increase and structuring of the juice factory of CAMTA.

Beginning then, the growing of the fruit began to present positive results. With the increase of the juice factory and the building of a cold chamber to maintain the stocked products, the fruit juices passed to be the flagship of the Cooperative. In its portfolio of products, açai is the product that sells the most of CAMTA, especially in the markets of Japan and the USA. In turn, cocoa represents the “safe port” of the members given the greater knowledge accumulated in the practices of the crop (introduced to the Cooperative in the 70’s), the durability of the plant and the adaptation to the climactic conditions.

During the most recent years CAMTA has shown great evolution in their agro-industry, of the billing amount, 26% comes from unprocessed products and 74% comes
from their activity of processing the fruit juices. The main products currently sold by CAMTA are: pepper, essential oils, fruit pulp and cocoa nuts.

3.3.1 Cocoa, agro-forestry and the sales agreement with Meiji

Smallholders harvest more than 90% of the global cocoa production. Harvesting, fermenting, and drying the beans, maintaining the farm, it’s all hard manual labor (Hütz-Adams, Fountain, 2012).

According to the data from the Food and Agriculture Organization (FAO), in 2011, global production was about 4,608 tons of cocoa. Contributing to that, in the last decade four countries of Western Africa (Ivory Coast, Ghana, Indonesia, Nigeria and Cameroons) respond for about 80% of the world production of cocoa.

The Ivory Coast is historically the 1st one in world ranking, contributing to the expression of the African continent in the offer of the commodity. Ghana and Indonesia presented a significant jump from the year 2000, since they began to dispute the 2nd position in the world ranking. Nigeria followed in the 4th place, while Cameroons, which presented another jump on production, taking the 5th places after Brazil, in the 6th position (Table 1).

Brazil has already been the world leader with peak production in 1989, when the country registered 390 thousand tons. The 90’s, nonetheless, marked the dissemination of the “witch’s broom” (“vassoura de buxa”) fungus that decimated cocoa activity in Brazil. The year 2002 was most critical time for the crisis, when Brazilian production was less than 200 thousand tons. From then until now, Brazil has been giving signs of recuperation, but still far from the contribution of the top 4 (Ivory Coast, Ghana, Indonesia, Nigeria) or even the jump in production obtained by Cameroons.

Historically, the production of cocoa in Brazil is concentrated in the south of Bahia. But, other Amazon states especially Para has been challenging this tradition. In fact, the participation of Bahia in the national production of cocoa has been decreasing during the last few years, while other Amazon states, including Para have been tending to increase. In 1990, Bahia and Para responded for 83% and 8% of the total of Brazilian production respectively, going from 69% and 17% in 2004 (Gomes et al, 2008) and to 62.3% and 25.7% in 2011 (Mendes, 2013). Such fact indicates a new geographic in the production, with a certain displacement in the traditional axis (south of Bahia) towards the Amazon region (especially to the state of Pará) (Gomes et al, 2008).
Helping to tell part of this story, CAMTA produces in 2013, 600 thousand tons of cocoa, something like about .05% of the Brazilian production expected for this year.

**Table 1.** Top 5 + Brazil: Annual yield of cocoa.

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</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>205.00</td>
<td>6.89</td>
<td>174.80</td>
<td>5.26%</td>
<td>208.62</td>
<td>5.16%</td>
<td>202.03</td>
<td>4.77%</td>
<td>248.52</td>
<td>5.39%</td>
</tr>
<tr>
<td>Cameroon</td>
<td>116.00</td>
<td></td>
<td>125.00</td>
<td></td>
<td>140.00</td>
<td></td>
<td>229.20</td>
<td></td>
<td>272.00</td>
<td></td>
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<tr>
<td>Ivory Coast</td>
<td>1,163.03</td>
<td>77.5%</td>
<td>1,264.7</td>
<td>81.65%</td>
<td>1,286.3</td>
<td>82.99%</td>
<td>1,382.4</td>
<td>81.69%</td>
<td>1,559.4</td>
<td>79.07%</td>
</tr>
<tr>
<td>Ghana</td>
<td>434.20</td>
<td>3.0%</td>
<td>340.56</td>
<td>3.0%</td>
<td>740.00</td>
<td>4.0%</td>
<td>680.78</td>
<td>3.0%</td>
<td>700.02</td>
<td>4.0%</td>
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<tr>
<td>Indonesia</td>
<td>367.48</td>
<td></td>
<td>619.19</td>
<td></td>
<td>748.83</td>
<td></td>
<td>803.59</td>
<td></td>
<td>712.20</td>
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<tr>
<td>Nigeria</td>
<td>225.00</td>
<td></td>
<td>362.00</td>
<td></td>
<td>441.00</td>
<td></td>
<td>367.02</td>
<td></td>
<td>400.00</td>
<td></td>
</tr>
<tr>
<td>World</td>
<td>2,973.89</td>
<td></td>
<td>3,320.68</td>
<td></td>
<td>4,044.23</td>
<td></td>
<td>4,239.35</td>
<td></td>
<td>4,608.12</td>
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Source: Constructed based on data made available by FAO.

Since 2009, CAMTA has a sales partnership with Meiji Seika of Japan, one of the biggest companies in the food sector of the country.

The initiative to sell cocoa to Meiji was motivated by the niche in the market of fine cocoa, in which there is a better remuneration in rural production. The market distinguishes between bulk cocoa and fine flavor cocoa. The latter has a preferred flavor or other characteristics, and often receives a premium price. Fine cocoa makes up just 5% of the world’s cocoa production (HüTz-Adams, Fountain, 2008).

Environmental sustainability is a necessary but not sufficient condition to produce high quality raw cocoa beans. Indeed, Meiji’s R&D staff considered more than 20 countries searching for a cocoa bean able to fit the chocolate to the taste of the consumer in Japan.

Through one of these partners CAMTA arrived at Meiji. The distributor of the Cooperative in Japan, who sells the Amazon fruit pulp to one of the subsidiaries of Meiji, took a sample of cocoa to the Japanese company. Interest for the product came, not knowing of the production of cocoa in the Amazon, and that it was produced by the descendents of Japanese immigrants. Until then, Meiji used cocoa in the production of its chocolate that came exclusively from Ghana with about 20 thousand tons of cocoa/year.

Initially the relationship between CAMTA and Meiji had confronted problems in function of the quality of the beans supply (especially in terms of the fermentation).
This fact appeared in the first, outside of the required standards. The only exit was long-term investments, on both parts, Meiji and CAMTA in the generation and dissemination of knowledge.

Meiji sent researchers to Brazil who began to develop good practices work of fermentation together with the producers. Two years (2009 / 2011) of investments in research and extension were necessary for the cocoa to achieve the quality desires in terms of the fermentation of the nuts.

CAMTA, in turn, gave an area for production of cocoa and infrastructure to conduct fermentation tests. Furthermore, the Cooperative, through its board of directors, had a decisive role in the involvement and engagement of the producers to the new practices. One of the directors of CAMTA, the current Agriculture Secretary from the City of Tomé-Açu and an important producer of cocoa in the region, for example, supplied the raw material, infrastructure and labor for the research.

The first fruits were already harvested in 2010, when the variety of cocoa produced by the Cooperative (type C-27) was awarded the International Cocoa Award, Excellence in France, elevating the cocoa from CAMTA to one of the best in the world.

Encouraged with the results of this partnership, which does not count on public investments, Meiji launched a specific line of chocolates under the Agro-forestry System of CAMTA.

In terms of volume, the main client of the Cooperative is the Miller Delfi Cocoa Brasil Ltda, absorbing 61% of the CAMTA production. But, the volume destined to Meiji is increasing. Contractually, the agreement stipulates 150 tons/year for 10 years, with a possibility for Cooperative variations, without the imposition of penalties in the case of not meeting the volume.

The first lot, in 2009, was 100 tons. In 2010, 150 tons were transacted with Meiji, representing approximately 24% of the production of CAMTA. In 2012, Meiji Seika went through a fusion process with another Japanese giant, Nyugyo. This fusion formed the biggest food company in Japan. With the fusion, the signed agreement between Meiji and CAMTA did not suffer any modifications.

The optimism relative to Meiji brings the board of directors of the Cooperative to ambitious forecasts: 300 tons/year of cocoa to be exported to Japan.

CAMTA buys the cocoa of all the members. In the delivery of all the cocoa, the Cooperative does the classification. The product that does not meet the quality
standards stays in the internal market. There is a 30% surcharge to Meiji. There is no extra charge to produce quality (more care with the product).

At first, the members should deliver all of the production to CAMTA. But, the Cooperative makes this restriction more flexible seeing the need of some producers to receive earlier. There are many cocoa buyers in the region. At the Cooperative, the members receive after the product is sold. In the case of selling for Meiji, payment is made before the product arrives in Japan. Even so, the member producer only receives 1 or 2 weeks after the sale.

4. Theoretical Background
A deficient supply of public and collective assets in Tomé-Açu region has constituted an incentive for the organization of the Association that preceded CAMTA. The small number of families involved should have facilitated the organization, as well as the unfamiliarity with the group about the new environment in which the Japanese immigrants were installed.

According to Piekielek (2010), there existed in Japan a strong cooperative tradition and, within this culture, the Japanese immigrants have spread in Brazil agricultural cooperatives as a form of better adapting to a new social and economic environment. The success of these cooperatives have reinforced the important role that these kinds of organizations can assume in rural development and to reduce the inequality of income in Brazil.

Among the underlying factors of CAMTA, Piekielek (2010) points to the development of knowledge and of specific productive systems for the Amazon environment, the capacity to attract internal and external investments, ethnic identity, which is a strong source of unity for the group, and the presence of a democratic style of leadership.

The ethnic identity of the members of CAMTA incorporates incompatible values with the free rider behavior. Contrary to the mountaineering cited by Akerlof and Kranton (2000), for whom confronting discomfort and extreme dangers strengthen his sense of identity, his ego, the self-image of the free rider would be diminished in the community of immigrants, where the families support one-another. If the identity of the group were defined by the opposition to the natives, then the subsistence of the organization in time would be corrupted, to the degree that ethnic identity weakens by the integration with the wider society.
Ethnic identity can work as instruments of screening of individual characteristics, such as moral risk and, in this way, reduce the costs of the transaction. Transacting with members of the group could cost less than transacting with outsiders.

It is very probable that ethnic identity and the historical ties have favored the external investments and the establishment of commercial partnerships with Japanese companies. On the other hand, CAMTA members was capable of responding to the demands of their foreign partners, modifying established productive practices, in such a way so as to satisfy a standard of quality which was new for the Cooperative.

Nonetheless, ethnic identity might not be enough for the permanence of the group. On this topic, one can consider the example ‘Vila Amazonia’ a small place located at Parintins region at Para State (see Figure 1). Different from Tomé-Açu, ‘Vila Amazonia’ was dissolved after Brazil entered in the 2nd World War.

Following the wave of immigration in the Tomé-Açu region, the first immigrants arrived to the region of Parintins in the middle of the 1930’s. There were 35 young people with technical formation in agriculture and three agronomists graduated from the University of Agronomy of Tokyo. The main economic activity was the cultivation of jute, which was brought over from Indonesia. After some years of working with genetic improvement of jute, aiming to adapt to the new environment, the crop proved to be viable and giving margin in 1935 to the creation of the ‘Amazonense Industrial Company’, financed with resources from Japanese companies, among them Mitsui, Sumitomo and Mitsubishi.

Two jute weaving machines were built in Manaus. The income from the activity allowed for the completion of the urban infrastructure and the assets collected in the community, including a school, temple, warehouses and a hospital, where several doctors from Japan came to work. Other than jute they had also cultivated gardens and fruits. In 1946, however, the assets of ‘Vila Amazonica’ wet to auction as the spoils of war and the Amazonese Industrial Company was sold to the company J.G. Araújo.

The community of Tomé Açu, possibly because of the number of immigrants, was able to remain cohesive during 2nd World War. Apparently there occurred, in the case of CAMTA, a co-evolution of an identity of group and resources notably human capital. Values reinforced by the group implicated in favorable attitudes to the fulfillment of expectations of the partners.

The economic success of the partner, just as in other collective actions undertaken throughout the history of the Japanese and the descendents from Para,
contributed to reinforce the group bonds. Is it possible to imagine a scenario where a group of immigrants lost their original identity, dissolving into the society of the surroundings?

Relative to the adhesion to the CAMTA agro-forestry technology, it is worth noting that this type of practice intensive in work and based on the interactions among different species of the eco-system is compatible with the technological trajectory developed in Japan, according to Hayami and Ruttan (1971). These authors studied the history of agricultural modernization in the United States and Japan. In the United States, the abundance of land and the scarcity of work induced the development of agricultural technologies that economized the land, that is, it had as an effect an increase of the productivity of the land and intensified the use of it as well. In Japan, in a opposite direction, the agricultural technologies developed were economizers of the land, that is, they had the effect of increasing the productivity of the land, and intensify in work. In the United States, the automation and defensive agriculture, economizer of work, concentrate the efforts in agro-livestock research. In Japan, they were innovations of a biological nature and of the chemicals of fertilization of the soil, which allowed for the increase in production per unit of area.

The crucial point of the model of innovations induced by Hayami and Ruttan (1971) is the transmission of the market signals to the system of agro-livestock research. The scarcity of factors and input is reflected in the market prices that affect the rural producer. The problem is how a producer will signal to the research system its demand doe technology that economizes factors that are scarce, that is reduces the cost. The model of the Japanese colonization of Tomé-Açu resolved this problem without depending on the signs of the factors of the market, being that the original group counted on the people that knew how to do the agro-livestock research necessary for the integration of the community to the global markets of commodities.

The capacity to adapt to the agro-forestry system and the demands of partners obtained with the development of cocoa can be repeated. There have already been species introduced with the proposition of extracting vegetal oils. The oils extracted currently are centered in nut oils, passion flower seeds and nuts from *cupuaçu*, the productions of which are sold wholly by a very important company in Brazil (Natura). New prospects are being realized aiming for a future extraction of açai oil.

The ability to obtain resources through social networks and other social structures is the very definition of social capital (Portes and Mooney, 2003: 308). The
sources of human capital are introjection of values shared by the community, bounded or conditional solidarity, reciprocity and enforceable trust. The consequences are norms of observance and social control, family support, network mediated benefits, and sometimes closure of economic opportunities to outsiders and restrictions of individual freedoms.

Economic and sociological literature provide examples in which social capital supported by ethnic identity resulted in sustainable economic performance above the mean, as the abundantly studied case of flexible production in the industrial Emilia-Romagna and the colonies of farmers in southern Brazil.

The story that the resources obtained by CAMTA had come through networks or other social structures was decisive for the recuperation of the organization after successive crises. In fact, even the immigration and the fixation of the colony in Tomé-Açu was the result of the interaction of different organizations, involving the governments of Brazil and of Japan, Japanese corporations and organizations of the very immigrants.

If there were strong connections with the country of origin, on a community level, it is certain that this predominated relative to the geographic isolations in relation to individual mobility. In the opinion of Shujui Tsonoda, president of the Cultural Association of Tomé-Açu, “the community worked out well because it was here for sixty years and remained very united.” Shigenori Moritomo, a retired teacher, then with 60 years of age, sent especially by the Ministry of Education of Japan for a two-year term to the countryside of Para, and was surprised “how this community maintained united in such an isolated place. I found habits and customs here that don’t even exist in Japan anymore” (Paul, 1993).

5. Final Remarks

At the same time that we recorded our awe, we try to understand the conditions that gave rise to the resilience of CAMTA. As Phoenix, it seems to reemerge strengthened from severe crises. One of the main factors underlying the survival of the Cooperative is the ability to establish partnerships that strengthened over time.

The partnership benefits depend on the capabilities of the Cooperative which help to achieve the standards required by Meiji.

The strategy of economic sustainability CAMTA is based on diversification of sources of income and adding value to agricultural products. Regarding cocoa, a major
component of AFS adopted in the region, the partnership for the supply of cocoa beans for the Meiji Co. Ltd. seems promising. Meiji, a leading manufacturer of confectionery and dairy products in Japan, launched in 2011 a chocolate bar called “Agro-forestry Chocolate”. The package states that it uses only cocoa beans from Tome-Acu in Brazil and names the farm where the beans were grown (Goto; Tsukushima, 2012).

Environmental sustainability is a necessary but not sufficient condition to produce high quality raw cocoa beans. Meiji’s R&D staff considered more than 20 countries searching for a cocoa bean able to fit the chocolate to Japanese consumer’s taste. At the end of the search, Meiji entered in a five years contract with CAMTA to ensure a steady supply of quality cocoa beans.

Local producers had to learn and adopt new methods of fermentation and drying the beans. As a reward, farmers receive higher prices for cocoa beans produced according to the required standard. Meiji purchases approximately 100 tons of beans annually, about 1% of its overall intake.

Comparative advantages associated with the environment are important, but the competitive advantages built over the history of the organization are crucial. The development of management techniques to deal with the complex agroforestry systems was an achievement without which the partnership could not be established. Before that, the community had to abandon the monoculture paradigm.

After changing completely, it is easy to see the path. But it is not hard to imagine that it took a lot of effort, a lot of trial and error, a lot of flexibility to find solutions. It is hoped that a careful analysis of the recent construction of partnerships CAMTA to the flow of production of cocoa beans which shows and how the processes of learning and adapting of the work of the agents involved.

References


