Recent Changes in Economic Conditions Among Maya Descendants in Mexico

By
Jorge Salazar-Carrillo*

Introduction

It is a well known conjecture that the Maya Indians in Southern Mexico and Northern Central America had achieved considerable cultural and scientific advances during the early centuries of the Christian period, culminating in a classical height between 700 to 800 A.D. Then for several ecological and warring conditions they declined in practically every aspect before the Spanish invasion in the early 1500s. From then onwards, they retreated to the jungles and mountains of these territories, where they formerly held sway, to avoid being exploited by the Spaniards in their latifundia, through the system of encomiendas[1]. A minority inter-mingled with the Spaniards, and later the Creoles, to become part of the Latin American mestizo population.

In the early 1970s, prodded by the almost quadrupling of the price of oil, the governments of Mexico and Guatemala began to explore for oil deposits. The former were more successful, and concentrated their search for oil deposits in the states of Campeche, Tabasco, and Chiapas. They had unavoidably to come in contact with the Maya descendants in these states, and in order to provide for their acculturation into the Mexican society, which coincided with the searching of petroleum in these lands, they began to provide and encourage for the establishment of villages in the region, generally called rancherías. Thus, these previously dispersed Indian populations began their concentration, and their participation in the socio-political process in the country, with the government beginning to offer them first health, and then educational services. Their economic activity revolved about the long-standing institution of the ejido, in which all farming and ranching activities are undertaken in communality, a system officially established with the agrarian reform brought to the fore by the Mexican Revolution of the 1910s and 1920s, but that was also well in tune with traditional Indian systems.

Within this broad spectrum, this paper will concentrate on the impact that the modernization of these areas of Southwest Mexico, has had among certain particular descendants of the Mayas in the border area of Tabasco and Chiapas. These are the Chol Maya, which speak the chol language, and had kept it, together with their traditions, well into the 1970s. Before then they lived within their ejidos, but

---

* Professor of Economics, Florida International University.

[1] On these matters see, Lesley Byrd Simpson, The Encomienda In New Spain: the Beginning of Spanish Mexico, University of California Press, 1950.

living in families quite apart from each other. They economically constituted self-subsistence economic units, living out of domesticated plants which originated in the Americas centuries ago: corn (maize), beans, chocolate, squash, and "chaya" (a variant of spinach). Their edible domesticated animals were chicken, pigs, and turkeys. Of course they also were nourished by wild edible plants, as well as game. When country roads and village centers were built by the government, they began to build their huts about a central park and church. Key to the attraction were the health dispensaries, and distance learning educational services, which were placed in the most populated towns, but near other centers where the dispersed population was beginning to concentrate. All of the above, as could be imagined, brought Christian missionaries. And here is where our story begins.

II Brief History

At the end of the 1960s, just before the sizable oil and gas discoveries in Chiapas and Tabasco, Sor Tania Ascanio, a Cuban nun of the Sacred Heart of Jesus Order, which had to depart its schools in Cuba, closed by Castro communism, for a house nuns had based in Philadelphia, established Catholic Missions in the rancherías bordering these two states. In 1970 she encouraged Piarist Father Mario Vizcaino, also a Cuban that had suffered a similar fate, then tied to his order's, high school in nearby Devon, Pennsylvania, to travel to Southeast Mexico that Summer to spend a few weeks in the Mission. That same year the Latin Piarist Missions were founded. Out of the more than 60 rancherías, a few were visited each Summer, by teams of more than 30 individuals, most of them high school and college students, led by priests of the Piarist Order. The writer and his family have been involved in these efforts since the beginning.

The peculiarity of these Missions is that their principal goal is the social and economic betterment of these communities. Health and hygiene were at the forefront during the 1970s and early 1980s, when the Mexican federal, state, and municipal governments were slow in providing such services. At the time health was mostly in the hands of "curanderos" (most recently called shamans), which combined religious rites, with down-to-earth healing measures. By the mid-1980s the governments had established dispensaries in some of these rancherías, and the public health services offered by the various missionary teams waned over time. The apex of the medical services was probably reached by the work in many of these small towns (300 to 400 inhabitants per ranchería being the norm) sponsored by the Diocese of Rochester and the German Catholic Foundation, in support of the Pianist Fathers, in which both a permanent and a traveling infirmary was established in Macuspana,

the head town of the region.[2] The San Isidro Parish in the city was the principal counterpart of the missionary activities just described, backed up by the Diocese of Tabasco, and its Bishop in the capital city of Villahermosa.[3]

But right from the start the emphasis was as well on business and economic matters. The Missions, which were backstopped by a multi-disclipinary team, believed that the little villages could break their subsistence economic backstop, and improve their standards of living by using the surplus ejido lands to raise cattle. This would not only strengthen their protein diet, but most importantly provide a much needed dairy supplement. They could establish trade links with other rancherías, and eventually with the (relatively) large market of Macuspana. It was a gambit predicated on the ideas, at that time incipient of microfinance, and based on lending rather than giving.[4]

III Economic Conditions in the 1970's

In the economic progression that has been described above, emphasis has been placed on health, production and transportation. The latter has to be explained a little further. The only way in which the missionaries could reach these communities at the beginning was by single engine planes landing in flat grassy areas. Later on by partly walking through a jungle, occasionally with the older missionaries riding in a couple of horses. Sickness and accidents of all kinds were locally confronted by leaders trained in traditional mores passed on from previous generations, and Mission physicians which increasingly passed on their knowledge to the Indians. Serious cases had to be taken by rudimentary means to the nearest city (Macuspana).

Thus, the building of roads, and the establishment of health dispensaries, were major steps in the socio-economic development of these villages, and at the same time allowed the missions to become more helpful. Since the ejidos were receptive, and eventually became involved in political

[2] This city is twin to the one established by Petroleos Mexicanos (PEMEX) to supervise their activities in the region, and named Ciudad Pemex.

[3] For further information see Jorge E. Salazar, "Ethnomedicine of the Chontal Maya in the Mountainous Region in the State of Tabasco, Mexico", Dialogue #52, Occasional Paper Series, Dialogues, Latin American and Caribbean Center, Florida International University. The Preface of the Paper was authored by Mark B. Rosenberg, now the President of the University. Apart from his practice, Dr. Salazar is now Assistant Professor of Medicine at the University of Central Florida. More details can be found in the Bachelor's thesis under the same title filed at Hampshire College, Amherst, Mass., 1983.

[4] At the time the ideas of Peter Bauer were beginning to be digested. See his Reality and Rhetoric, Studies in the Economics of Development, London: Weidenfeld and Nicholson, 1984. Hollis Chenery and others were harping on trade rather than aid, an idea which gained practical support when he became Vice-President of the World Bank. Most recently this controversy returned to the limelight with the book Dead Aid, written by Dambisa Moyo, and published by Allen Lane in 2009.

activity, they could begin to parlay their voting power to obtain favors, in return for their support of the candidates of the Partido Revolucionario Institucional (PRI), which had dominated the scene since the late 1920s. As a result primary schools were built, and the children began their primary schooling at the different rancherías, rather than having to walk for miles to distant ones in the important villages.

Concurrently the Piarist Latin Missions began the experiment of cattle ranching in these communities. Contributions by sympathizers in the United States were enough to purchase 20 heads of cattle from local ranchers, and lend them to a couple of rancherías (ten each). A stroke of luck (or divine intervention) took place when a sizable and rich quarry was discovered in the purview of the Indian villages, which fostered further transportation developments. One ejido was partially sold to the cement company which was to exploit these resources, a large transnational company (the second largest in the World) based in Switzerland, and presently named Holcim. Father Mario Vizcaino met with the Swiss President of the Cement Company and conviced him of his responsibilities with the indigenous people and communities surrounding the APASCO plant he had established. They agreed on fostering the development of cattle ranching in the rancherías through the financing of a research and extension experimental station within the firm's building compound, with the name of CEDEPLAR (Centro de Desarrollo y Planificacíon Rural).

One of the villages that was lent ten heads of cattle, Chivalito Segundo by name, promptly organized a cooperative with just over 20 heads of families, which were appropriately named, "La Roca y el Becerro". The first word alluding to the New Testament statement in which Christ calls Peter the rock upon which he was to found his church. The second referring to the calf that was expected from the first breeding of cattle that they would undertake. The Cooperative found itself ready to repay the loan just under three years after receiving the ten cows, greatly aided by the technological assistance received from CEDEPLAR. Very soon the cattle stock of the Cooperative multiplied to the point that by the middle 1990s it had reached a herd of over 600 heads. The milk that they were producing exceeded the need of the Chivalito Segundo, and began to be sold to wholesalers who transported it to Macuspana from the milking barn in the ranchería.[5]

The governmental institutions, flush with petroleum taxes which, including indirect taxes on the sale of products reached 60% of federal revenues, expanded its support of the rancherías. A full-time year-round physician was assigned to the key dispensaries in the better organized and strategically

[5] It should be noted that a few other successful rancherías were supplying their excess milk to the Chivalito Segundo barn, for its marketing to the same wholesalers. Yet not all villages were successful, in some cases not even repaying the loans in specie, usually when the community leaders could not continue their work due to death or outmigration. The example of "La Roca y el Becerro" represented the ideal outcome.

located communities. In the same localities junior high schools were built and manned, with ties to central-city-based locations through television linkages. And loans were provided to the cooperatives through different windows at the Banco de Mexico, and other public and private sources of subsidized loans, to support an increase in production and productivity in the rural economy. The Southeast represented not only a major share of oil and gas supplies in Mexico, but in this respect, constituted its most rapidly expanding region. At the time the financial world had become flush with resources as a result of the creation of the Eurodollar market, the result of the interest-rate equalization and other regulatory measures levied by the United States in the early 1970s, following the U.S. getting off gold, and its currency being allowed to float. Thus, banking and finance became internationalized, and on the back of the enormous deficits of the U.S. to fight the Vietnam War, they were eager to lend to countries like Mexico, in ways never experienced before. Responding to the opportunities presented to the Chol Maya Villages in Tabasco and Chiapas, the Piarist missionaries widened the scope of their technical assistance, by bringing to the Missions other professionals, like architects, economists, engineers, public relations and infrastructure, specialists, businessmen and government functionaries. Slowly but surely roads were expanded and improved; mostly by the government, but also in collaboration with APASCO, which was located in the confines of the Buenavista ranchería, and which began to be served by a railroad, with its appropriate sidings.

IV Changes in the decade of the Eighties

This decade was the one of crisis and stagnation. The overextension of lending and borrowing in the 1970s, particularly towards the end of the decade, ushered the depressive face of the cycle. This was to be expected from the previous exhilaration. It must be succinctly remembered that Clément Juglar, one of the key figures in the early study of business cycles, had stated that "the only cause of depression is…prosperity." In October 1982, Mexico, through its finance minister Jesus Silva Herzog, announced in New York City that its country was unable to comply with its external debt obligations. Latin America's most recent debt crisis had begun, and in terms of growth, the lost decade ensued. The country nationalized all its private banks, amidst a major crisis involving high inflation, substantial devaluation and a deep recession.

Yet the rancherías continued their progress, just at a slower pace, adding cows, selling milk, trading bulls, and occasionally slaughtering one for meat. The only major accomplishment of the period was the continued improvements in the herds, particularly at Chivalito Segundo, due to the technical

expertise development by CEDEPLAR in artificial insemination, and development of appropriate pastures. Minor extensions in the road networks should also be noted.

On the regional minus side, the appearance of guerillas in Central and Northern Chiapas, as well as in Southern Tabasco, along the border, where the Chol Maya population is heavily concentrated, brought some problems to the Missions. In order to quell the guerillas, the Mexican military sent troops, and began to control passage along the formal and informal byways. Anything suspicious was subject to interdiction, and priests dressed as common folks (as is prescribed by the laws of Mexico), and missionaries using garbs which were unusual in the region, were detained on occasion. Since the Piarists did not want to expose their volunteers, particularly the younger ones, to such travails, they began to restrict their numbers, which meant that only religious and adult professionals continued tending the rancherías, with the summer stays restricted to a week or two, rather than a month, with a weekly visit of a select team in December. It was rather surprising that under these ominous conditions the cooperatives continued to expand, and branch into other economic activities, like the planting of mango groves for commercialization.

Progress in the 1990s

The weighty sovereign debt of Mexico was partially pardoned, early in the decade of the nineties, and partly rescheduled into the coming decades, with only the interest due in the short and medium term. The Mexicans Brady bonds that were exchanged for the regular debt were floated in the capital markets of the world, unburdening the private commercial banks, which were located in the New York money center, as well as in the rest of the Eurodollar market. The country followed with radical measures that liberalized the economy, including the reprivatization of the commercial banks; the privatization of many public assets; the opening of its foreign trade to the new rules of the GATT (General Agreement of Tariffs and Trade), which was transforming itself into the World Trade Organization (WTO); and the dismantling of the traditional protectionist apparatus of tariff and non-tariff barriers. In addition, many public companies were privatized, with the proceeds generating capital resources for the government, and subsidies of governmental companies were eliminated or pared. The backing of the Western countries to such moves, opened the door for Mexico to become a member of the OECD (Organization for Economic Cooperation and Development). Just a few years later, the North American Free Trade Agreement (NAFTA) was signed by the American, Canadian and Mexican governments, hat would increasingly open the external sectors of these countries to exports and imports from each other, as well as to unrestricted capital flows among themselves. On the negative

side excessive government spending, financed by foreign lending, led to another meltdown in the country, termed the Tequila Crisis (1994-1995), which needed enormous foreign borrowing and substantial interventions by the Banco de Mexico, together with the reform of its banking and financial systems, and spread to other Latin American countries particularly the Southern Cone of South America. The U.S. government and the IMF had to make over $50 billion available to Mexico, as a short-term backstop to its tough financial measures.

Back in the region belonging to the Maya descendants things were changing as well. The government of Mexico had continued to expand its services in health and education to the area. Lending through FIRREA and FONAES, government sponsored funds in the public financial system devoted to support rural development, in addition to the states and municipalities in the region, had made substantial improvements in cattle ranching possible. In Chivalito Segundo, which constituted an example of how to accomplish things around the rancherías, the herd was rapidly reproducing, and productivity in the production of milk became high enough, that Nestle began to purchase some milk from La Roca y el Becerro. However, grazing and milking represented hard work. Practically every day the cows had to be milked for close to eight hours early in the morning. Although the crews shifted, so that only one third of the members had to be present for those chores in a given day. Yet other responsibilities abounded, some of which involved construction work, administrative duties and social activities. This ended up being too much of a burden for some. As a result, a couple of members broke off from the cooperative, and were allowed to recapture their investment in terms of cattle, adjusted by the debt burden that they left behind for the rest of their companions.

But greater novelties were in store. The first to come was literally a shining moment; the arrival of electricity. This was basically provided to the central square that characterizes the urbanistic plan of almost every typical Latin American small urban entity. This included the central park, government and cooperative offices, the health center, the school, the Church, and the houses within the purview of that area. Later on the possibility of strengthening dairy farming by acquiring a mechanized facility for milking the cows, and for providing pumped water to the herd. This was a significant new tack for strengthening the whole economy of Chivalito Segundo, which had suffered a setback in commercializing its production of mangoes.[6] This whetted the appetite of Nestle, which began to

[6] It should be stressed that not all villagers in Chivalito Segundo were member of the cooperative, at the height of its activities. Even the members' parents and male adult off-spring were not, although some of them, especially the latter, had chores to do at the cooperative for which they were compensated, and sometimes were designated by their fathers as subrogates in certain activities. Yet there were other families in Chivalito Segundo, some of them widows and orphans, that did not belong, although they were provided aid by La Roca y el Becerro. About

purchase not only the milk of the cooperative, but that produced in neighboring villages, and transported very early in the morning to the milking plant, where they were wholesaled in unison.

The State University of Tabasco, with UJAT as its acronym, meaning Universidad Juárez Autónoma de Tabasco, became interested in these economic conditions, when the author contacted them, while teaching there as part of the agreement it had with Florida International University. The cooperative needed accounting and computer support, and that was provided by UJAT, which donated a couple of computers and provided technical assistance. Its top echelons, the previous Rector Candita Jimenez Gil, and the Administrative Vicepresident, Jose Manuel Piña Gutiérrez (now Rector), have traveled to Chivalito Segundo, with the latter going many times, and becoming the linchpin in the succeeding development of the cooperative and the village. When tumultuous times were being experienced at the national level, with the Mexican Constitution having been reformed to allow for the sale of ejido lands to private farmers and investors, this support was crucial.

Things were not standing still at the village in the meantime. In order to stem its rural to urban migration, which was still light but growing, the young lads from the community borrowed a page from La Roca y el Becerro, and organized a chicken cooperative by the name of ESMUKI. They used the old concrete mango shed, and refurbished it for breeding chickens from hatched eggs, and selling them to purveyors in nearby towns, workers in Apasco and the city of Macuspana. The young men ranged from teenagers to those in their low twenties. They mostly were the older and middle children of the members of the cattle cooperative. The latter lent them money and provided expertise. But the spirit and circumstances proved different. The young men were not all willing to put the stamina and long hours needed to withstand the stench, manual labor and setbacks that now and then ensued. There were discontents that felt that efforts and rewards were not justly allotted. The number of helping hands declined, and slowly the cooperative disintegrated.

The New Millenium

The year 2000 brought a momentous change to Mexico. After more than 70 years of dominance, the Partido Revolucionario Institucional (PRI) lost a presidential election to the loyal opposition, the Partido de Acción Nacional (PAN). However the PRI still had the largest share in the legislative branch of government, and was able to block a good part of the political platform of the "panistas." And in the Southeast of Mexico, the poorest area of the country were Tabasco and Chiapas are located, the PRI

---

20 percent of the males in the village were not in the lineage of the members of the cooperative, and were frequently hired by it as day laborers. Their families were usually poorer, and farmed their plots of land in the ejido, and/or sold their labor in Macuspana or neighboring villages.

kept its dominance. Yet a new party, which harbored dissidents from the once dominant one, began to seriously contend there (the Partido Revolucionario Democrático or PRD).

By now Tabasco had become the center of the activities of PEMEX outside of Mexico City. The central offices for exploration and exploitation of oil and gas was located in the capital city of Villahermosa, not much more them one hour by road transport to the rancherías. Ciudad Pemex was the place where workers were headquartered, and from where the crews involved in the exploration for and production of the hydrocarbons originated. It was the twin city of Macuspana, and thus less than a half hour from the nearest Indian villages. Complementary to all this, the cement producer APASCO had continued its improvement and extension of roads to facilitate its workers' transportation, and in addition railroad tracks next to its operations, linked it to the rest of Mexico, and the U.S.A., in addition to Central America. Tourism was also growing in the area and paved federal and state roads increasingly traversed it. As a result the rancherías could now count with bus service (meager as it was) and even taxis. The cooperative by then had a couple of pick-up trucks, which also served the community.

The Sierra (mountainous) region of Tabasco bordering with Chiapas continued to receive support from the government. This was not unusual, since just in Tabasco, the percentage of government expenditures over its gross domestic product (GDP) has been nearly 30 percent, and one of the three highest among Mexican states. On the other hand, APASCO began deleveraging its support, letting go of several technicians and relabeling its center by the shorter name of CEPLAN (Centro de Planificación). But the struggle for political dominance in the region between the PRI and the upstart PRD, the latter controlling the Mayoralty of Macuspana through the brother of Andres Manuel López Obrador (AMLO), the mayor of the Federal District of Mexico (its capital) known as D.F. (Distrito Federal) in Spanish, and also the presidential PRD in a previous election. Another factor was the attempt to end the Zapatista guerrilla warfare in the region.

Altogether these forces combined to produce a major change in the area. The creation of a cooperative of all the rancherías that were producing milk, in order to eventually establish a manufacturing plant for homogeneizing and pasteurizing milk, and processing part of it for cheese production. The idea was to eventually establish the company in Macuspana and surrounding towns (like Ciudad Pemex), and to distribute the different milk products in that city. There was also a possibility of selling some milk in the country's largest market, the D.F.. The reduction in size of Apasco's Center was propitious, as it freed one of its agricultural engineers for technical assistance on the project. An office was established in Macuspana with the support from the 63 ranchería cooperatives involved in dairy production in the environs of the Puxcatan River Valley. Since La Roca y el Becerro was the most

advanced, its director became the key person in the new set-up. The UJAT became involved in the technical assistance given to the congregation of cooperatives, particularly by providing marketing research and a business plan. Of course, the state and federal governments continued its lifeline with subsidized interest rates, and extended repayment schedules, for previously unpaid loans made to the cooperatives of the individual communities.

Before this project is examined in greater detail, the situation existing in the first few years of the new millennium should be considered, particularly in the emblematic town of Chivalito Segundo, and its nearby rancherías, the linchpin in the success of the wider group. The success of La Roca y el Becerro could in part be attributed to genetics and religiosity (a Max Weber effect). The centerpiece was the role of the Jiménez Jiménez family in that ranchería. The oldest brother, Pastor, probably had been the community's curandero, as well as its leader, at the time the Piarist Mission arrived. He zealously adopted the practice of the Catholic faith afterwards, becoming the leading Eucharistic Minister, and being the driving force in the building of the church, and its rebuilding later on, and providing abode for the missionaries, while their convent was being built. His community leadership in general, even in changing his ways to traditional Western medicine, was supported by his three brothers, also leaders on their own, with the youngest, Catalino, being in charge of the cooperative, and later being instrumental in unifying all cooperatives (this allowed him to drive the second truck in the village). Genetically there was a reversion to the mean with the children, which were not prone to such hard work and convivial relationships. This was the main reason for the demise of the chicken cooperative. But their wives (there for life) and their sisters, were of the same stock as the leaders, and knew how to run nickel and dime competitive stores in the ranchería, and more importantly organized a cooperative for fattening pigs, together with the women in nearby villages. This proved a successful initiative which was undertaken in the backyards of their own homes, thus being a cottage activity financed by La Roca y el Becerro principally. Finally, a great push in the decade starting with the year 2000, was given to health and education, with a resident doctor, improvement in the attendance of teachers (who now lived in town), larger enrollments, technical support to the educational institutions, the establishment of a kindergarten, and improvements in the senior high at Buenavista (next to Apasco.)[7]

Chivalito Segundo had grown over this forty-year period into a little town with over 80 houses. The families that inhabited them were usually the original settlers, who had decided to fund the village

[7] The Mexican government created at the turn of the century the Plan Progresa, which gave a small stipend every month to female heads of households, to ensure that their children attended school, rather than help in the fields or with household chores. Wisely, they did not trust the men to administer this money.

(with help from the government), rather than continue their independent and isolated existence. It is interesting to note the name repetition in the families, which denote that all of them came from very few troncal origins. The Jimenez were the most prevalent, followed by the Diaz, the Perez, the Lopez, the Mendez, and the Moreno. By the early 1970s these families had interbred and multiplied, as it was typical for a couple to have between ten and fifteen children then. The birth rate had dramatically declined by the dawn of the new millennium to less than half that rate, for the children of these original seven families. Precisely there were 88 households at the turn of the Mexican population census of the year 2000. The mode in the number of persons per household was between four and five, with one being empty because of a recent death. Thus, the total population had grown because of the intermarriage of the children of the patriarchal families which had moved to their own houses.

A map of the town (Exhibit 1) shows how the Chol Maya families, that used to live spread out, as is common in more backward ranchería even today, became concentrated, as living quarters were built, more or less in square-like fashion, around the central park. This, follows the usual Spanish urban pattern throughout the Americas, based on quadrilaterally designed blocks, which facilitate the finding of addresses. However, in Chivalito Segundo the living quarters fail to show the numbering depicted in the map, as everybody knows where everyone else lives. As is customary in the culture imported and adopted from Spain (which was not much different in the Mesoamerican Indian cities which have been dug out) along the central park there was the Catholic Church with its grounds, where later on (not shown) a convent was built for the missionaries. On another side there was the Health Center, with the Government Delegation next to it, followed by a public store. The School was catty-corner to the Central Park, across from the houses of the leaders (not necessarily the public officers which alternated) of the community, Pastor and Catalino Jiménez Jiménez. It should be noted that the school had only two classrooms and a library, were the six primary grades were bunched, two at each place. Yet they were spacious, and had not to accommodate an inordinate amount of students given the size of the town, and the precipitous drop in its birth rate. The headmaster of the primary school had living quarters there, as the map portrays, and usually spent from Monday to Friday in residence (although in olden times it was a common experience for them to arrive late the first school day of the week, as well as departing early the last day). The director of the school also taught, and was aided by a couple of the most proficient students from the community, generally high school graduates. In the back of the school lot (they were like typical Spanish squares of 100 by 100 meters) there was space for children recreation and sports, which was also widely used by the town inhabitants as well.

The two other educational facilities could be found at the outskirts of town. The early school or pre-primary, typically called by the German name of kindergarten, is located next to the Catholic Church, at the point the town is demarcated by the road to the Apasco quarry and cement factory, and its surrounding town of Buenavista, and further into Macuspana on one side and Chiapas to the other. A couple of young ladies from the community are in charge and teach the children under six years of age. The teachers usually have finished at least the junior high. The junior-high school stands on a hill East of the town, and about two-hundred meters from its boundary. As previously mentioned, it is based on distance learning through television facilities, and has a skeleton staff of three teachers from outside of Chivalito Segundo, one of them acting as director. Like in the primary, classes accommodate between 20 and 30 students. They come from the village in question, a fair number of whose primary graduates do not continue on, as well as students from surrounding communities, which usually walk fairly long distances to get to the facilities. The teachers come from outside the surrounding communities, and have their living quarters in the rather expansive (compared to the primary school) school surrounds. The senior high school, to which very few of the teenagers from the town and its surrounding communities attend, is in Buenavista, the largest urban concentration in the area, which harbor about ten ejidos with their respective urban concentrations. Clearly it is quite a journey away from any of them.

On the northern side of the tele-secondary school there is a small lake, that is one of the main water repositories of the town, with the others being the brook that flows west of town, and other smaller lakes where the cattle pastures lie, North of the village. Although the State of Tabasco harbors over 33 percent of all the water in Mexico, and the mountainous area where Chivalito Segundo is located receives abundant rain (with a couple of cascades or cascadas nearby) running water only arrived to a select few houses in the center of town a few years after the millennium. One particular well (pozo) is marked in the map's southern corner. But there are others within the town, although some may have run dry, like the one next to the Health Center. Even though it has diminished, the traffic of young and old females carting buckets of water from the closer brook, is still a noticeable early morning sight in the village. This is why the early emphasis on the mission was to always boil the water used for cooking and drinking (as well as to keep animals from entering the living quarters). Another improvement in the availability of water since the year 2000, was the construction of drinking water canals by the cattle cooperative, to ensure that they have an appropriate supply of the precious liquid, to continue reproducing, providing milk and fattening the young bulls for the market, usually when they are one year old.

As had been said before, the Chol Maya Indians living in Southern Tabasco and Northeastern Chiapas, used to live independently and quite apart from each other before the Mexican government, at different levels, began to provide them with elementary public services within an urban setting. Even within a given ejido the members traditionally had preferred the isolated life, close to their corresponding parcels. A few resisted these efforts to integrate into the village life in particular, and the Mexican society at large, including the acceptance of Spanish as their main tongue.[8] Even though the village area is large enough (400 by 450 meters or 180,000 square meters) some of inhabitants have preferred partial isolation. Those are the various members of one cluster of families indicated in the map by the six places of abode to the Southeast of the T.V. Junior High. There is the trunk of families with Mendez as a patronymic. The patriarch, Don Victor Mendez, was in his high nineties as of this writing, and needs help from one of his grandsons to keep his cottage (number 56) going. Even though the Mendez are interrelated with the dominant Jimenez trunk, they prefer to live quite some ways from town (the distances are greatly minimized in the rudimentary map presented). Also, the first to leave the cooperative were his three sons Gabino, Antonio and Francisco, taking their respective heads of cattle after paying their debts.

Two final characteristics of Chivalito Segundo should be noted before completing this section. Along the main road to Buenavista and Apasco on the northern side of town, and shown as “bodega,” is the storage facility for La Roca y el Becerro. It also serves as a meeting place for the members. Many of the technological experiments and assistance (like artificial insemination of the cows) take place a little further down the road, across from the previously described hangar-like structure where the poultry used to be bread and raised, and which is now the place where the swine are kept for fattening and delivery for sale. One somber place across the bodega is the pantheon or cemetery, where the deceased from the town are buried.

On the southern side of town lies the road to Chivalito Cuarta. This community could be called a satellite of the village in question, if it were not for the fact of the animosity involved. About half of century ago there apparently was a rift between families, and the original concentration in Chivalito Segundo splintered into a neighboring village; rumors say that this had to do with the dominance of the Jiménez family. Certainly, certain tensions remain, but at many Catholic ceremonies and celebratory parties, the two communities have come together, largely at the behest of the Catholic missionaries,

[8] Even as this article is written, the older women in Chivalito Segundo, and in similar rancherías in the area, speak chol, barely being able to communicate in Spanish. The younger females, and the rest of these communities are bilingual. However, Chol as a written language has practically disappeared.

which are also active in the splintered community. The latter is much smaller than the one that principally concerns us.

Redimensioning The Cooperatives

As has been mentioned, about the middle of the first decade of the new millennium, and spearheaded by several institutions, a banding of the indigenous cooperatives of the ejidos along the Puxcatan River took place. Several institutions pushed for this. The newly coined CEPLAN, which represented a toning down of the technical and research support carried out by Apasco under the previous name of CEDEPLAR. The La Roca y el Becerro cooperative of Chivalito Segundo. The special fund for agricultural, economic and social development, FONAES, of the Banco de México, and the state government. All pushed for bringing together over sixty (60) cooperatives in the region, and integrate their efforts into a bigger concern. This came at the right time for our exemplary cooperative, as their members had dwindled considerably, but each of the remaining ones had approximately 25 heads of cattle to his name, and as could have been foreseen, Catalino Jiménez Jiménez became the head of the Association of Cooperatives, while Andrés, the son of Pastor, served as bookeeper. It was to be expected that the leadership would reside where the milking of the cows had been mechanized, and the facilities for cooling and storing large volumes of milk, awaiting transport, were located.

At this juncture even this ideal condition for a remote village had its drawbacks. Amortization was still being paid on the facilities of La Roca y el Becerro, and the monthly draw-down by its members of the profits (between $50 to $100 a month were supplemented by their meager wages of $3 a day, with 50¢ per hour of overtime with hired labor paid even less) Altogether their labor compensation could bring the members of the cooperative up to $30 a week. The cooperative self-insures its structures, and invests its undistributed profits in treasury bonds of the Mexican government. Every so often they distribute the accumulated profits to the members, subtracting at that instance the loan advances that they have provided them for emergencies. Each of them still works their own plot of land as part of the town's ejido, which is mainly devoted to corn, although some to pulses and native vegetables. They also keep pigs, chicken and turkeys, for self-consumption. And also work, together with the rest of the village inhabitants, in the upkeep of the common facilities, like the park, roads, sports and school grounds, public and religious buildings, and so on. Their retirement and health insurance is provided by the Federal Administrative Fund for Retirement, Employment and Health

(AFORES). The cooperative is also planning to invest in additional building structures consisting of an office and a meeting hall, as their present facility is mostly devoted to storage. Finally, they have established a mutual fund to help the sick, old and widowed members of the community, which also provides educational scholarships for community students who pursue senior high and university studies.

As mentioned above, the example provided by La Roca y el Becerro has given rise to similar efforts by the teenagers and younger males in the community (Eshmuki meaning dove), first with poultry, and more recently with the reproduction and fattening of swine for sale, in which the married women of the village are involved. The President of the junior cooperative is Antonio Perez-Diaz, son of Don Pedro, one of the members of the elder cooperative. They have counted as well with loans from FONAES and technical assistance from CECAF.[9] Even though organized before the year 2000, they have diversified into its present strength in porcine breeding and fattening, which has given additional support to the income of female heads of households in the community, strengthening the favorable impact of the previously mentioned Plan Progresa. All these activities have limited the rural to urban migration, the traditional escape valve to ensure an improvement in the economic lot of the younger generations, and thus of the Chivalito Segundo families in general. The improvements have increasingly become tangible, not only through the previously mentioned building boom, but through the

[9] Eighteen younger males organized the Eshmoki cooperative, although some have fallen by the wayside. Most of them were sons of the member of the bovine cooperative. The loan from FONAES , received at inception, was for about $100,000, at an interest rate of half of one percent yearly. They also obtained $4,000 from the previously mentioned Association of Cooperatives of the Puxcatan River. The accountant of the elder's cooperative reviews and completes the accounting entries every month, and prepares the corresponding statements. At the peak the cooperative handled almost 1,000 pigs (valued at more than $100,000), which they have to watch day and night. APASCO donated the materials for the corral and other installations. Ideally they are able to handle 800 specimens coming from the surrounding rancherías (which have also received loans from FONAES) and at one point they had an inventory of 1,200 swine, while originally starting with just 200. They have had sickness among the pigs, at a time when they were not attentive, and had to send 200 to the village of Alianza for tending. They received a gift from a government program called Alianza para el Campo (Rural Alliance) consisting of 40 female hogs to expand their holdings, each at a value of $1,000 to $1,100. Profits are distributed every six months, amounting to $900. They pay hourly wages to the President, and to those tending the pigs, at a rate of $2.50 per day. Since only four men are required daily, the assignments are rotated. These wages are paid on a monthly basis. Each member is usually assigned four days of work per month, but they also work with their parents or as free labor helping in the crops. Like in the senior cooperatives there have been drop-outs, from the starting 23 members. The problems that they have had to face were related with having too many hogs to handle, insufficient corrals and drainage facilities, and lack of water. The latter was free at the beginning, but eventually had to be brought at a transport charge of $30 per day. Presently they need to expand the facilities to properly keep 200 to 300 swine that exceed their capacity. They are in conversation with FONAES and the Association, with the support of CECAF, in order to finance additional corrals. They are selling 180 pigs per month. The break-even point had been reached with $14,000 to $15,000 in sales per month, and similar amounts in expenditures.

completion of Federal Highway 186, that has allowed even taxi services to the village, while the practically unexisting telephone service is now provided through increasingly available cellular phones.

Returning to La Roca y el Becerro, it is interesting to note that those members that exited from it complained about the lack of effort of some of their former partners, particularly before the mechanization of the dairy operations. Generally, those that left decided to shift the emphasis of their operations from milk producing to fattening and selling mostly bulls, but even the reproductive cows when they were still young, although developed (usually one year old). Some of them kept their parcels of grazing land, but others sold even that. Infrequently those leaving the cooperative end up selling most of their heads of cattle. And if not, they have to rely on the cooperative for veterinary assistance, given the ancillary facilities that it has. Those that opt out take 26 heads of cattle each.

From Association of Rural Cooperatives to Manufacturing Concern

The Association of Producers and Social Organizations of the Puxcatan River (APROS S.A.) first established its office in Macuspana, as an initial step in selling directly in this market, rather than having Nestle and other milk wholesalers and retailers purchase and transport the milk from the point of origin (ex dairy plant). In establishing the corporation and its headquarters the Association (from now on APROS) signaled it was ready to expand into other ventures. It banded together 900 producers, 59 cooperatives and two rural production societies. Apart from the already mentioned FONAES and Alianza para el Campo, another special unit of the Banco de Mexico (FIRA), encouraging rural industry and agriculture, was also in support of the venture. Its principal lines of activity were the cattle and hog industries. Within this agro-industrial sphere, its specific aim was to support the several stages of the dairy industry, including the distribution of its products in the regional markets.

In order to get support, APROS proposed an investment in a plant to homogeneize and pasteurize the raw milk generated by its various rural production centers, in a central location in the outskirts of the city of Macuspana. As a by-product it would also elaborate cheeses and yogurt. To consider the feasibility of such objectives, it was imperative to undertake market research in ainticipation to a commitment for the establishment of an industrial plant. The purview for marketing these products was the mountainous region of the State of Tabasco, and particularly the cities of Macuspana, Ciudad Pemex, Jalapa and San Carlos (the Benito Juárez Villa). They comprise 2.7 percent of the State's population.

The survey that was undertaken in order to estimate the demand for the products, was keyed to the middle income strata of the families in the cities, towns, and villages just mentioned. In particular

those living quarters having two to four bedrooms,[10] were considered the most likely purchasers of these products. The rationale behind these most likely purchasers had to do with the preference that poorer families have to the non-pasteurized and homogeneized milk (called “leche bronca”, or milk with a kick); while richer families would prefer the safer processed product. Socio-economic quintile information was taken from the Mexican Association of Market Research Agencies. The interviewed should be the female head of household, or alternatively an adult member of the family. One hundred and twenty questionnaires were completed, with the margin of error being 5.34 percent. The interviewees were between 40 and 43 years of age (remember that the Mexican population pyramid tends to be fatter in the younger cohorts). Recent and rapidly urbanizing population centers tend to have households which include, not only the nuclear family members, but relatives and other occupants. The number of children per family ranges from over 1.5 in Macuspana, to near 4 in San Carlos.

The principal competitors of the Association of Producers of the Puxcatán River were found to be established Mexican dairy brands: Union and Laoa. Taste is the principal factor determining the families’ preferences, while price is the second most important attribute. Widespread availability comes next in importance to the buyers, followed by how the product is offered, with the use of plastic containers being last. As to dairy by-products, the consuming families seemed to prefer yogurt and cheese preeminently, followed by cream and butter. Yet the survey showed that in Macuspana, a market as large as the other three combined, 65 percent of the households were ready to change brands. But they would have to be enticed by a lower price. In San Carlos and Ciudad Pemex, next in line in population, although a far cry from the largest city, the principal determinant of a shift of brands would be quality. Additionally, being a regional product would be third in importance, when considering a change in supplier. Home delivery appeared to be a service appreciated by the families, and that may determine a change the dairy products consumed. When the milk product is home delivered, the typical time of day is 7 a.m. Following in preference is the later hour (8 a.m.) in Macuspana, while in the other smaller cities an earlier delivery is preferable: 6:30 a.m., or even 6:00 a.m. The latter bespeaks of a contrasting bifurcation of markets: the large urban setting of Macuspana and the smaller Ciudad Pemex, and the more rural communities of San Carlos (though bigger than Ciudad Pemex) and Jalapa.

APROS faced, when deciding to add value to its primary producing economic activity of milking, storing and cooling, a competitive but flexible market, that was willing to try its products (delivered in acceptable plastic bags) if price and / or quality were better than the competition, particularly because

[10] Remember that Mexican families tend to be larger, particularly in the poorer states, and away from the bigger population centers.

of the regionality of its products and the convenience of home delivery. It had the potentiality to diversify its offerings with attractive by-products, reinforcing its marketable prowess. Yet it could not minimize the strength of the competition, with its established national brands, and their modern distribution systems through supermarkets. A marketing and advertising strategy would have to be devised to emphasize the strength of APROS'S delivery, and the quality of its products, which would necessarily involve sales promotions among other devices, to attract the attention span of prospective consumers.

Based on the results of the market research probe, and having the appropriate financing as indicated earlier, this large group of Indian communities, with their ejidos and associations, took the challenging step of going further than just banding together: the established APROLAC de Macuspana as a corporation. As noted earlier the Association had already established an office at the outskirts of Macuspana, in a small building harboring a skeleton crew headed by Catalino, and with an agricultural engineer that used to work in the APASCO development center providing the technical expertise. The marketing research just described clearly recommended that this largest city in the surroundings would also harbor the plant for the industrial production of milk and its by-products. In its outskirts the city had a small industrial park, and it was there where the facilities were established. But could it not only be a marketing, but also a financial success. To establish it, this unsophisticated indigenous bunching of communities, known as the chol because of the language they spoke, but clearly descendants of the mayas, that very nearby (one hour motor-vehicle ride away on a two-lane road) saw the establishment of perhaps the most sophisticated, and one of the larger cities of that reign: Palenque.

The business plan followed the following assumptions. Limited capacity utilization in the first year (5,000 liters[11] of milk per day). This amount would increase depending on the growth of demand for the product. The rest of the available cooled milk from the cooperatives would continue to be sold to the milking industry of the State of Mexico, bordering the capital Federal District of the country, which had supplanted Nestle as the principal buyer of the product at wholesale. As part of the attempt by APROS to move its sales up the product chain, they had received financial support from the Municipality of Macuspana to purchase a milk container truck, which kept the product refrigerated while in transit.

The next step would be to increment milk production gradually. By the third year the average daily milk production would expand to 14,000 liters per day as an average. These would fill two types of

[11] This is the most common milk container in Mexico, in contrast to the quart and half-gallons in the United States. Actually, two and a half liters constitute a gallon.

containers: one liter and one half-gallon of pasteurized milk, representing 65 percent of total production. The production of cheese would cover the rest (35 percent) of the plant capacity. The backbone of such an ambitious production schedule is the capital of the 279 members of the APROS production cooperative, which control 7,299 milk producing cows, which graze in 6,170 hectares of land. The investment costs amounted to $570,080, of which APROS invested $427,546, representing 75 percent of the total.

The placement of the milk and cheese during the first year would concentrate on selling to the general public, in special spots and small stores throughout the cities already mentioned. In the second year it is expected to devote 35 percent of sales to local supermarkets, providing the product with at most a 30 a day revolving credit. With regards to costs, inventories would represent two percent of those of production, as the milk produced would be sold fresh right away. Short-term credit extended by suppliers would represent two percent of production costs, as the milk produced would be sold fresh right away. Short-term credit extended by suppliers would represent three percent of variable costs, while payment to various lenders would amount to four percent of administrative costs.

The final product breakdown would be as follows, in the initial year, and in subsequent ones.

Yearly Sales Volume

Product	First Year	Years 3 to 10
Milk in half-gallons	444,012	789,352
Milk in liters	560,196	995,904
Cheese in kilograms	79,380	141,120

The plant would be expected to operate 24 days every month. During the first year there would be only one shift. The second year the factory would operate at a level of one and a half shifts per day. Once the plant approached full capacity two shifts would be operating daily, this being from year three onwards.

The prices charged for the products would be as follows:[12]

A half gallon of milk	$1.20
One liter of milk	$0.70
A kilogram of cheese	$4.30

[12] Throughout this essay the rate of exchange between the Mexican peso and the U.S. dollar is taken to be 10 of the former to one of the latter. When the project was being structured, that was close to the historical prevailing rate (about 2005). Later on during the first decade of the present millennium, the Mexican peso devalued close to 30 percent from the rate typical during its early and middle years.

The mayor fixed costs of APROLAC were the purchase of the land (4,900 square meters) for $36,750, at $75per square meter (approximately $25 per square feet), and the building of the structure for $203,161. The machinery and equipment cost was $181,236. Thus the total fixed costs were $421,147. Of this total FONAES gifted the venture with $62,639 basically consisting of the cooling tank and equipment, and a Ford Ranger truck for $17,840. In addition it provided working capital to the tune of $79,894.[13] Finally, $6,400 were incurred for the marketing and business plans, and for registering the company brands.

These capital costs would be depreciated at different rates, with the building over 20years, the machinery and equipment over 10 years, and the truck, and a car and motorcycle over 10 years as well, even though the expected useful life of the vehicles was estimated to be only half that length. The trademark costs and the charges for the studies incurred testing the feasibility of the project were to be amortized over a three year span. No amortization would be required for the contributions made by FONAES for the milk-cooling equipment and the products container ancillary to it, the truck and the working capital for the project.[14]

The milk processing plant was supposed to reach plant capacity in three years, with the achievement of over 50 percent of this goal in the first year. Production would be split between milk and cheese in the ratio of two thirds for the fluid products and one third for the solid one. The milk would be produced and marketed in a breakdown of two thirds half–gallon and one third liter containers. Four different types of cheeses were to be produced.

The costs of production would be the raw milk, the containers and stickers, the labor costs and the other operating costs, in that order. Yet the raw materials would constitute by far the major part of the cost, with the value-added portion, including distribution and margins, representing well less than fifty percent of the total. However, since raw milk was the principal component of the latter, and that was supplied by the indigenous cooperatives, the benefits of the enterprise to the native communities was abundantly clear. Specifically, the estimated generation of 279 jobs was of the utmost importance for the Chol-Maya communities, which had the burden of rural and underemployment among its youth.

Assuming a discount rate of the ten percent, the internal rate of return for the APROLAC project was calculated at 45.4 percent, and the benefit-cost ratio was estimated at 1.27, all this assuming a ten year horizon. Substantial dividends would be expected to be distributed among the members of the

[13] For FONAES, this would constitute risk (venture) capital.

[14] This would include the costs of the raw milk, the containers and its product stickers, as well as the payment for the labor force during the first month of plant operation.

several cooperatives, to the tune of around $200,000 per year, starting on the third year of operations.[15] Finally, the leverage ratio was well under one, and the rate of return after the third year was estimated at over 14 percent per annum. With high net present value, an acceptable recovery period, and a liquidity ratio considered to be good, the project was recommended for governmental support, although the key point in obtaining such recommendation was the economic benefit it generated. Finally a sensitivity analysis conducted showed the resilience of the project to a 15 percent declines in sales, and up to a ten percent drop in the prices of the products sold.

The Macuspana milk processing plant would attain its goals with respect to sales by the third year of operation, but show profits from the beginning. These would be slowly increasing till the end of the 20 year planning period. The same pattern would characterize the cash flows of APROLAC, even assuming the most pessimistic of three scenarios would take place. Even in this case its net present value (NPV) would be highly positive after ten years, with an internal rate of return of 36 percent. The median NPV for the three scenarios would be of approximately $539,000, with a standard deviation of about $51,000,

However, the weakness of the project lied in its working capital, and a couple of years after its inception, and notwithstanding the FONAES contribution, APROLAC was hat in hand asking for further support in this respect. This notwithstanding, their operations have continued: the milk has been picked up from the 61 APROS communities at their pick up centers, the plant is in operation, and distribution channels are operative. The municipality of Macuspana came to their aid in providing a truck with a cooling container that they have used to transport the milk in good condition. These containerized facilities were instrumental in securing a medium term contract with the Japanese company YAKULT, which uses the milk to blend with its other inputs, to sell its product (mainly in Mexico City), which is supposed to provide beneficial digestive tract contributions through bacilli. Another recent development has been their creating of a niche in the sale of their different types of cheeses, which have seen more success than the selling of the pasteurized milk itself.

At the beginning of the new millennium the population of Mexico was almost 97.5 million inhabitants, and a little over 22.5 households, certainly a large potential market. The average household was composed of between 4.3 to 4.4 members, with 1.6 occupants per room, and 2.2 per bedroom. Less than ten percent of these houses lacked electricity (about 4 percent) and piped water (almost 10 percent). About 10 percent had walls made from non-durable materials, and a little less than 13 percent had earth floors. The most damaging statistic concerns roofs made from non-durable materials, which

[15] Smaller dividends would accrue in the first couple of years.

affected almost 34 percent of Mexican homes. This generally portends that these families enjoy a standard of living that would make it, in general, amenable for the purchase of milk and its derived products, but with few exceptions.

If the surrounding region is examined, the states of Chiapas and Tabasco almost have the same populations as the giant in Southeast Mexico, the state of Veracruz, and are larger than the second in line, the State of Oaxaca. And even though the population of Quintana Roo is small, touristic affluence there makes it a large market. In addition, the fact that the living quarters in which the Mexican families live is preponderantly in detached houses, makes them amenable to traditional distribution methods, which would be more affordable for APROLAC. Although it is worth reminding the reader that they already are selling milk in the State of Mexico and the Federal District.[16]

Concentrating on the 2000 census data for the most immediate market of Tabasco (because although the communities border with Chiapas, the markets of this State are well to the South), it has been an expanding one. The number of housing units increased by 44 percent since the 1990 census, while their quality improved as well with 94 percent having electricity, 75 percent inside plumbing, and 85 percent had a drainage system.

In Tabasco there is a statewide nutrition program, with free consultation available for children under five years of age. In the year 2000 the consultations provided were below the population of the State, but they showed a 26 percent rate of malnourished children. The situation lee prompted the authorities to ensure an adequate supply of milk for the important segment of child population, which in Mexico has traditionally grown very fast for decades. Particularly, since the rate of development in the overall population has resulted in the sharp diminution of the importance of gastrointestinal and respiratory infectious diseases as the causes of death.

The State has a relatively young population, with a median age of 21 years. Its rate of increase during the 1990-2000 decade stood at 2.35 percent, almost half as low as the peak rate observed in the decimal canvas of 1960-1970. Yet this percentage expansion would result in doubling of the population in 30 years. The number of inhabitants in Tabasco, which stood at 1,891,829 in the year 2000, would become almost 3.8 million by 2030, messaging an expanding market. Meanwhile the indigenous population above five years of age amounted to 62,027 that speak of another native tongue, but practically all are Spanish speakers. These are clearly disadvantaged, but increasingly being helped by the government, as the APROS communities are. If the younger population is added, this demographic

[16] It should be made clear that the recent decennial census in Mexico was undertaken in 2010; yet, the statistics used here refer to the latest available, that of the year 2000.

group would increase to 75,626 when the population up to four years of age is added, where the heads of households speak a native tongue.

Moving to the educational characteristics of the main market in Tabasco, the population had a rate of illiteracy of 9.8 percent. It continued to improve from the in 2000 from the previous 12.9 percent in 1990, in both cases being just a little bit higher than the national average. In the 6 to 14 years of age bracket, 92.1 percent of the population are attending schools, again a significant improvement from 1990 (86 percent) to the year 2000.

The members of the labor force, defined as persons of 12 years of age and older, amounted to 600,000 in Tabasco. The breakdown of this active population is: 458,000 males and 153,000 females. Just over 9,000 of them were below 15 years of age. These came out private households, which had increased 43.8 percent from 1990, which in absolute numbers represented an increment of 125,069 places of abode. The characteristics of these residences improved considerably in this decade. Residential buildings with drainage increased by 22 percent during the nineties, while those with inside plumbing expanded by 16 percentage points, and those with electricity registered an increase of six percent; the latter feature being the most common among the three, with 94 percentage of housing in Tabasco being provided with it.

The area where the rancherías are located, as has been pointed out before, is in the municipality of Macuspana, the fifth largest in Tabasco. The rate of illiteracy in this municipal entity was 6.8 percent, just slightly higher than the 6.2 percent for the State as a whole. The percentage of the population attending school was 31.2 percent in Macuspana, while in Tabasco as a whole it was 30.0 percent, probably reflecting a younger population in the former. The population covered by the health services of the government was 23 percent of the population in Macuspana compared to 29 percent in the State as a whole. Finally the labor force participation rate was 32.3% in the latter and 28% in the former, again denoting a younger population. One of the problems of the State is the dispersion of its population into small communities and even smaller localities, which are overwhelmingly rural. The great majority of the population is concentrated in these small centers in the countryside. Public service cannot be so disperse. As a solution, the government established integration centers to ensure the spread of health, education, communications, public works, transportation and other basic activities across the rural areas of Tabasco. As a result the population does not have to travel to the heads of the municipalities (17 in number) or to the capital city of Villahermosa, to be appropriately served. These Centers were defined according to three criteria: population, land mass and production. They group

together 20 percent of the population of the State, and their radii encompasses another 35 percent of the total inhabitants in Tabasco.

At least the following services were slated to be established in these integrationist centers:

1. Piped water and drainage, using appropriate technologies.
2. Electric energy, including the lighting of public areas.
3. Adequate access roads, as appropriate.
4. Transport services among small communities.
5. Rural radio-telephone or telephone services.
6. A public building for public and community meetings.
7. Minimal urban streets with essential amenities like benches.
8. Technical assistance for agricultural, ranching and fishing.
9. Local centers for the exchange of products.
10. Community processing facilities for indigenous production.
11. Health services.
12. Primary schooling.
13. A village central park and other recreation spaces.
14. Cultural and library services.

As of this writing objectives 1 to 4, 6, 11, 12 and 14 have been mostly achieved, with the rest found lacking, even though these goals were set in the mid-1980s.

Conclusion

This essay has described an effort by Catholic missionaries to empower the indigenous population in Southeastern Tabasco and Northeastern Chiapas. It follows the efforts, inspired in several statements of former Pope, and now Saint John Paul II, to respect their dignity and fully integrate them into the Mexican socio-economic fabric. In this fashion and by peaceful means, reforms would attain what armed struggle by the revolting Zapatista Army began to attempt in 1994 in the State of Chiapas. The Indian population of Mexico exceeds ten million, and their rights as the original inhabitants of the land had to be recognized, according to the late Portiff. The missions attempted to help a subset of this population, generally mired in poverty, to raise their socio-economic status, with the help of the institutions of the Mexican society. The primary objective was to improve the living conditions of these disadvantaged segments of the country.

This was the goal that inspired the missionaries for more than 40 years, to risk sickness and rudimentary conditions, in sharp contrast with their places of abode in the United States and Mexico, and that was rewarded by the definite socio-economic improvements of the Chol-Maya Indian communities to which their efforts were directed. Hundreds of mostly young men and women participated mostly from the Southeastern regions of the U.S. and other parts of Mexico over the years. They spent three to five weeks of intensive mission work during the Summer, as well as shorter visits in December, and at other times of the year. However, the select members from the San Isidro Parrish in Macuspana, and some of the faculty members from the Universidad de Juarez Autónoma de Tabasco, kept the spirit throughout the year, to show the Indian communities how they can improve their lot, and provide encouragement and help throughout, but never do it for them or provide unrequited aid.

This is directly derived from the Decree on the Missionary Work of the Church issued as a result of the several year deliberations which comprised the Second Vatican Council. The main tenet is to allow the disadvantaged population to work freely towards their own betterment, through the improvement of their health, education and nutrition, and their economic conditions. The sacrifices that the missionaries endure in their work, are an example to the groups they are trying to help, of the resilience of the human spirit. Those involved in a mission need to know well the history, social structures, customs, and perceptions of the world and of the human person, that these Indian communities have, according to their traditions.[17] Particularly since many of them remained mired in their animistic beliefs.

The case study described here represents a successful alternative to the policies of the Mexican Revolution which started in 1911, and only began to be institutionalized more than 15 years later. Instead of just gifting land in commonality (the ejidos) to the Indians, and then providing no-strings-attached government funding, alternatives such as the one depicted in this essay seem to be superior in creating wealth and welfare. Almost 80 years ago one of the few surviving heroes of the Revolution and former President of Mexico, Plutarco Elías Calles, ranted against the ejido as a failed figure of agricultural development, which burdens the government with debt, without resulting in increased production.

Lack of contact with civilization and with each other led these Maya peoples to practices that were aboriginal in nature, like the providence of curanderos (also generally called shamans) for the cure of diseases. Yet, as Mexico became more urbanized these indigenous people, many with their native

[17] It should be noted that the Mayan world and its descendants comprise the countries of El Salvador, Honduras, Guatemala and Belice, and the Mexican states of Chiapas, Tabasco, Campeche, Quintana Roo and Yucatán. The civilization started 3,000 years ago. More than 6 million descendants live in this wide area.

languages intact as an oral tradition, began to be reached by increasingly more modern means of transportation. Concomitantly, the Catholic religion began to minister to them. Since the priests from the nearest dioceses could not satisfactorily handle their religious practices, Latin missionaries from the United States were invited to help with their material and spiritual needs. The Chol and Chontal communities remember when, as they say, the word of God, reached them, and celebrate it with religious ceremonies and social gatherings every year, during the early Summer. They are now fully integrated into Mexican socio-economic and political life, and into the Catholic religion, having themselves built churches and convents for the mission participants.[18]

Finally, the selection of the cattle industry as the principal rural economic activity for the indigenous communities to help themselves, appears to have been foresighted. In a study undertaken by Mc Kinsey and Company in 2008, regarding the strategic activities for economic growth in the State of Tabasco, bovine development was considered the most promising.[19] Therefore, it is expected that the economic basis that has underpinned the socio-economic development of the "rancherías" in the past, will continue to sustain and reinforce them in the years to come. This will allow the example of the "operation bootstraps"[20] described in this article, to be applied in other similar circumstances, giving additional credence to the belief that economic development cannot rely on aid from outside, but rather from fostering the capabilities of the developing countries through technical assistance, micro finance and marketing aid, to allow increasing production and trade.[21]

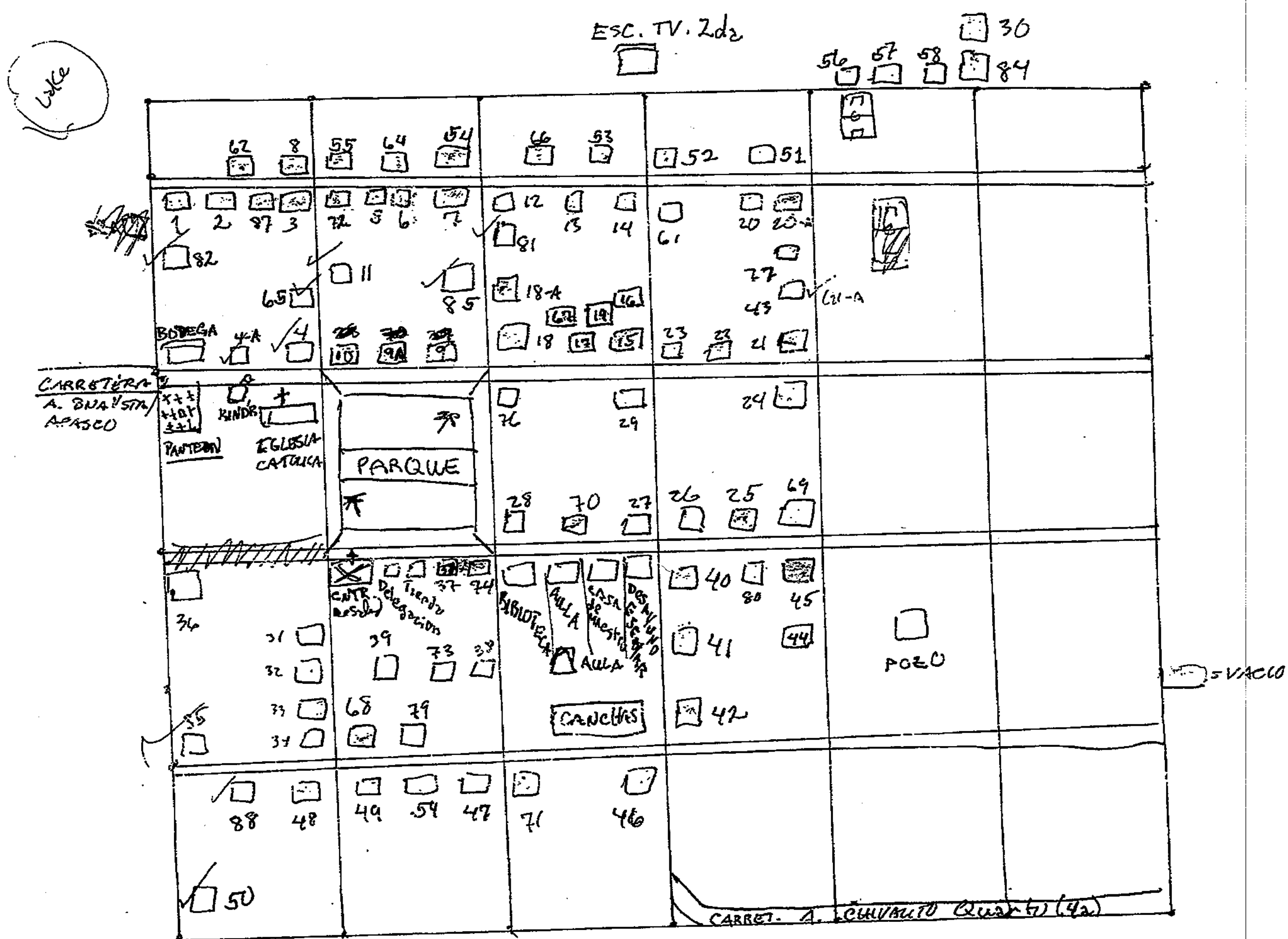
---

[18] Jorge Salazar-Carrillo, "Missions in Tabasco", Piarist Fathers Latino Mission Newsletter, #29, April 2005, Miami, Florida, pgs. 3 and 4

[19] McKinsey and Company, Diagnóstico de Areas Estratégicas para la Recuperación Económica del Estado de Tabasco, Mayo 2008. For urban production, food and beverages also are coincidentally ranked number one.

[20] This term was applied first, as far has been able to be determined, to the successful development of the Puerto Rican economy after World War II. The idea at the center of the concept of "pulling yourself up by your own bootstraps."

[21] A final realization of how much the Maya descendants along the river Puxcatán have achieved in their herds of cattle, is that their cooperatives usually have more than 50 heads per person, while most of the individual farmers have much less than this amount. Although it should be taken into consideration that in the municipality of Macuspana, where their herds are concentrated, such sizes tend to be more common, as opposed to most of the rest of the State of Tabasco. Also the producers of milk in Tabasco are suppliers to the rest of Mexico as indicated by the McKinsey report, which underlines the foresight of the efforts of these communities to ensure that their lines of specialization would allow them continued expansion for the years to come. And given that younger members of the population tend to consume relatively higher quantities of milk, it is favorable for milk producers that half of the population of Tabasco is 24 years or younger according to INEGI (the National Institute of Statistics, Geography and Informatics) in II Conteo de Población y Vivienda, 2005.


ESC. TV. 2do
BODEGA
CARRETERA A. BNA VISTA APASCO
PANTEON
KINDER
IGLESIA CATOLICA
PARQUE
BIBLIOTECA
AULA
CASA de Maestros
DESAYUNO ESCOLAR
CANCHAS
POZO
= VACIO
CARRET. A. CHIVAUTO Querétaro (42)