

Agriculture in Calakmul Resiliency, Sustainability or a Better Standard of Living?

Francisco D. Gurri García*



Calakmul, like most Mexican Mayan jungles, was populated by urban workers, peons and landless peasants from all over Mexico who traveled to the forests of Tabasco, Chiapas, Quintana Roo and Campeche in the early 1970s to take possession of the lands that President Luis Echeverría Álvarez offered them in what was to be the last great agrarian allotment of the Mexican Revolution. The future *ejidatarios* were very different from each other, but they had something in common: they wanted to work their own land and did not have the slightest idea of the challenges they were about to face.¹

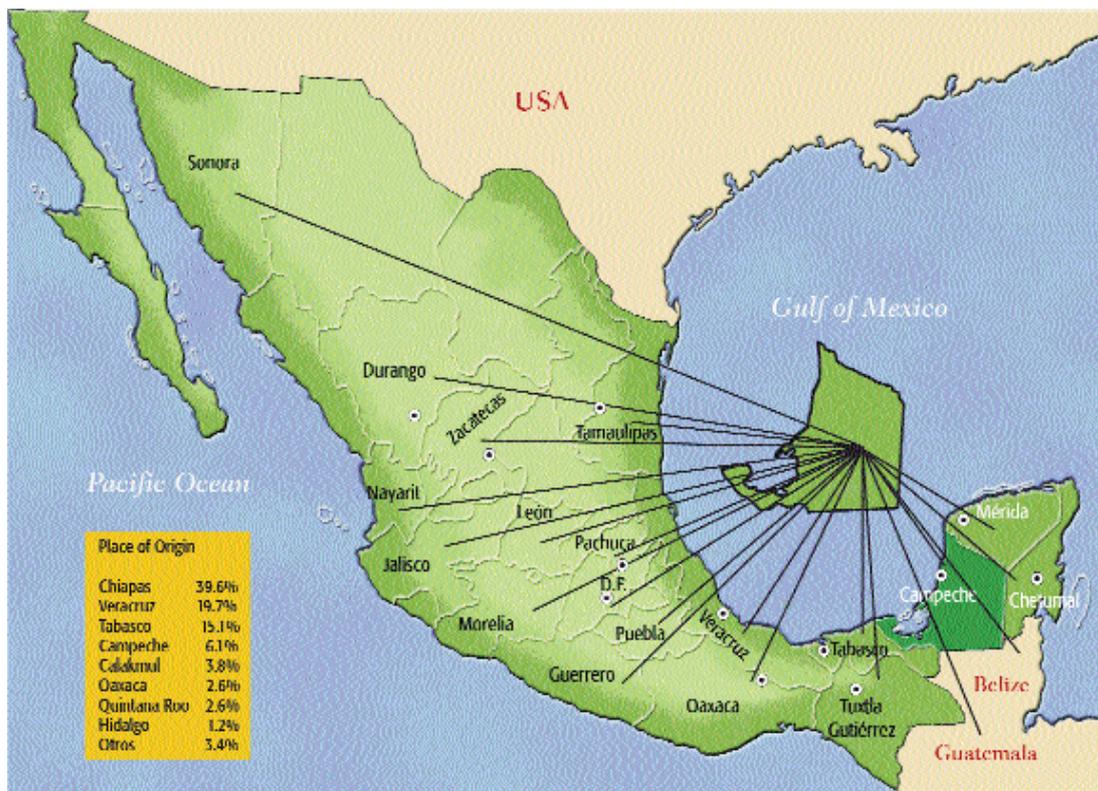
In 1999, the El Colegio de la Frontera Sur (Southern Border College or Ecosur) Ecological Anthropology Research Group began a research program in the municipality of Calakmul, Campeche, to tell the story of how these colonists survived. The municipality, colonized by migrants from 23 Mexican states, offered researchers an ideal opportunity to study how cultural background influences the decisions people make when adapting to their environment (see map).

* Researcher at El Colegio de la Frontera Sur (Ecosur), fgurri@ecosur.mx. Web site: <http://www.camp.ecosur.mx/adaptabilidad>.

To adapt, people come together in functional associations known as adaptive strategies. Among peasants, reciprocity, shared meanings, life-long training, intimate acquaintance and life-long guarantees of support for each member make the household the basic adaptive unit. Household composition, structure, activities and cultural patterns, as well as the rules and regulations that guide the decision making process for survival and reproduction, form the adaptive strategy. To identify the strategies that migrants to Calakmul developed over the past 20 years, the Ecological Anthropology Research Group studied 700 families in the 29 most recently formed communities in Mexico's last agricultural frontier.

Two different adaptive strategies were identified. Each one reflects the migrants' history and their motivation for migrating. The first is practiced by 55 percent of the families and we named it the household subsistence agricultural strategy (HSA). Most of the colonists that generated it were peasants before arriving to Calakmul, and many arrived after being displaced from their lands. Among them are indigenous groups who abandoned their communities in Chiapas because of religious persecution.

For HSA households, agriculture is part of a diversified subsistence strategy that makes use of different resources and/or labor opportunities throughout the year. They harvest corn and chili peppers in October; they hunt small game in the overgrown fallow fields where they also harvest yucca and yam planted years before when they cleared the plot for cultivation; they gather honey and harvest termites and herbs in the forest. From May to June they eat fresh fruit and vegetables from their backyards where they also raise pigs and chickens with food obtained from their agricultural plots and the surrounding forest. They have no savings, so when they need money they sell jalapeño peppers (*Capsicum annum L.*), work as journeymen and take advantage of the government program Oportunidades and Procampo subsidies.

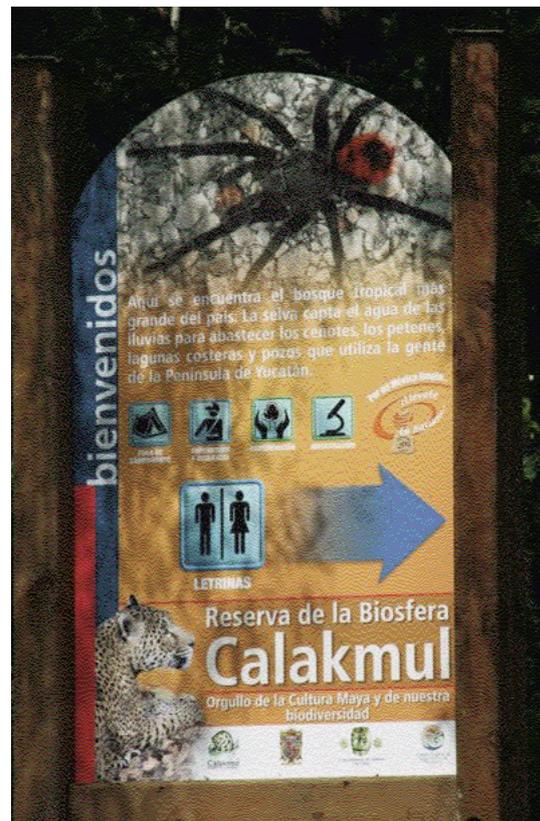




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The second adaptive strategy was named household commercial agricultural strategy (HCA). For HCA farmers, agriculture is the family business. They invest in agrochemicals, use tractors, hire outside labor to help them at harvest time and produce primarily for the market. They generate savings when they sell their jalapeño crop. These savings are used to invest in capital goods, to buy cattle and to open bank accounts. The cattle are sold during the months before the harvest to purchase food and other necessary survival items when resources are scarce. Cattle may also be sold during the jalapeño pepper harvest to pay pickers. In Calakmul, those who generated this strategy may not have been farmers before moving to Calakmul. All of them, however, considered the lands given to them by the government as an opportunity to make money.

HSA households live in extended family units where the household head coordinates his wife, single and married children, daughters-in-law and grandchildren's labor and decides how to invest and distribute their resources. In HSA households, lands and all capital goods belong to the head of the household, so young people invest their extra income in consumer goods such as food, clothing, radios, stereos and furniture. HCA strategies are composed of several kin-related nuclear families of different ages, where the younger households, usually belonging to the sons of the head of the older household, exchange labor for access to their fathers' grazing lands and capital goods. Perhaps because they have their own homes, lands and



complete control over their resources, young married HCA men invest in capital goods to help them with their high-input agriculture.

Both strategies have advantages and disadvantages, but the HSA is less vulnerable and more sustainable than the HCA. HSA adaptive strategy is a redundant system that guarantees there will be enough for consumption throughout the year even if one or more productive activities fail to provide. This strategy is highly inefficient in monetary terms but very resilient and adequate in an unpredictable environment such as that of Calakmul, which is plagued by recurring droughts and gets hit by a devastating hurricane at least once every seven years. HCA households, on the other hand, depend on the success of their jalapeño crop to generate savings, invest in capital goods and obtain the operating capital they need to restart the next agricultural cycle. Unfortunately, the jalapeño crop is harvested in late October and early November, just before the hurricane season is over.

Reliance on jalapeños also makes their agricultural practices energy inefficient with a high environmental impact. To obtain profitable amounts of peppers, HCA farmers must plow flat lands with relatively thick layers of earth known as *planadas*. These *planadas* are scarce so farmers are forced to use tractors, apply industrial fertilizers and herbicides that allow them to increase the number of years a single plot may be cultivated. In the tropics, the amount of time a plot will need to recuperate is inversely correlated with the years of cultivation so that these practices have already transformed thousands of hectares into unusable, weed-covered plots that inhibit secondary growth. HSA agricultural systems, on the other hand, hardly use agrochemicals, and, unlike HCA households, that use only the commercially valuable fruit, HSA farmers recycle non-marketable agricultural by-products in their backyards and other parts of their subsistence system.

Finally, most dry farm agriculturalists in seasonal environments must deal with a scarcity season right before the harvest. In Calakmul, this season extends from around the middle of July to the third week of October. HCA households use savings or sell cattle to tide them over. HSA households, on the other hand, must find alternative food sources in the forests and fallow fields and make money as agricultural laborers at a time when few jobs are available. Children and teens of both strategies lose weight during this season. HCA youngsters, however, only lose body fat, while HSA children under 10 stop

While HSA is a more resilient and sustainable strategy than HCA, the latter offers their members a better quality of life, and, because they do not drop out of school, it offers their youngsters greater expectations and opportunities for the future.

