

# Origins and organization of Las Lisas', Chiquimulilla fishermen, 2022

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## Abstract

The results of the research correspond to the origins and organization of Las Lisas', Chiquimulilla, fishermen. The objectives are to determine when the first inhabitants arrived, as well as the places from where they moved; to identify the historical development from its beginnings until 2022, and to explain the way in which they are organized to carry out their daily tasks. Among the most important findings we can mention: that the initial settlers moved from nearby places in 1893. The most relevant events for the neighbors through time were detected, such as: the division of the town, the different landfills that were made, the importance of the Chiquimulilla canal, the Gospel arrival, the school building, the installing of power, etc. It was concluded that the history of this territory is divided into two parts, before and after 1970, since at this time an economic take-off was achieved by the neighbors with the creation of Cooperatives. In terms of organization, the highest authority is the COCODE. In the work structure there are several associations that currently operate, however many of the men and women perform their tasks independently. In addition, monographic information on the area is presented. The methodology used for the research was interviews with collaborators, participant and non-participant observation.

**Keywords:** fishermen, Las Lisas, organization, origins, artisanal fishing.

## Resumen

Los resultados de la investigación que se presenta, correspondientes a los orígenes y organización de los pescadores de la aldea Las Lisas, Chiquimulilla, tiene como objetivos determinar en qué fecha llegaron los primeros habitantes, así como los lugares de donde se trasladaron; Identificar el desarrollo histórico desde sus inicios hasta el 2022, Y; explicar la forma en la que están organizados para llevar a cabo sus labores cotidianas. Dentro de los hallazgos más importantes se pueden mencionar: que los pobladores iniciales se trasladaron de lugares aledaños en 1893; Se detectaron los acontecimientos más relevantes para los vecinos a través del tiempo, como: la división del poblado, los diferentes rellenos que se hicieron, la importancia del canal de Chiquimulilla, la llegada del evangelio, la construcción de la escuela, la instalación de energía eléctrica, entre otros; Se determinó que la historia de ese territorio se divide en dos partes: antes de 1970 y después, ya que en ese momento se generó un despegue económico para los vecinos con la implementación de las cooperativas; Y, en cuanto a la organización, la máxima autoridad es el COCODE. En la estructura de trabajo se da a conocer que existen varias asociaciones que funcionan en la actualidad, sin embargo, muchos de los hombres y mujeres, hacen sus tareas de forma independiente. Como un agregado se expone información monográfica del área. La metodología que se empleó para la indagación fue, entrevistas a colaboradores, observación participante y no participante.

**Palabras clave:** pescadores, Las Lisas, organización, orígenes, pesca artesanal

## Introduction

The research that was carried out deals with the origins of the population of Las Lisas, the historical development and the organization of the fishermen in 2022. It was carried out in the aforementioned village, which is located 142 km from Guatemala City. In an introductory way and so that the reader has a general vision of the studied area, some Elementary information is provided such as: the name and its origins, the geographic location, what can be found when arriving to the place, information about the population, education and illiteracy. The division of topics and subtopics was done in a chronological way, in the first part the historical data are exposed as: origins of the first fishermen, the temporal ways of arrival, division of the village, among others; In the second part the political organization at present and the entities of greater authority are explained; The third part corresponds to the organization of the fishermen in Las Lisas, from 1973 to 2022, where topics are covered such as: the elementary concepts to understand artisanal fishing, the importance of fishing, the changes that were generated from the 1970s, the implementation of cooperatives, the substitution of rowboats for outboard motorboats, how the neighbors assimilated the trade associations and, problems pending to be solved; In the fourth part, an outline of the fishermen in 2022 is made and sections such as: In the fourth part, a sketch is made of the fishermen in 2022 and sections such as: the product of fishing for food and sale, the family business, ways of commercializing the products, factors that influence the decision to dedicate themselves to fishing, the way in which those who do not own a boat work, women fishermen, fishing in the Chiquimulilla canal, fishing seasons and schedules, low seasons and the activities they carry out to obtain economic income, products

that are collected at the sea, global problems and their repercussions on artisanal fishing, the importance of tourism for the inhabitants, problems that require urgent solutions, among others.

The methodology used for the study was interviews, participant and non-participant observation.

## The name

The first inhabitants decided to name the village Las Lisas because of a type of fish found in the area, which they called by the same name. People used to say, "let's go fishing for "lisas" (mullets) (Rizo, unpublished, p. 2). Other native collaborators of the place agreed with Rizo's statement, and the indicated name, due to the abundance of fish called Lisetas, commonly known as Lisas, and with time the name became established to the village (Personal communications: F. Hernández, March 23, 2022; Varela, May 24, 2022).

## Location

Las Lisas is one of the 12 villages of the municipality of Chiquimulilla, in the department of Santa Rosa. It is part of seven coastal towns of the department. It is located at 13° 48' 06" north and 90° 15' 46" west, has a height of 6 meters above sea level and a line of approximately 11 km in length, taken from the watershed, called El Jiote, to the town called El Ahumado (Boix, et al., 2011). The village is located in the southeastern part of the municipality (Morales, 2006), being its limits: to the north the village Casas Viejas, to the northeast village La Ginebra, to the east the village Barra del Jiote, to the south the Pacific Ocean, to the west village El Ahumado and, to the northwest the hamlet La Viña (Varela, 2014).

## General information

Las Lisas has hotels that offer the necessary services for visitors, as well as a considerable number of restaurants, whose meals are based on seafood. The transportation to get there is extra-urban and vans leave from the capital (Central de Transferencia Sur) at different times. From Guatemala City you can arrive by road with a distance of 152 km, to the place known as La Sarampaña, where there are private parking lots for vehicles. Afterwards, a boat must be boarded at the wharf for a 10-minute trip through the Chiquimulilla canal, passing through the mangroves that provide a spectacular view of the area (Morales, 2006).

During the tour of the village, it was determined that in 2022 it has a national school that teaches up to ninth grade and Distance Education Program, a health center, a soccer field, a turtle farm, cemented streets, electricity, water is piped from the Chiquimulilla canal or shallow wells, rainwater drains are exposed and are directed towards the canal or towards the ocean, in homes and hotels are used absorption wells for sewage disposal.

There are several Protestant churches, a Catholic church, an internet café, consumer products stores, bakeries, tortilla shops, clothing sales, construction materials, carpentry, fishing nets, handicrafts, cell phone and computer sales, hardware stores and seafood stores. It is important to note that the two economic activities that most people engage in are fishing and tourism

In 202, the area comprising Las Lisas village is divided into seven sectors: La Casa Barco, Garón, Arana, El Gallito, El Centro, Varela and El Chorizo (Varela, 2014)

## Population information

According to the census data conducted in 2018 by the National Institute of Statistics (INE, 2018), the population of Las Lisas reaches to 1,443 people, of which 735 are men and 708 women. Of the total inhabitants, according to the people of origin, 32 are Mayan, 2 Garifuna, 22 Xinca, 2 Afro-descendants, Creole, Mestizo, 1357 Ladinos and 28 foreigners.

In terms of work activities, there is a range of occupations according to the same census, and for a better visualization, the following list is presented:

**Table 1**  
*Main occupation of the population of Las Lisas, 15 years of age and older*

| Occupational activity  | Total      | Male       | Female     |
|--|------------|------------|------------|
| <b>Total</b>   | <b>523</b> | <b>378</b> | <b>145</b> |
| Military occupations   | 1          | 1          | 0          |
| Directors and managers   | 16         | 5          | 11         |
| Scientific and intellectual professionals  | 15         | 6          | 9          |
| Technical And mid-level professionals  | 3          | 3          | 0          |
| Administrative support staff   | 3          | 3          | 0          |
| Service workers and vendors in stores and markets  | 133        | 74         | 59         |
| Farmers and skilled agricultural, forestry and fishery workers                                   | 158        | 155        | 5          |
| Officers, operators and craftsmen of mechanical and other trades                                 | 52         | 31         | 21         |
| Plant and machine operators and assemblers   | 27         | 27         | 0          |
| Elementary occupations   | 109        | 72         | 37         |
| Unspecified occupations  | 6          | 1          | 5          |
| <i>Note:</i> National Institute of Statistics Table; Source XII National Population Census 2018. |            |            |            |

Regarding the data reflected in the table above, it is most likely that part of the population does not perform the work in the village, but in surrounding places. The following record (INE, 2018), somewhat clarifies the previous

Information, since it consigns the category self-employed without premises, which may be related to fishermen, since many of them work independently and do not have premises, as will be seen below.

**Table 2**  
*Population of Las Lisas, by occupational category, aged 15 years or more*

| Occupational category  | Total      | Male       | Female     |
|--|------------|------------|------------|
| <b>Total</b>   | <b>523</b> | <b>378</b> | <b>145</b> |
| Employer   | 16         | 5          | 11         |
| Own account with premises  | 81         | 45         | 36         |
| Own account without premises   | 246        | 193        | 53         |
| Public employee  | 17         | 9          | 8          |
| Private employee   | 134        | 112        | 22         |
| Maid or domestic employee  | 6          | 0          | 6          |
| Undeclared   | 23         | 14         | 9          |
| <i>Note:</i> National Institute of Statistics Table, Source XII National Population Census 2018. |            |            |            |

Continuing with what concerns the inhabitants of Las Lisas, according to the data of the same census (INE, 2018), a part of the population is not originally from the village. In such a way that 129 people live in the place who came from: Guatemala, Jutiapa, Escuintla, Sololá, Sacatepéquez, Totonicapán, Quetzaltenango, Suchitepéquez, San Marcos, Huehuetenango, Quiché, Baja Verapaz, Petén, Izabal and Jalapa, the first three being the departments from where most have arrived. And, from the countries: United States, Mexico, Brazil and El Salvador, 38 neighbors reside, 31 immigrants from the last one have moved.

## Education

Regarding school education, according to the same census (INE, 2018), 14% of the population does not have any level of studies, 5% attended kindergarten, 51% elementary school, 29% middle or high school cycle, and 1% a bachelor's degree.

The village has 15% illiteracy, school attendance in children from 4 to 17 years old is 78%. And, of the 22% that do not attend classes, the most marked reasons are: lack of money, have to work, do not like it, the parent or partner does not want to, among others (INE, 2018).

## Historical data

### *Las Lisas: fishing place at the beginning*

The first inhabitants of Las Lisas came from neighboring places with the purpose of fishing for four months before Easter. The objective of the fishing was to commercialize the fish in other towns, as there were no refrigerated methods of conservations, the way they used was cover the product with salt and dry it in the sun, and they take it to the markets or sell it locally to traders by means of barter (exchange of one merchandise for

for another). When the work was finished, they would go to the site known as Casas Viejas and there they would leave their tools stored for when they returned again. It is worth mentioning that in their places of origin the men mentioned above were dedicated to agriculture (J. R. Rizo, personal conversation, March 29, 2022).

### *First inhabitants to settle in the area*

According to the testimony of David Rizo's grandparents (Rizo, unpublished), the territory at that time was uninhabited and the first inhabitants came from nearby places such as Los Cerritos, Chiquimulilla, El Ahumado, Pasaco, Jutiapa, among others. According to Fredy Varela (2014), the village had its beginnings from 1300 to 1903.

As mentioned above, the fishermen arrived temporarily, but as time went by, some decided to settle permanently in the village and that is how a small number of families built their homes. Fidel Hernández, (personal conversation, March 29, 2022), indicates that at the beginning there were approximately seven families and later more arrived from different places.

According to David Rizo (unpublished), the first people who built their homes there were: Santos Cristales, Remigio Cristales, Rafael Cristales, Anastasio Moto, Estanislao Romero, Calixto Osorio, Natalio Osorio, Remigio Rizo, Victoria Rizo, Pedro Rizo, Pedro Asencio, Juan Guerrero, José María Segura, Ruperto Marroquín, Francisco Marroquín, Abel Ortiz, Arturo Castillo, Isaac Pérez, Maximiliano Escobar, Mariano Arévalo, Matilde Torres,

Margarito Marroquín, Alejandro Revolorio and Laureano Varela. In the same sense, all interviewees agreed that the first inhabitants arrived to settle there more than a hundred years ago (personal conversations: J. R. Rizo, March 29, 2022; F. Hernández, March 29, 2022; M. I. Valladares, March 30, 2022; A. Varela, May 24, 2022).

According to Eligio Castillo (personal conversation, March 29, 2022), the first fisherman to arrive in Las Lisas was Islango Romero, followed by Ruperto Marroquín, who was originally from Los Cerritos, Chiquimulilla, Fidel Hernández (father) arrived from El Ahumado, and gradually the place was populated by people who lived in other places. It should be added that, according to José Remigio Rizo (personal conversation, March 29, 2022), some Salvadorans also settled in Las Lisas, including Salvador Vallecillos, Jorge Guillén, Julio Mata, among others.

According to Eligio Castillo (personal conversation, March 28, 2022), during the government of Jorge Ubico (1931-1944), some dredging work was done in the Chiquimulilla canal and a group of workers who participated in the work decided to settle permanently in the village. Some of them learned to fish and dedicated themselves to this art.

### *Division of the village*

As the population of Las Lisas grew, different ideas about territorial division were conceived. The first residents decided to divide the village into two neighborhoods: the upper and the lower. The first one starts where the church La Asamblea de Dios is located today, towards the south until reaching the beach and the eastern part; the second one starts from the same boundary line towards the north and west. In order to carry out the ordinance, Adán Flores

ceded part of his land to make a Street that starts at the central avenue, passes next to the school and borders Juan Franklin Avenue (Rizo, unpublished).

### *Salina within the town*

According to information provided by José Remigio Rizo and David Rizo (personal conversations, March 29, 2022; May 24, 2022), on the land where a soccer field is currently located, there was a place where salt was extracted for commercialization, which was owned by Maximiliano Escobar.

### *Filling of a part of the village*

According to the manuscript written by David Rizo (unpublished), the first neighbors organized themselves to fill in a part of the village, with the purpose of facilitating the transit between the neighborhoods, because sometimes the tide carried the water to where there were houses and did not allow the passage from one place to another. They did this with “palmo” posts, which they inserted into the earth to place gravel so that it would not be washed away by the liquid. In the same sense, it is to be expected that, being a place surrounded by water, in some parts it entered more than in others and therefore the inhabitants covered the areas that needed it.

### *The Chiquimulilla Canal*

The construction of the Chiquimulilla canal took place in 1887, which allowed the settlement of families in that portion of coastal land. It has an approximate length of 140 km and serves as a communication between the surrounding communities. It is fed by the rivers that flow into it, which is why it is influenced by freshwater, as well as marine and rainwater. According to Boix et al. (2011, p. 46).



Important places for the functionality of the canal are the entrances of El Ahumado, El Jiote, and El Limón. This part of the estuary is widely used as a transportation route and for the extraction of fishery resources.

The same authors indicate that the Chiquimulilla Channel “is an extremely valuable natural estuarine formation from the biological and economic point of view for the Pacific region of Guatemala”. This is due to the fact that this ecosystem is essential for the breeding of a great variety of fauna and flora species. As can be seen, there is relevance in terms of maintaining the flora and fauna, but the importance for the inhabitants of the nearby areas is transcendental, since this water current has provided them with food since time immemorial and continues to do so today.

During the government of Jorge Ubico (1931-1944), the canal was dredged to make it a navigable tributary (Rizo, unpublished). Approximately in 1956, there was another communication route to the Pacific Ocean, called Barra Choca, which was located 1 km from the town mentioned above, towards the village of El Ahumado. It was closed naturally and today the site is full of mangroves (Morales, 2006).

### *Arrival of the gospel at Las Lisas*

As commented by several contributors (personal conversations: F. Hernández, March 29, 2022; D. Rizo, May 24, 2022; B. Varela, May 24, 2022), one of the most important events for the population of Las Lisas was the introduction of Protestant Christianity. And they mention it as one of the fundamental pillars of the spiritual development of the neighbors. This is due to the fact that there was no church in the area that professed the gospel.

In his manuscript, David Rizo (unpublished),

narrates that it was not something programmed, but rather by chance, give that in 1939 Juan Franklin, who was a preacher in the United States, arrived in the village, but the visitor’s purpose was not to find an evangelical Christian church, but to vacation and fish for a fish called Mero Grance. To help the tourist in his search for fish, Pedro Rizo (David Rizo’s father), took the traveler and his two companions, Matias Morales and Jesus Martinez, to the place known as El Jiote. However, that day they were unable to catch any animals, as it was getting late and they decided to return to Las Lisas. But, when they were returning to the aforementioned place, they met Ruperto Marroquín, who introduced himself to the foreigners, talked with them for a while and offered them lodging in his house (in Las Lisas), where they stayed.

According to the same author and the neighbors of Las Lisas, Ruperto Marroquín practiced “black magic” or “witchcraft” (a person with knowledge of ancestral wisdom). In spite of this, after some time talking about the gospel with the preacher Juan Franklin, Marroquín decided to hold the first worship service in his house (a meeting to instruct the attendees in the Christian faith), for which he invited some local inhabitants and that day Marroquín and the attendees became Protestant believers and accepted Jesus Christ as their savior (Rizo, unpublished).

It was in this way that the first evangelical Protestant church was born in Las Lisas, which was called La Asamblea de Dios, being the first pastor Matías Morales, to which gradually more people began to congregate. It should be noted that in the surrounding areas there was no Christian preaching either, which is why the inhabitants of: El Ahumado, El Paraíso, El Chapetón, Casas Viejas and others. It can be said then that from there the gospel spread to other areas.

And, as a way of recognizing the first pastor, Juan Franklin, the Community Development Council decided to name one of the main streets in the village after him, at the request of David Rizo.

In 2022, the majority of the inhabitants the Protestant Christian religion. There are four churches in the area: Asamblea de Dios, Príncipe de Paz, Jehová es Señor en Guatemala and La Gloria es Tuya Señor (Varela, 2014). It is asserted that the knowledge of Christian doctrine was one of the most important events for the inhabitants of Las Lisas, because all the interviewees spoke of it as the most transcendental for their lives. And, it can be said that the majority of the inhabitants profess the Protestant Christian religion. According to those interviewed, this helps maintain an atmosphere of tranquility and good coexistence among neighbors and visitors.

### *Canoe boats for cargo transportation*

There is no denying the creativity that the inhabitants of Las Lisas have had to solve different situations that have arisen over time. An example of this is the manufacture and use of boats known as cayucos to solve the problem of transporting merchandise. This name was given to the rafts built with wood from very tall trees that were produced in nearby places, measuring between 25 and 30 feet long and six to seven feet wide. These artifacts had a capacity of 60 quintals and were driven by several men, who moved them using rods that they sank to the bottom of the water. The transporters were known as travelers, and among the products they transported were corn, rice, sesame, pork and others (Rizo, unpublished).

According to David Rizo's manuscript (unpublished), the owners of the cayucos gave

them the name of their choice and thus identified them, among the names known by David Rizo are: La Veluga de don Pedro Flores, La Canoona de Mariano Mejía (the largest of the place), El Champerico de don Arturo Castillo, Así Fue Mi Destino de don Juan Miguel Rosales, El Valiente de Moisés Guerrero, El Evangélico de Las Asambleas de Dios Galilea, de don José María Molina, known as Chema Tamales.

### *School*

According to David Rizo (unpublished), many years after the village was founded, as the population grew, the inhabitants organized to build a palm ranch where they were to establish the school, and later requested an elementary school teacher. At that time, the children had to go to a place called Casas Viejas to receive classes, which became dangerous due to the overflowing of the river.

According to the same author, it was not until the period of government of Juan José Arévalo (1945-1951) that they found a response to their request for a primary school teacher. And it was through Socorro Ramírez, pastor of the church La Asamblea de Dios, that they had communication with the president. It happened that Arévalo came to visit the preacher and then the community leaders Ruperto Marroquín, Genaro Osorio, Carmelo Marroquín, José María Segura and Pedro Asencio, took the opportunity to make the request about the implementation of a school and the hiring of a teacher for the children. The president's response at that time was to take a census and write down all the children living in the village and then send him the request in writing, in order to make the corresponding arrangements. So the leaders did as the governor told them and put on the list



even the children under one year of age, so that the number of children could be increased. Some time later they authorized the inauguration of the school and sent them the first teacher, Petronila Escobar.

The previously built ranch served as an educational facility at first, until 1959, when the first classroom was built in block with a duralite roof and cement floor. The cost of the construction was paid by the pastor of the Galilea Assembly of God Church, Narciso Ardón, and parents. In 1995, the second formal classroom was built on the land allocated by the Ministry of Education, under the direction of teacher Lidia Esperanza Corado (Rizo, unpublished).

In the year 2022, the school has its own building, in which 13 elementary school teachers and three telesecondary school teachers work and teach on site. According to Boix et al. (2011), the school, as a representation of knowledge, constitutes a group of power in the village, which the inhabitants recognize.

### *Government of Carlos Arana Osorio (1970-1974)*

In the 1970s, President Carlos Arana Osorio occupied the land where a sports field was located to build a vacation home, forcing the inhabitants to move the soccer field to another location. However, they could not use the recreational site because the water flooded the space. Since it was urgent for the inhabitants to have a space for sports practice, Mr. Virgilio Flores asked the Highway Department to fill in the site located on one side of the main street of the village, a request that was granted by the governmental entity. In order to carry out the work, special machinery was brought into place enough sand to prevent the water from reaching the canal. Subsequently, the neighbors

Organized themselves to place soil on top of the sandstone and planted grass. In 2022, the green color of the grass can be seen in a flat area suitable for sports (Rizo, unpublished).

In 1972, the president of Guatemala installed two subway wells, one of them in his villa and another for public service, for the inhabitants to get to fill their buckets, but that system worked until 1994 (Varela, 2014).

In the same decade, some improvement works were carried out for the village, such as: establishment of the health center, construction of the first sidewalks, installation of latrines in the houses and asphaltting of the road that communicates with Chiquimulilla. According to the inhabitants, the actions carried out by the governor were part of the local development, since both the president and the population in general expected more tourists to arrive and better economic conditions for the local people. The president saw Las Lisas as a natural attraction that could be used to attract visitors, so he told the population that he did not want to see pigs in the streets, because in addition to being unhealthy, it looked bad (personal conversations: C. Lau, May 23, 2022; D. Rizo, May 24, 2022).

The interviewees consider that the fact that the president of Guatemala had a house in Las Lisas meant that he carried out basic infrastructure works, took care of health and sanitation, which in the end resulted in wellbeing for the population and better economic possibilities. Electricity was installed in the village in 1977, which was an advance for the population, since they have illuminated houses and streets with power and street lighting, which in turn helped in some way to attract more visitors (Varela, 2014).

## Fishing development in Las Lisas

### *Agriculture and fishing*

It is important to keep in mind that the first inhabitants of Las Lisas, when they settled permanently in the area, were dedicated to agriculture and fishing. Planting was carried out on land outside of the village, one of which was the Pantaleón farm (Rizo, unpublished). The way in which they used the land was in exchange for work, that is, they provided some service to the owner of the farm and in exchange he allowed them to plant different products. In such a way that they had to coordinate the two activities to obtain food for the family and surpluses to market and acquire cash funds (personal conversations: E. Castillo, March 28, 2022; F. Hernández, March 29, 2022; B. Varela, May 28, 2022; F. Hernández, May 29, 2022; B. Varela, May 28, 2022; F. Hernández, May 29, 2022). Varela, May 24, 2022; A. Varela, May 24, 2022).

### *The first fishermen*

In the first years of its existence, the town did not offer the inhabitants many job options and that is why they were forced to dedicate themselves to fishing, either temporarily or full time. But not all those who settled in the place were fishermen, but because of necessity they had to learn the art, being the feeding of their families the most important thing for them, as Abraham Varela affirms (A. Varela, personal conversation, May 24, 2022) “there was no other way to get hold of funds”.

In the same sense, it must be recognized that people make use of the resources they have at hand to survive and, in this case, Las Lisas has marine wealth, which is what the fishermen took advantage of, they only had to learn the basic techniques. As Benjamín Varela refers (personal conversation May 24, 2022) “people

have come here who did not know how to grab a line or a hook and today they are fishermen and good fishermen, they were made here”.

Another important aspect is that, from its beginnings until the 1970s, fishing was done on the banks of the Chiquimulilla channel, either with hooks or lines. And, according to the testimonies of some collaborators who are over 60 years old (personal conversations: E. Castillo, March 28, 2022; M. J. Varela, March 28, 2022; M. I. Valladares, March 30, 2022; A. Varela, May 24, 2022), the work corresponded exclusively to subsistence, since they only used what they collected for family food. In addition, other factors that prevented fishermen from obtaining profits from the sale of seafood were: the low cost of seafood and the high price of transportation to take the products to the markets. These conditions meant that the income of those engaged in this work was not sufficient to cover household expenses.

### *Canoe boats for fishing*

The wooden boats known in Las Lisas as cayucos were also used for fishing. Since, as indicated above, the work was done in the canal, it was there that they fulfilled their function. The manufacture was carried out in the village and in this type of raft the fishermen could carry the fishing lines and all the necessary utensils, which allowed them to leave the shore of the tributary..

Interviewees Eligio Castillo (personal conversation, March 28, 2022) and José Rizo (personal conversation, March 29, 2022), stated that in the mid-20th century, few people had their own cayuco. In the same vein, it is important to mention that these boats served their function until the 1970s, at which time the shift to wooden, aluminum or fiberglass motorized boats began. Benjamín Varela (personal conversation, May 24, 2022) explained

that a cayuco is “a tree trunk that is emptied and shaped like a boat”.

### *Seafood commercialization from its beginnings until the 1970s*

From the end of the 19th century until the 1970s, in the absence of other methods of meat preservation, fish were sold salted and dried. That is to say that after catching them, the guts were removed, they were opened completely, salted and then put to dry in the sun in special places (tapescos) for a while, so that the fish would not decompose and could reach the markets, which were the places where the final consumers went. The buyers, who in reality were intermediaries, came from the west of Guatemala and brought merchandise from that region, and when they arrived at Las Lisas they exchanged the products. In other words, there was no cash involved in the business, but the fishermen gave the seafood in exchange for sheets, tablecloths, clothes or other merchandise (personal conversations: J. R. Rizo, March 29, 2022; D. Rizo, May 24, 2022; B. Varela, May 24, 2022; D. Rizo, May 24, 2022; B. Varela, May 24, 2022). Varela, May 24, 2022).

### **Political organization of the village Las Lisas in 2022**

#### *COCODE*

In terms of political organization, as in other villages, the highest authority and decision-making body related to development or problem solving in Las Lisas is the Community Development Council (COCODE), which was implemented in 2000, according to Ernesto Carrillo, president of this entity (E. Carrillo, personal conversation, May 23, 2022), who added that prior to the establishment of this entity, there was a Development Committee, which was responsible for initiating improvement projects in the area. As stated by

Boix et al. (2011), who indicate that this Council is in charge of surveillance and social stability, and its members represent authority in the imaginary of its members, in other words, it is in this body where the organization of the community is centered.

According to Carrillo, in 2022 the political body is composed of: the president, vice-president, secretary, treasurer and three members. The election of the leaders is held every four years, which coincides with the change of president and vice-president of the Republic. For this purpose, the local authorities make a call to the entire population and the attendees vote for the slate of their choice.

The election is held in the village school, as it is the most suitable place with enough space. The vote must be personal and only the will of those attending the event is taken into account. The way it is carried out is simple, one or several slates are presented and the inhabitants decide by raising their hands if they agree with the proposed persons. According to some collaborators (personal conversations: R. J. Barillas, March 28, 2022; J. R. Rizo, March 29, 2022; F. Hernández, March 29, 2022;), those who will serve in 2022 are politically directed by those who have been reelected for more than 20 years and what the people have done, according to those interviewed, is to ratify if they agree with the same people continuing to serve. However, the inhabitants can propose suitable people, who must necessarily be natives of the area.

According to Ernesto Carrillo (personal conversation, May 23, 2022), the reasons why the leaders have served for a long time in COCODE are that the people who accept the

responsibility must have enough time to make arrangements with the respective authorities, to travel constantly to Chiquimulilla, Cuilapa and other places, and to solve the situations that arise in the village. This implies that the directors must be willing to leave their jobs when they are required to do so. On the other hand, since there is no economic remuneration for carrying out the functions of leadership and organization of COCODE, few participate in the elections. When the election is over, the representative of the Municipality of Chiquimulilla writes the minutes and attests to the process, consigning in the documents the names of those who will lead the political life of the place (J. R. Rizo, personal conversation, March 29, 2022).

According to the President of COCODE, among the functions of the leaders are: to promote the development of the village, operation of the health center, manage the construction of schools, sports facilities, urbanization and ornamentation. They intervene in the solution of infrastructure problems that affect the entire population, such as the bocabarra, the pier and others (E. Carrillo, personal conversation, May 23, 2022)..

In terms of decision making, when they are circumstances that can be solved by the members of the community council, they only reach a consensus among themselves. But, when they are scenarios that affect the entire population, they call on everyone to present the problem to them and decide what they are going to do (personal conversations: J. R. Rizo, March 29, 2022; F. Hernández, March 29, 2022; E. Carrillo, May 23, 2022).

When COCODE has to ask for support to solve infrastructure situations within the village, it makes requests to the Municipality of Chiquimulilla, the deputies of the department of Santa Rosa or other governmental entities (E. Carrillo, personal conversation, May 23, 2022).

### *Auxiliary Mayor's Office*

This entity is composed of the auxiliary mayor and two bailiffs, who ensure order and control in terms of community security (Varela, 2014).

## **Organization of the fishermen of Las Lisas from 1973 to 2002**

### *Fishing*

A concept that was found adequate in terms of fishing is the following: "fishing is understood as any action that consists of capturing, collecting, extracting and hunting by any method or procedure, hydrobiological resources" (Ministerio de Agricultura, Ganadería y Alimentación [MAGA], 2002, as cited in Pacay, 2015, p. 10).

### *Artisanal fishing*

Artisanal fishing is understood as that which is carried out with small amounts of investment, in which simple instruments or equipment are used and catch volumes are short. Of the seafood extracted, part is used to feed the family and part is sold (Food and Agriculture Organization of the United Nations [FAO], 1986, as cited in Sánchez, 2000). The significance of this type of fishing is alluded to because it is the case of the inhabitants of Las Lisas, who, due to their scarce capital, work for their subsistence and sell the surplus to the intermediaries that operate in the village.

According to Boix (2012), subsistence fishing is characterized by having as its primary purpose the provisioning of food for the family and artisanal fishing is carried out with the purpose of collecting spices for commercialization and the generation of capital. However, fishermen can carry out both types of fishing, since both are based on family nutrition.

According to Pacay (2015), artisanal fishing is carried out in small boats with motor or without mechanization and electronic devices, for extraction and subsequent commercialization.

### *Artisanal fisherman*

Taking into consideration the self-definitions of Las Lisas' collaborators, the following concept was constructed: artisanal fisherman is the person who works in fishing to obtain food for his family and sells part of what he catches. As in other jobs, he must have the necessary knowledge and techniques required by the trade. An indispensable part of his apprenticeship is to know how to swim, to know the sea, to have a sense of direction, good vision and to know where he can catch the most fish. In addition, he must be aware that he will face natural phenomena that can cost him his life (personal conversations: F. Hernández, March 29, 2022; J. E. Chicas, March 29, 2022; M. J. Varela, March 29, 2022; J. T. Arias, March 29, 2022). Generally, knowledge is acquired from childhood, either from parents, siblings or a local neighbor.

### *The importance of fishing*

Fish extraction has been one of the main sources of food and employment for coastal communities over time. Fish is a source of protein for human consumption; it is estimated that 70% of the catch is for direct consumption and 30% is processed into fishmeal and oil.

Developing countries (such as Guatemala) catch more than half of the world's catch. Fishing in these nations, which is carried out in an artisanal manner, with small boats, is believed to contribute 25% of the world's catch. This type of fishery is a significant source of employment; it is estimated that 100 million people depend on this activity for food and income. Most seafood comes from the oceans, with the traditional way of catching shellfish being the most relevant (FAO, 1991, as cited in Sánchez, 2000).

As can be seen, the FAO reports coincide with the conditions of the fishermen of Las Lisas, in terms of their work tools, the small quantities they extract for consumption and commercialization, but above all in that they depend directly on the fishery for food and to obtain cash to cover their needs.

### *1970's a time of relevant changes*

The 1970s were a transcendental decade for the fishermen of Las Lisas, because it was a time of changes in the traditional and organizational forms of fishing. It can be said that this date was a turning point in the historical development of the area, marking a before and after. This is because it was at that time that the first cooperative was implemented, and the use of canoes and paddle rafts was changed to aluminum or fiberglass boats with outboard motors. This undoubtedly generated better work and economic possibilities for the fishermen, which in turn had an impact on the population's standard of living (personal conversations: E. Castillo, March 28, 2022; J. R. Rizo, March 29, 2022; C. Lau, May 23, 2022; D. Rizo, May 24, 2022). According to Fidel Hernández (personal conversation, March 29, 2022), the ideas of organizing as a group of fishermen arose because they thought that together it would be easier to get help from the government.



It is important to point out that before this period they all worked independently, without any type of governmental assistance, with the little equipment they could buy, generally on the banks of the canal, some of them with canoes, which made their work unprofitable, since there was not much surplus seafood left to sell.

According to Boix (2012), it was in the 1990s that the promotion of fishing organizations as a trade union force began to grow, so that federations such as PRADEPESCA, which brought together the different associations, emerged. After joining national federations, they became part of the Central American Confederation of Artisanal Fishermen (CONFEPESCA), which operated in Guatemala, El Salvador, Honduras, Nicaragua and Panama. The author adds that the idea prevailed that only organized fishermen could have access to credits and development projects financed by the government. This coincides with what was expressed by the fishermen interviewed.

## **Organization of the cooperatives in Las Lisas**

### *Implementation of the Las Lisas cooperative*

“The history of the Las Lisas cooperative has been a tenacious struggle” (C. Lau, personal conversation, May 23, 2022).

The idea of forming the first fishermen's organization came from Carlos Lau León, who was a primary school teacher in the village. And it was he who met with the interested parties in 1973 and subsequently formed a representative commission, which was headed by Professor Lau. That same year, the teacher

spoke with President Carlos Arana Osorio and told him that they intended to form a cooperative, to which the president immediately replied that he did not agree and added “try it and you will see that it is not easy”, despite this, the teacher and his companions did not give up (E. Castillo, personal conversation, March 28, 2022).

According to Boix (2012), the initiatives to organize in cooperatives, Community Development Committees (COCODES) and others, arise as survival strategies for fishing populations, which require leaders with decision-making on the use, management and sustainability of the natural resources in which they develop. The author's statement fits with the inauguration of different associations that, in addition to generating group cohesion, sought to face future challenges that were more difficult to overcome individually.

The interviewees, for their part, indicated that the objectives that the cooperative intended to achieve were issues that were made known to all fishermen without any distinction, however, at first few were those who became members (personal conversations; E. Castillo, March 28, 2022; C. Lau, May 23, 2022; D. Rizo, May 24, 2022; D. Rizo, May 24, 2022; C. Lau, May 23, 2022; D. Rizo, May 24, 2022).

Lau's first step was to make a request to the Ministry of Agriculture, where he was attended to by Félix Gándara, who, after hearing the request, told the teacher that he was going to send him to Chimaltenango (head of the department of the same name), so that he could be trained and become a cooperative leader. He accepted the suggestion and went to train for a while (C. Lau, personal conversation, May 23, 2022).

One of the ideas that lurked in the context of the fishermen was exploration at sea. At that time they were afraid of entering a territory they did not know and therefore considered that it would be easier to achieve the objective if they did it together. The greatest fear was that the boat would capsize in the ocean and that no one would be able to help the crew members, which is why they did not dare to enter those waters. But, without a doubt, the main goal of the organizers was to improve the quality of life of the people of Las Lisas (personal conversations: C. Lau, May 23, 2022; D. Rizo, May 24, 2022; A. Varela, May 24, 2022; I. Rizo, May 24, 2022).

After several meetings and agreements were reached, the delegates representing the fishermen were able to establish the cooperative Las Lisas, R.L. on September 20, 1973 (personal conversations: C. Lau, May 23, 2022; D. Rizo, May 24, 2022). The administrative activities began with the drafting of the bylaws that would govern the cooperative from that moment on, and the creation of a board of directors, the oversight commission and guidelines for the general assemblies were determined.

In its beginnings, the cooperative started with no resources, relying solely on the help of the 40 members, who set about the task of preparing a piece of land and building a ranch, which served at first as headquarters and other uses. One of the first actions was to build some wooden boats with oars for fishing in the canal, taking into account that the fishermen did not have any type of raft. Since there were few boats, not everyone could work at the same time, so some worked at night and others during the day, with the commitment to deliver all the product to the cooperative (C. Lau, personal conversation, May 23, 2022).

In 1974 they obtained legal status, which allowed them to work legally. Later, they joined the federation of cooperatives, in which Las Lisas, Hawai, Puerto de San José, Puerto de Champerico and Ocós participated (personal conversations: E. Castillo, March 28, 2022; D. Rizo, May 24, 2022).

As can be seen, the work and efforts of the founders of the first fishermen's cooperative of Las Lisas were not in vain, therefore it is indispensable to mention those who constituted it: Moisés Guerrero, Matilde Torres, Carlos Rosilloli, Samuel Aguilar, Ricardo Ortíz, Tereso Flores, Genaro Varela (R. I. P. D.), Carlos Lau, David Rizo, Cruz Flores, José Flores, Raquel Flores, Raquel Flores, Raigio Castillo, Benjamín Varela, Raúl Rizo, Israel Rizo, Gilberto Rizo, Gilberto Rizo. D.), Carlos Lau, David Rizo, Cruz Flores, José Flores, Raquel Flores, Eligio Castillo, Benjamín Varela, Raúl Rizo, Israel Rizo, Gilberto Rizo, Leonardo Barrientos, Alberto Valladares, Elizandro Barrientos and Juan Barillas (D. Rizo, personal conversation, May 24, 2022).

As indicated above, for a time the fishermen carried out their work in the canal in the traditional way with rowboats. However, since they were already organized, in 1974 the Ministry of Agriculture donated an aluminum boat with an outboard motor. This important change encouraged the men to take to the sea. The problem was that they had no experience in driving this type of motorized vehicle, i.e. to enter the ocean. So the first time they tried it, they did not manage to get over the waves and the boat turned over. It was at that moment when they analyzed that they had to wait until the tide was low to be able to pass (C. Lau, personal conversation, May 23, 2022). Working in the ocean gave them the

opportunity to obtain more seafood and at the same time better economic earnings.

The boats arriving with seafood from the sea generated the need for internal transportation from the beach to the cooperative's headquarters, so Carlos Lau came up with the idea of making carts with automobile tires to move the products from one place to another. On the other hand, during a trip to El Salvador, they found out that in that country they made trammel nets of 500 and 1000 meters, which could be joined together and thus catch more fish, which they also implemented to optimize the work (C. Lau, personal conversation, May 23, 2022).

At the same time, they established a seafood store in Las Lisas and the cooperative continued to grow. Carlos Lau's ideas to generate more income were having an effect, so that, as the professor's father worked at the Los Dos Leones store, the cooperative requested a loan from that company to establish a consumer store in the village, which was granted. With this, the capital was increasing all the time (C. Lau, personal conversation, May 23, 2022).

Although business at that time was profitable, the cooperative members' ambitions were greater. So in 1975 they requested a loan from the Agricultural Development Bank, which granted them 250,000 quetzales. The money was invested in the purchase of two boats, named San Carlos and San Marino, with which they began large-scale fishing operations. On the other hand, the same year, the Guatemalan government granted them the respective licenses for shrimp fishing, as well as four other cooperatives: Hawaii, Ocos, Puerto de San José and Champerico (personal conversations: C. Lau, May 23, 2022; D. Rizo, May 24, 2022; A. Varela, May 24, 2022; B.

Varela, 24 de mayo de 2022).

In the same vein, it should be noted that the fishermen had just had their first experiences at sea with motorboats and had no knowledge of boat handling. For this reason, the same year, FAO intervened so that some Chilean fishermen could train the sailors of Las Lisas. The Chilean experts taught the Guatemalans the elementary techniques for working at sea and, some time after the training, the latter were able to have the necessary practice (personal conversations: D. Rizo, May 24, 2022; A. Varela, May 24, 2022; D. Rizo, May 24, 2022).

With boats, the cooperative was developing more and more. And the government, for its part, for having granted loans to the cooperatives, carried out a campaign to disseminate messages through television, in which the slogan was "fish for all". In such a way that not only the fishing activity was made known, but it was expressed that there was food from the sea for the people in places with economic scarcity (C. Lau, personal conversation, May 23, 2022).

At that time, the cooperative had permits for shrimp trawling, which is another of the activities it has been engaged in for the past 45 years. It should be noted that, before the government authorized the association to obtain the licenses, there was only one company dedicated to this work, called Pesca, S.A., whose owner was Cuban. According to Carlos Lau (C. Lau, personal conversation, May 23, 2022), the shrimp were exported to Italy, Spain and other European countries because of their excellent quality.

In the same process of implementing union work, the fishermen needed training to

understand the work of the cooperative and the commitments that the members acquired with that entity. To carry out the inductions and training, the National Institute of Cooperatives (INACOOOP) collaborated, which was in charge of guiding the members in achieving their objectives (C. Lau, personal conversation, May 23, 2022).

In 2022, most of the cooperative members no longer work in the fishing activities on the boats because they are over 65 years old, but they hire men to carry out the work and the members receive the dividends. Also, some of the shareholders have passed away and it is the wives who come to the meetings and get the profits (personal conversations: José Rizo, March 29, 2022; David Rizo, May 24, 2022). In the same year, the cooperative has 36 members and no longer accepts more. Carlos Lau (C. Lau, personal conversation, May 23, 2022) says that it is in crisis and that is why the members are reorganizing to make it more productive.

The implementation of the first cooperative was one of the most important events for the fishermen of Las Lisas, since it opened the way for the formation of others, taught the men the importance of teamwork, trained them in the handling of motorboats and work at sea, and generated fruits over time, which had an impact on the improvement of economic conditions, which also implies an improvement in the quality of life.

### *Change from rowboats to motorboats*

The transition from the use of rowboats and canoes to motorboats took place gradually after 1974. “A man arrived from the port of San José, who already had a motorboat, and a foreigner named Soren Jansen also arrived, who also collaborated with the change from one technology to another” (E. Castillo, personal conversation, March 28, 2022). It should be

clarified that before the implementation of outboard motors, fishing was only done in the canal.

In the same sense, the Las Lisas cooperative and the Ministry of Agriculture were key players in the adaptation from one type of boats to another, as mentioned above, which encouraged the initiation of open sea incursions (personal conversations: E. Castillo, March 28, 2022; R. J. Barillas, March 28, 2022; A. Varela, May 24, 2022). However, lack of experience caused several boats to capsize and engines to break down. But the eagerness to explore the sea and go in search of marine products was stronger, as expressed by Carlos Lau (personal conversation, May 23, 2022), who added that, when they mastered the knowledge to drive the vehicles, the use of motor power combined with light boats resulted in better results and ease of work, since the distance they could travel in the ocean was up to 10 nautical miles.

With the series of changes that took place in the 1970s, some fishermen, seeing that it was possible to enter the sea and obtain more products, once they had the basic knowledge, decided to put an engine on their wooden boats, which is how more men ventured into the art outside the canal and gradually increased the number (F. Hernández, personal conversation, March 29, 2022).

Some of the collaborators indicated that, among the facilities that the use of motorized vehicles gave them, are: entering the sea at greater distances (ten nautical miles), they could stay up to three days in the ocean, which gave them the opportunity to work during the day or at night and obtain more of the products they extracted in the canal, which generated greater economic gains

(personal conversations: R. J. Barillas, March 28, 2022; M. J. Varela, March 29, 2022; M. J. Varela, March 29, 2022).

From the above it can be said that, for the fishermen of Las Lisas, the change from manual to motorized work was transcendental, since it facilitated the way of carrying out the work, generated other opportunities and better remuneration for their work. And, in the year in which this research was conducted, the boats they use are fiberglass, with a length of 21 to 26 feet and outboard motors of 40 to 75 horsepower.

### *Establishment of the Solimar cooperative*

This was implemented in 1986, and during its existence it has only obtained one loan from the Social Investment Fund (FIS), which was for 375,000 Quetzals. With the money, the partners decided to invest it in the purchase of land, the establishment of a salt production company, a hardware store and a consumer store. These businesses are still generating profits in 2022 and have 32 members (F. Hernández, personal conversation, March 29, 2022).

### *Formation of the civil society of Maya Vikingo fishermen*

The beginnings of this fishermen's association date back to 1996, when Mr. Soren Jansen arrived in the village of Las Lisas as a representative of a non-governmental organization that received funds from Denmark. Initially, Jansen's interest was to provide training to interested men. The training was geared towards three points: administration, cooperation and integration, for which they held a series of workshops

(O. G. Marroquín, personal conversation, May 24, 2022).

After receiving the basic principles of teamwork, the society was legally formed in 1999, which at that time had 60 members. The first board of directors was in place for only six months, and it was necessary to change the authorities, and Oscar Marroquin was appointed as president. But Soren Jensen was always directing the activities in the early years (O. G. Marroquín, personal conversation, May 24, 2022).

The success of the association was such that it came to have: a refrigerated room for storing products, premises for buying and selling seafood, five boats with outboard motors, a truck with a refrigerated van and other goods. And, although the members had to fulfill the work commitments, they had the opportunity to work in the fishery on an individual basis. Unfortunately, in 2022 the entity no longer has the aforementioned capital, and most of the members withdrew (personal conversations: J. R. Rizo, March 29, 2022; F. Hernández, March 29, 2022; J. R. Rizo, March 29, 2022).

### *Other cooperatives, associations and committees that have been implemented*

In addition to the organizations indicated above, others were established: Tesoro del Mar, Asociación de Pescadores La Unión and Coopesmar, of these only the first one is still in force, the others are not working (personal conversations: J. R. Rizo, March 29, 2022; F. Hernández, March 29, 2022; C. Lau, May 23, 2022; O. G. Marroquín, May 24, 2022).

On the other hand, there is also the Boatmen's Association, which is made up of passenger carriers, and the Comité de Autogestión



Turística (CAT), which was created to solve tourism-related problems (O. Marroquín, personal conversation, May 24, 2022). The Local Tourism Committee (Colotur) was also created in 2000 to develop tourism (Varela, 2014).

### *How have fishermen viewed the organization into cooperatives*

When the organization of the first cooperative called Las Lisas began, because it was something new for the fishermen, many of them were suspicious of the project, so the number of members was small. Later, when they saw the benefits that the labor union could bring them, more and more members gradually joined. And so successful was it that other groups were formed by those who had not joined the aforementioned one, as will be discussed later (J. R. Rizo, personal conversation, March 29, 2022).

As cooperativism developed in the village, the fishermen participated in some achievements through teamwork, among which we can mention the implementation of a seafood collection center, with the purpose of avoiding the intervention of intermediaries (coolers) in the business. This would allow consumers to buy directly from the cooperative during the sales process and increase profits. Unfortunately, according to the interviewee, only the building was constructed, but the proposed objectives were not achieved, because the project was not followed up due to lack of economic funds (J. R. Rizo, personal conversation, March 29, 2022).

The fishermen are aware that working as a group gave them the opportunity to develop in their work and one of the achievements was

that their requests were heard by different government entities and some of them were responded to favorably. Thus, some cooperatives obtained low-interest, long-term loans, fishing licenses, training for their members, and help to start working at sea with outboard motorboats, among others. It should be noted that subsidies or collaboration from state institutions would not have been possible if they had not been organized into associations (O. G. Marroquín, personal conversation, May 24, 2022).

According to Boix et al. (2011), the organized inhabitants are grouped into three legal entities: cooperatives, associations and committees. Of these, the fishing cooperatives and associations are members of the Southeast Pacific Fishermen's Network. This indicates that the participation of the inhabitants in the different guilds was functional and beneficial. Despite this, in 2022 there is distrust in associations or cooperatives, as most fishermen indicated that they prefer to work independently and have no interest in belonging to any of them (personal conversations: R. B. Barillas, March 28, 2022; R. J. Barillas, March 28, 2022; J. E. Chicas, March 29, 2022; J. Gramajo, March 29, 2022).

### *Pending problems to be solved in cooperative organizations*

Although some of the fishermen are organized in cooperatives and associations, there are some situations in 2022 that they have not been able to resolve. According to Oscar Marroquín (O. Marroquín, personal conversation, May 24, 2022), there are three difficulties that have affected their organizational activities:

1. There are more fishermen not associated in cooperatives or associations (independent fishermen).
2. Failure to reach agreements between independent fishermen and fishermen organized in cooperatives.
3. Weakness in management knowledge in cooperatives and associations.

Another disadvantage, according to Mynor Varela (personal conversation, March 29, 2022), is that there is no cooperative that brings together all fishermen, but rather there are several organizations with few members, which makes them weak.

### *Fishermen in 2022*

Most of the fishermen working in 2022 in Las Lisas were born there, their parents dedicated themselves to the same trade and in many cases it was their parents who taught them the art (personal conversations: E. Castillo, March 28, 2022; J. R. Rizo, March 29, 2022; J. Gramajo, March 29, 2022; F. Hernández, March 29, 2022; D. Rizo, May 24, 2022; B. Varela, May 24, 2022; A. Varela, May 24, 2022).

In the year in which the research was conducted, it was determined that a large number of fishermen have fiberglass or wooden boats with outboard motors. However, there is also a group that does not have a marine vehicle, so they work for someone else who owns a boat in exchange for economic remuneration (personal conversations: J. R. Rizo, March 29, 2022; F. Hernández, March 29, 2022; J. E. Chicas, March 29, 2022; J. E. Chicas, March 29, 2022).

As for the way of fishing and the work instruments, they have not changed in their essential form. That is to say, the

fishermen still use traps, trammel nets and hooks, as the first fishermen did. The only element that has been implemented in the last few years is the so-called simbra, which consists of a plastic band with 500 hooks with bait, which is placed in the water, left for a while and the fish are caught. What has changed in the last 25 years is that in 2022 most fishermen work at sea and the aforementioned tools are bigger. That is, when they fished in the canal, fishermen used small nets and nowadays they can be 100, 200, 300 meters or more (personal conversations: J. R. Rizo, March 29, 2022; J. Gramajo, March 29, 2022; F. Hernández, March 29, 2022; J. E. Chicas, March 29, 2022; J. E. Chicas, March 29, 2022).

### *Fishery product for food and sale (artesanal fishing)*

It can be said that the majority of fishermen in Las Lisas are artisanal, since part of the catch is reserved for feeding their families, but most of it is sold to local intermediaries (hieleras) to obtain cash to cover their living needs (personal conversations: R. J. Barillas, March 28, 2022; F. Hernández, March 29, 2022; B. Varela, May 28, 2022; F. Hernández, May 29, 2022; B. Varela, May 28, 2022).

### *Fishing, a family business*

The fishing activity in Las Lisas is not only about catching fish and selling them, but it is a job that involves the whole family. That is to say that the wives and children are involved in the actions, who in one way or another participate, whether in the gutting, cleaning, salting, placing for drying, moving from one place to another, even taking the product to the buyer or intermediary (icebox), which turns the work into a family business (personal conversations: R. J. Barillas, March 28, 2022; R. B. Barillas, March 28, 2022; J. T. Arias,

March 29, 2022; F. Hernández, March 29, 2022, A. Varela, May 24, 2022; B. Varela, May 24, 2022; I. Rizo, May 24, 2022).

### *Ways of commercializing the products*

Fishermen have three ways in which they sell their products: First, directly to restaurants or final consumers; Second, it is to intermediaries who have their premises in the place, to be transferred to Guatemala; Third, it is to intermediaries to market them in El Salvador (Boix, et al., 2011).

The investigation determined that most fishermen trade what they catch at the collection centers, keeping only a small portion to feed their families. The problem is that the store owners are the ones who set the prices per pound of seafood, depending on the quality or class. These merchants are in charge of buying these products and selling them in the village to restaurants or to people who want them and other departments such as Guatemala, El Progreso, Jutiapa, among others. These places of commercialization are known by the local population as “hieleras” (iceboxes).

In 2022, there are five establishments that sell these goods in the area. According to the collaborators, there are two reasons why they prefer to do it that way, the first is because the traders buy everything they carry and the second because they do not have the time to take the merchandise to the markets (personal conversations: Jesús Barillas, March 28, 2022; Jesús Chicas; Tránsito Arias, March 29, 2022; Dora Cruz, May 24, 2022; Abraham Varela, Benjamín Varela and Israel Rizo, May 24, 2022). (Boix, 1999, as quoted in Pacay, 2015, p. 12) states that:

because they do not have access to the sources for the commercialization of fishery products, artisanal fishermen make use of the so-called 'intermediaries', ranging from people outside the community who buy the product wholesale to members of the same community who make minimal resales.

It should be noted that the fish drying process is still carried out in Las Lisas, which takes place from January to April of each year, in order to sell it before Easter (D. M. Cruz, personal conversation, May 24, 2022).

### *Factors influencing the decision to go fishing*

Although in 2022 there are different social and economic conditions in Las Lisas than in the 1970s-1980s, fishing continues to prevail as one of the main work activities. The need to generate income and the fact that there is no other source of work is what drives many of the neighbors to engage in this work. Some of the collaborators indicated that they did not finish primary school and others could not continue their studies because there was no Institute of Basic and Diversified Education in the village. And the only way to continue after sixth grade was to move daily to Chiquimulilla, which was difficult for them (personal conversations: E. Castillo, March 28, 2022; J. R. Rizo, March 29, 2022; B. Varela, May 24, 2022; A. Varela, May 24, 2022; I. Rizo, May 24, 2022).

According to doña Manuela Valladares (personal conversation, March 30, 2022), the attraction of the new generations to fishing begins at an early age, since the children, when the boats full of seafood arrive, help take the fish from the trammel nets, put them in containers and take them to the places where the intermediaries (hieleras) are located.

In exchange, the boat owners give them five or ten quetzales. In other words, for the children it is a fun way to get a few quetzales and at the same time they learn that fishing is a way to earn money when they reach adulthood.

As mentioned above, there is no other source of work for men in the village, but fishermen over 40 years of age do not want their sons to do the same work; their greatest desire is for them to study and become university professionals (personal conversations: J. R. Rizo, March 29, 2022; F. Hernández, March 29, 2022; O. G. Marroquín, May 24, 2022). On the other hand, there is the criterion that their descendants should learn the trade and at the same time study, so that they have two employment options (D. M. Cruz, personal conversation, May 24, 2022).

According to Boix (2012), the decision to engage in fishing in coastal areas is made from the age of 12, since at that age they already have sufficient experience to navigate and the necessary knowledge to engage in fishing activities. On the other hand, a young person at the age of 14 is already capable of making his or her own decisions, in addition to the fact that school services for adolescents are insufficient.

### **Number of fishermen in Las Lisas**

So far there is no record that indicates the exact number of fishermen working in the village, however, when asked about it, the inhabitants indicated that the figure ranges between 200 and 250. However, of the whole group, only about 50 own a boat with an outboard motor, so those who do not have a water vehicle work for one of the owners (personal conversations: R. J. Barillas, March 28, 2022; R. B. Barillas, March 28, 2022; F. Hernández, March 29, 2022).

### **How do fishermen who do not own boats work?**

In Las Lisas there is a group of fishermen who do not have a boat, but they have the possibility of working in alliance with someone who does. For this, there is a particular form of economic retribution, since this labor union becomes a partnership without commitments from any of the parties. That is to say it is carried out to the extent that the conditions are given to carry out an expedition to the sea.

The way to distribute the profits of the product obtained is dividing the economic profits in three parts, which works as follows: the owner of the boat provides the vehicle, work instruments, food, gasoline, ice and what is necessary for the trip; Two workers are the ones who carry out the expedition and obtain the seafood; After selling the product obtained, the cost of what the owner of the boat invested is discounted and what is left is distributed among three, since they are the ones involved, that is, the one who provides the necessary elements for the work and two sailors. It is understood then that the investor obtains 33% of the dividends, the same as each of the two workers. It should be noted that these agreements between them are verbal and this is the way they have been doing it for several decades (personal conversations: R. J. Barillas, March 28, 2022; R. B. Barillas, March 28, 2022; J. E. Chicas, March 29, 2022; F. Hernandez, March 29, 2022; J.R. Rizo, March 29, 2022).

During the research, it was found that in each task (workday) there are two people working on a boat. As corroborated by Boix et al.: (2011, p- 69) "fishing operations are mostly carried out by two people per boat [...] who previously check and prepare the fishing gear to be used".

The way profits are divided coincides with what FAO (1986; quoted by Sánchez, 2000, p. 30) states: “The income obtained from the catch is distributed in a traditional way. The captain, as [owner of] the vessel, equipment and fishing gear, receives a percentage of the profits and the remainder is divided equally among the crew members”.

### **Fisherwomen in Las Lisas**

In the village of Las Lisas there is also a group of eleven women who fish in the Chiquimulilla canal, which they do to help support their families' income. In the case of Dora Cruz (personal communication, May 24, 2022), in addition to working in the canal, she also works at sea with her spouse. She learned the trade at the age of 13 and it was her father who taught her the basic techniques related to the same art. Referring to fishing, she said that it is a job that women can do, and that although it is hard, she has overcome it, and fishing in the ocean has become her passion, to which she said: “I like fishing very much, and I not only fish in the canal, but also in the sea”.

The collaborator added that from a very early age she felt the need to help her parents economically and at the same time she was studying her basic and diversified cycle, according to her own expressions she said: “I used to go crabbing, to catch shells, before going to study”, “then I saw that I was supporting, because I was the first one and my other brother had to study as well”. When she talked about “jaibear”, she meant catching animals called “jaibas”, which are similar to crabs. Dora Cruz commented that there are three aspects in her life that motivated her to dedicate herself to fishing: the need for money, the taste for work at sea and her father's legacy, as she says:

“I am proud to be a fisherwoman, because I like it, it is in my blood”.

Like the men, Dora Cruz indicated that some pounds of the seafood she obtains are used to feed her family and most of it she sells to traders, in order to obtain cash to cover her expenses.

### **Fishing in the Chiquimulilla canal**

As noted above, most fishermen in Las Lisas choose to work at sea because they obtain more products. However, fishing in the canal has not ceased to be relevant and continues to be a source of income or food for families in the village. It happens that when marine resources are depleted in the ocean, some men decide to work in that tributary, since there is always seafood there and, although they do not collect the same amount, the little they collect helps them in their economy (personal conversations: M. J. Varela, March 29, 2022; F. Hernández, March 29, 2022; J. E. Chicas, March 29, 2022; D. M. Cruz, May 24, 2022).

### **Seafood they obtain and commercialize**

In the Pacific Ocean, as well as in the Chiquimulilla canal, which are the places where the fishing activity of Las Lisas takes place, there is a variety of fish that reproduce in the area, which are the daily work of the fishermen. And, as reported by the collaborators (personal conversations: J. Gramajo, March 29, 2022; F. Hernández, March 29, 2022; J. E. Chicas, March 29, 2022; D. M. Cruz, May 24, 2022; A. Varela, May 24, 2022), in the nets are caught fish such as: snapper, snook, snook, vague, tacasonte, devil, scorpionfish, curvina, sierra, aleta, grouper, dentex, roach, quinoa and others, being the first and second the most sought after. In



addition, the trammel nets also sometimes carry shrimps and lobsters.

### Best fishing season

Regarding the best time to fish, the interviewees expressed two positions: The first is that the best months to obtain more products are from June to November, with the disadvantage that the price goes down; and the second is that from December to May, although the amount of fish caught is less, the value is higher. Among the reasons for the increase in cost during the summer season, they indicated that it is due to the fact that more visitors come to the area to visit and for religious reasons many people consume more seafood during Lent and Easter (personal conversations: J. R. Rizo, March 29, 2022; F. Hernández, March 29, 2022; J. T. Arias, March 29, 2022; D. M. Cruz, May 24, 2022; A. Varela, May 24, 2022; J. T. Arias, March 29, 2022; D. M. Cruz, May 24, 2022).

### Fishing schedules

During the research, it was determined that there are no specific schedules, but that each fishermen decides the time and the way he/she wants to work. Some prefer the afternoon and evening, others in the morning, others all day, and some travel for several days, having to spend the night at sea. And those who decide to work for several days in the ocean provide themselves with enough food for the journey.

It should be noted that, according to the collaborators, going into the sea, staying several days, enduring rain, storms, knowing that there are sharks in the water and risking their lives, is not easy. To think that they do not know what they are going to find on the way and if they are going to return home. All of this is part of the risks of the work that the

men and women who choose this work must face on a daily basis (personal conversations: J. Gramajo, March 29, 2022; J. R. Rizo, March 29, 2022; J. E. Chicas, March 29, 2022; J. T. Arias, March 29, 2022; I. Rizo, May 24, 2022; D. M. Cruz, May 24, 2022).

### Other activities carried out when the season is low

For the residents of Las Lisas, engaging in marine activities has some drawbacks, one of them being the seasons when they are unable to obtain seafood in the ocean or in the canal. At those times they must wait for fish reproduction and until then carry out their work. Because of this, they have had to dedicate themselves to other jobs to cover their economic needs, according to collaborators (personal communications: R. J. Barillas, March 28, 2022; F. Hernández, March 29, 2022; J. T. Arias, March 29, 2022; D. M. Cruz, May 24, 2022; A. Varela, May 24, 2022; O. G. Marroquín, May 24, 2022), some fishermen dedicate their time out of the water to masonry, repairing palm roofs, guarding, dispatching consumer stores, selling clothes, etc. Another group travels in their boats to other places outside the village, such as Monte Rico, Puerto de San José, among others, to continue fishing. And another part of them has opted to make tourist trips to nearby sites, so that visitors have the experience of entering deep waters. It is worth mentioning that in the month of December whales can be seen in the Pacific Ocean, which represents an opportunity for the inhabitants of the area.

## Other products collected in Las Lisas

The population of Las Lisas also collects other products such as oysters, mussels and clams for consumption. Given that, in the surroundings there are mangroves which are the sites where mollusks are found (D. M. Cruz, personal conversation, May 24, 2022). Ronnback (1999, as cited in Ortíz, 2018), states that, the inhabitants of the coastal marine communities catch mollusks for consumption, however, the overexploitation of these resources, the destruction of reproduction sites and pollution have reduced the stock of these species of importance for commercialization.

According to Boix (2012), mangroves that develop in intertidal zones are an important part of the ecosystems. They not only protect coastal areas, but also provide nearby populations with target species, including fish, mollusks and crustaceans. However, these mangroves are currently threatened by agro-industrial activities in the surrounding areas.

## Industrial fishing in Las Lisas

Until 2022, the only entity engaged in trawling at an industrial level is the Las Lisas cooperative, as they use large boats for the work. As indicated above, the association has a license to catch shrimp and they extract fish in smaller quantities (personal conversations: R. J. Barillas, March 28, 2022; C. Lau, May 23, 2022; D. Rizo, May 24, 2022; B. Varela, May 24, 2022).

## How fishermen conceive life?

The fishermen of Las Lisas in 2022 are people who cannot conceive life without the sea, their life is fishing. And no matter what they have to endure on the ocean, they dedicate themselves to this activity not only to obtain an economic income, but also because they like their work

and are proud to do it. Their work is dignified because not only is it honest, but they collaborate with society by bringing food for other people (personal conversations: F. Hernández, March 29, 2022; J. E. Chicas, March 29, 2022; M. J. Varela, March 29, 2022; J. R. Rizo, March 29, 2022; D. M. Cruz, May 24, 2022).

## Global issues and the implications for fishermen in 2022

Among the comments of the collaborators, it was emphasized that fishing is no longer like it was 20 years ago, in terms of the amount of fish they caught at that time, which means that they do not obtain the same profits. Some have opted to engage in other businesses, such as tourist trips as a work alternative (personal conversations: E. Castillo, March 28, 2022; F. Hernández, March 29, 2022; M. J. Varela, March 29, 2022; J. R. Rizo, March 29, 2022).

Mrs Dora Cruz (personal conversation, May 24, 2022) indicated that, according to her experience, in recent years they no longer obtain the same amount of seafood as some time before, due to natural phenomena such as El Niño and the chemicals used by sugar producers in the land surrounding Las Lisas to fertilize the land or to eliminate pests, which are transferred through the tributaries that flow into the Chiquimulilla canal. For the same reason, the fishermen and fisherwomen have to make do with enough money to cover their food expenses, i.e. 100 Quetzals per day.

Undoubtedly, the scarcity that the inhabitants of Las Lisas talk about is the result of excessive demand for human consumption, environmental degradation, and the introduction of foreign species or species from other places, which is not only happening in Guatemala, but is occurring worldwide (World

Bank, 1994, as quoted in Sánchez, 200). Similarly, according to FAO (1991, as cited in Sánchez, 2000), from 1950 to 1989, the world catch increased fivefold, from 20 to 90 million tons. This problem has also been influenced by the displacement of fishing fleets in traditional fishing areas. The same entity adds that until 1995, there was no fishery resource that had not been exploited either excessively, overexploited or depleted.

Another problem that affects Pacific fishing communities is their vulnerability to natural phenomena of hydro-meteorological, geodynamic and geophysical origin, such as hurricanes, floods, landslides, landslides due to excess rainfall, droughts, frost, among others, which cause human, economic and environmental losses. Guatemala, due to its geographic location, is at imminent risk because of the Cocos, North American and Caribbean tectonic plates, which produce constant seismic activity (United Nations Children's Fund [UNICEF], 2010; as cited in Boix, 2012).

In the same sense, Guatemala was declared the second most affected country by these natural phenomena, since it is part of an ecoregion where the coastal zone is vulnerable to the changes caused and their effects, which is reflected with greater acceleration than what is stated in this outline, so becoming aware of the problem and acting in favor of the protection, recovery and management of coastal areas and wetlands, is something urgent for governments in order to lessen the effects in the short and long term (Mesa Nacional del Cambio Climático, 2010; as quoted in Boix, 2012).

Regarding the economic repercussions for fishermen, it can be said that climate changes and the aforementioned situations cause an

imbalance in many marine species in their juvenile stages, which in turn causes fishing volumes to be scarce.

## Tourism

Another important activity in Las Lisas is tourism, since the money obtained by a large part of the population from this work contributes to the family income. All of the collaborators concluded that the people make a living from travelers and fishing. And, some are dedicated to both tasks, since they have a business in which they provide services to visitors (personal conversations: M. Varela, March 29, 2022; F. Hernández, March 29, 2022; J. R. Rizo, March 29, 2022; D. M. Cruz, May 24, 2022; A. Varela, May 24, 2022; I. Rizo, May 24, 2022; B. Varela, May 24, 2022).

It can be said that the indicated item is of vital importance for the economy of the inhabitants, since, from the moment they arrive, travelers pay for boat transportation to the beaches, go to the grocery stores, where they buy food, stay in a hotel, have breakfast, lunch and dinner in restaurants, obtain handicrafts, hire a private boat trip and when they return to their places of origin some buy seafood to take home.

As far as fishermen are concerned, although they do not have businesses related to hikers, they obtain benefits, since they sell the seafood to intermediaries (iceboxes) and that is where the owners of the canteens come to buy it. What was detected in the field research coincides with Boix (2012), who states: "The presence of tourism and/or agricultural strategies with a different productive dimension, make fishermen populations withdraw or interact in other activities with the aim of survival" (p. 5).

In the same vein, in 2019 an agreement was signed between the Center for Marine and Aquaculture Studies of the University of San Carlos de Guatemala and the Association of Tourist and Sport Fishing Companies, with the purpose of consolidating collaboration between the two entities to promote the sustainable use and conservation of marine-coastal biodiversity in the Guatemalan Pacific coast. The agreement highlights the importance of preventing the illegal commercialization of sailfish, promoting programs aimed at artisanal fishing, advising small and large entrepreneurs in the provision of sport fishing services, among others (Boix, 2019).

Both sport fishing and whale watching are activities that have been implemented in Las Lisas to attract tourism, which offer visitors the opportunity to have an entertainment experience without leaving Guatemala, to develop an economically viable and ecologically sustainable work (Boix et al., 2011).

The experience of the fishermen in recent years shows that one of the work alternatives is to enter into tourism-related activities. However, it is considered that not all of them are going to change artisanal fishing for tourism, so the agreement described above includes the necessary support for this important group.

### **Situations causing problems for the population of Las Lisas in 2022**

Within all the information provided by the collaborators, they indicated that there are some situations that affect the fishermen and require urgent resolution. However, even though they have made the corresponding requests, the problems are still pending resolution, which are listed below (personal

conversations: F. Hernández, March 29, 2022; J. R. Rizo, March 29, 2022; M. J. Varela, March 29, 2022; E. Carrillo, May 23, 2022; D. Rizo, May 24, 2022; D. M. Cruz, May 24, 2022; D. M. Cruz, May 24, 2022).

The portion of land known as the bocabarra, which is the place where the canal meets the sea, needs to have stones placed around it, so that the water does not continue to undermine the land and wash away nearby houses.

For more than fifteen years they have not received any support from the government in terms of low-interest loans, which would help them carry out their fishing projects. They need to buy supplies and work equipment.

The illegal entry of Salvadoran neighbors into Guatemalan waters has been going on for several years, without the government entities responsible for stopping the invasion. First, they do not respect Guatemalan fishing laws, since the trammel nets they use are not allowed, because they trap small fish, which means that there is no reproduction; second, they take all the seafood that is within their reach; third, they leave the men of Las Lisas without the possibility of working, which affects the food and income of the latter; and third, they leave the men of Las Lisas without the possibility of working, which affects the food and income of the latter.

The village does not have potable water; as mentioned above, the water used for domestic purposes is extracted from shallow wells, but at the same time the houses have septic tanks, which makes the liquid unfit for human consumption. The difficulties caused by the lack of water are also diverse: the neighbors must buy purified water for drinking and cooking, which affects the household economy; some buy jugs in the village and

others, for reasons of cost, buy them in other places such as the village of Casas Viejas, where the water is not available for human consumption.

## Conclusions

With the work done it was determined that in 1893 the first fishermen settled permanently, who came from nearby places such as: Los Cerritos, Chiquimulilla, El Ahumado, Pasaco, Jutiapa and El Salvador, among others. Before that date, the place was uninhabited and some men arrived four months before Easter, with the purpose of extracting fish from the canal.

Unfortunately, there is no written information about the village; however, through oral tradition, some relevant information was gathered, such as: that the village was divided into two neighborhoods, the upper one and the lower one; the construction of landfills because water entered the settlement areas; that until the mid-1970s, only the canal was used for fishing, with utensils that were used for fishing: The most important event, before 1950, according to the testimonies, was the introduction of the Protestant Christian religion and the establishment of the first church of the same doctrine. In addition, the implementation of the first cooperative named Las Lisas was a fundamental pillar for the development of the area.

From 1973 onwards the history of the village changed, it was the date that marked a before and after, because it began with the work organized in an association in which the main objective was the economic improvement of the fishermen and to obtain government aid, such as low-interest and long-term loans, to develop the fishing activity. Working as a group gave them the opportunity to have their requests heard and resolved by the authorities.

In addition, they joined the Federation of Cooperatives, which they used to make the union stronger. They were also able to change their work systems with the use of outboard motorboats, which allowed them to enter the sea and obtain more catches of products, resulting in higher income for the members. Later, seeing the good results of the joint efforts, other cooperatives and associations were established, some of which are still working today.

Despite the efforts of the fishermen and the advances that have been made, according to field and bibliographic research, fishing in Las Lisas is in crisis. Due to different factors worldwide, such as climate change, natural phenomena, and overexploitation of marine resources, fishermen are no longer catching as much fish as they did 20 or 30 years ago, reaching critical situations where they are not even able to harvest enough fish for their daily food. As a result, many opt to dedicate themselves to another activity to be able to support their families.

Among other things, a serious problem faced by the fishermen of Las Lisas is the invasion of Salvadoran neighbors into Guatemalan waters, since they come to extract marine products, catch the smallest fish, which prevents reproduction and leaves the inhabitants of the village without any possibility of subsistence.

Another serious situation is the destabilization of the bar, which, according to the fishermen, has caused problems for the inhabitants.

## Recommendations

That the corresponding authorities urgently resolve the stabilization of the bar.

Insist that the government take awareness and the necessary measures to act in the protection,



recovery and management of coastal areas, since Guatemala is in a zone of vulnerability to the changes caused and their effects.

It is important for the government to help fishermen with different programs such as low-interest and long-term loans, fishing tools, technical assistance or other social aid projects.

The government should allow Salvadorans to take Guatemala's natural resources.

That the Municipality of Chiquimulilla generate a Project to bring potable water to the village.

## References

- Boix, J. (1999). *La pesca artesanal: Una opción de desarrollo rural en la Costa Pacífica de Guatemala*. Universidad Autónoma de Chapingo.
- Boix, J., Rinze, V. y García, J. (2011). *Elementos para contribuir a la gestión integrada de zonas costeras del Pacífico de Guatemala. I. Área de trabajo: Humedal Las Lisas, Chiquimulilla, Departamento de Santa Rosa*. <https://digi.usac.edu.gt/bvirtual/informes/puina/INF-2011-027.pdf>
- Boix, J. (2012). *Manos en el Mar... Análisis de la pesca artesanal en Guatemala*. Editorial Académica Española.
- Boix, J. (2019) *Carta de entendimiento entre el Centro de Estudios Marinos de la Universidad de San Carlos de Guatemala y la Asociación de Pesca Turística y deportiva (Epesturde)*. [https://www.biofin.org/sites/default/files/content/knowledge\\_products/Carta%20de%20Entendimiento%20CEMA%20-%20EPESTURDE.pdf](https://www.biofin.org/sites/default/files/content/knowledge_products/Carta%20de%20Entendimiento%20CEMA%20-%20EPESTURDE.pdf)
- Climático, M. n. (s.f.). Mesa nacional de cambio climático. <https://mncc-guatemala.blogspot.com/2011/11/guatemala-declarado-como-segun-go-pais.html>
- FAO. (1986). *Proyecto regional de desarrollo pesquero en Centroamérica*. Autor.
- FAO. (1991). *Algunos resultados de las prospecciones de América Central efectuadas por el B/i "Fridtjof Nansen" durante 1987*. Autor.
- Instituto Nacional de Estadística [INE]. (2018). *Censo 2018*. Guatemala: INE. Autor. <https://www.censo-poblacion.gt/>
- Ministerio de Agricultura, Ganadería y Alimentación [MAGA]. (2002). *Ley general de pesca y acuicultura: Decreto No. 80-2002*. Autor.
- Morales, R. (2006). *Desarrollo urbano de Aldea Las Lisas, Departamento de Santa Rosa*. Guatemala: Universidad Rafael Landívar. <http://biblio3.url.edu.gt/Tesis/lote01/Morales-Roberto.pdf>
- Ortíz, J. (2018). *Diversidad y distribución de la comunidad de moluscos asociados al humedal Las Lisas-La Barrona en el pacífico sur oriental de Guatemala*. (Tesis de Maestría en Ciencias). Universidad de San Carlos de Guatemala.
- Pacay, A. (2015). *Descripción de la actividad pesquera en la aldea El Quetzalito, Izabal*. (Tesis de Licenciatura). Universidad de San Carlos de Guatemala.
- Rizo, D. (inédito). *Manuscrito historia de Las Lisas*.
- Ronnback, P. (1999). The ecological basis for economic value of seafood production supported by mangrove ecosystems. *Ecological Economics*, 29(2), 235-252.
- Sánchez, R. (2000). *Caracterización de la pesca artesanal en el área del humedal Manchón Guamuchal, Ocós, San Marcos, y sus opciones de desarrollo local*. (Tesis de Licenciatura). Universidad de San Carlos de Guatemala.
- UNICEF, F. d. (2010). *Guatemala: La Tormenta Perfecta: impacto del cambio climático y la crisis económica en la niñez y la adolescencia*. Primera edición. Autor.

Varela, F. (2014). *Centro de visitantes de aldea Las Lisas, Chiquimulilla, Santa Rosa*. (Tesis de Arquitecto). Guatemala: USAC.[http://biblioteca.usac.edu.gt/tesis/02/02\\_3783.pdf](http://biblioteca.usac.edu.gt/tesis/02/02_3783.pdf)



**Figure 1.**  
Dora Cruz, fisherwoman of Las Lisas  
Abraham Solórzano V.



**Figure 2.**  
David Rizo, fisherman of Las Lisas  
Abraham Solórzano V.





**Figure 3.**  
Benjamín Varela  
Abraham Solórzano V.



**Figure 4.**  
José Remigio Rizo, fisherman of Las Lisas  
Abraham Solórzano V.



**Figure 5.**  
José Tránsito Arias  
Abraham Solórzano V.



**Figure 6.**  
Fidel Hernández, fisherman of Las Lisas  
Abraham Solórzano V.





**Figure 7.**

Jesús Elías Chicas, fisherman of Las Lisas  
Abraham Solórzano V.



**Figure 8.**

René Barillas  
Abraham Solórzano V.



**Figure 9.**

Fish called “Liseta”, called by fishermen as “Lisa”

Abraham Solórzano V.



**Figure 10.**

Place where fishermen place the fish to dry them in the sun, known as “tapescos”

Abraham Solórzano V.





**Figure 11.**  
Cooperative ship of Las Lisas  
Abraham Solórzano V.



**Figure 12.**  
One of the places where they sell seafood, which the fishermen call “hieleras”  
Abraham Solórzano V.