

# Scientific Journal of Applied Social and Clinical Science

Acceptance date: 30/07/2025

## SUSTAINABLE PRODUCTIVE OPPORTUNITIES FOR TOURISM IN RURAL COMMUNITIES IN SOUTHERN CAMPECHE

---

***María del Carmen Gómez Camal***

National Technological Institute of Mexico  
ITS of Escárcega, Mexico  
ORCID 0000-0003-1693-275.

***Felix Alejandra Luna Medina***

National Technological Institute of Mexico  
ITS of Escárcega Mexico  
ORCID 0000-0002-1052-9253

***Maximiliano Vanoye Eligio***

National Technological Institute of Mexico  
ITS of Escárcega Mexico  
ORCID 0000-0002- 6438-9479.

***Paula Viveros Moreno***

National Technological Institute of Mexico  
ITS of Escárcega Mexico  
ORCID org/0000-0001-7150-9152

***Ludwin Jaime Estrada Ramírez***

National Technological Institute of Mexico  
ITS of Escárcega, Mexico  
[orcid.org/0000-0002-5307-173X](https://orcid.org/0000-0002-5307-173X)

***Ofelia Tun Cocom***

National Technological Institute of Mexico  
ITS of Escárcega, Mexico

***Mery Yein Carrera-Torres***

National Technological Institute of Mexico  
ITS of Escárcega, Mexico.

***Rolando Torres Medina***

National Technological Institute of Mexico  
ITS of Escárcega, Mexico.



All content in this magazine is licensed under the Creative Commons Attribution 4.0 International License (CC BY 4.0).

**Abstract:** Escárcega has a variety of tourist resources that have not been used efficiently, which is why a mixed research study with a descriptive approach was developed, in which a cluster sample was determined using the questionnaire (questionnaire) carried out in eight communities whose main activities are livestock, agriculture, beekeeping, and trade, among others, which are located in the south-southeast of the municipality of Escárcega. The aim was to detect, understand, and determine why the tourism resources derived from these activities have not been exploited as a source of income.

**Keywords:** tourism income, economy, communities, work

## INTRODUCTION

According to (Acerenza, 2006), tourism has become a mass phenomenon that is beginning to arouse the interest of most countries in the world. In addition to the factors that have traditionally made its development possible, such as peace, prosperity, transportation, and the availability of free time, there have been significant technological changes since the war, particularly in the fields of transportation and marketing, which are largely responsible for the high growth rates experienced by the industry since the 1950s. Latin America is one of the regions of the American continent characterized by a rich and varied tourist heritage, which in some cases can be classified as unique. There are two fundamental factors that give the region its unique character as a tourist destination: its magnificent historical and cultural heritage and its spectacular natural attractions, which attract large numbers of tourists to the region; the characteristics of its population, its customs and traditions, and its cultural expressions; the pre-Hispanic cultures that inhabited the territories of the aforementioned countries (among which the Maya and Inca cultures stand out) and a pre-

dominantly “Amerindian” or mestizo population that still maintains its ethnic and socio-cultural characteristics (Acerenza, 2006). The purpose of this research is to take advantage of the natural resources provided by nature, since a lack of support from government agencies has led to stagnation in the creation, design, development, transformation, and marketing of products that generate economic income. That is why it was necessary to learn about the use of tourism resources in different localities in southeastern Campeche, as well as to evaluate the marketing mechanisms for resources that promote environmental care and identify their commercialization.

## LITERATURE REVIEW

From the point of view of (Ramírez Hernández, 2014), the exploitation of natural resources is conceived as the conceptual relationship between man and nature, in the Platonic movement where nature has a dependent place, in which man suffers the painful rupture of his unity between soul and body, between sensitivity and intelligence. There is a high dependence on natural resources for industry, trade, and construction, according to the 2012 World Population Data Sheet report, which shows clear contrasts between less developed and more developed countries.

Mexico is a magnificent country that offers a vast territory with unparalleled diversity, enormous natural wealth, and great biodiversity. Its attractions range from natural wonders such as incredible landscapes and places shaped by lakes, rivers, waterfalls, seas, beaches, forests, jungles, deserts, plains, mountains, volcanoes, and caves, to , flora, and fauna, among others. to the richness of a privileged cultural, gastronomic, and historical heritage with impressive pre-Hispanic cultures that enchant locals and visitors alike, to which other cultures have been added over time, such as the Spanish and French, to name a few. (Guerrero González, 2014)

The state of Campeche has managed to preserve and enrich the use of its flora and fauna, integrating them into the needs of everyday life, and has been respectful of its environment, because it has known how to use what it has at its disposal with the awareness that overexploitation of the raw materials of its trade would destroy its production. Escárcega is a municipality located in the state of Campeche, bordering the municipality of Champotón to the north, the municipality of Calakmul to the east, the municipality of Candelaria to the south, the right bank of the Chumpán River to the southwest, the municipality of Carmen to the west, and the municipal section of Sabancuy to the northwest. (Soto Angli, 2001) Its main economic activities, in addition to oil extraction, include livestock, agriculture, fishing, and beekeeping, among others. These activities give rise to a wide variety of tourist resources, which have not been exploited efficiently due to a lack of knowledge among traders and producers who make different types of tourist products, relying on an economic model that allows them to live from day to day.

According to Rodriguez Van Gort (2021), natural resources are basically defined as all elements of nature that serve or can serve the benefit of human society. They are usually classified into different categories, for example, by regeneration time, into renewable and non-renewable; the former can be regenerated within human time, as in the case of forests or animal husbandry, while the latter cannot be influenced by humans, such as hydrocarbons. Similarly, Brack Egg & Mendio-la V. (2002) mention that natural resources are materials found in nature that humans can use to satisfy their needs (food, clothing, housing, education, culture, recreation, etc.). Natural resources are the source of raw materials (wood, minerals, oil, gas, coal, etc.), which, when transformed, are used to produce a

wide variety of goods. These resources give rise to activities such as livestock farming, which, according to Hernández (2001), is the main source of protein in Mexico and the most widespread form of land use throughout the country, giving it great economic, social, and environmental importance. This has several aspects, among which production and ecological, cultural, and social impacts stand out. Any of these aspects leads directly to controversy about land use and vocation, the diversification of food sources, and the transformation of regional culture. The ecological perspective of livestock farming is key if we aspire to balanced and sustainable management of land, biodiversity, and natural resources. On the other hand, according to Bradbear (2005), beekeeping is a useful means of strengthening life and development systems because it uses and produces a range of goods based on the presence of natural resources: bees, flowering plants, and water. Bees collect gum and resin using plants and trees as habitats for their honeycombs. Bees are a freely available resource in nature. Meanwhile, according to Amaiquema (2015), tourism resources are anything that has characteristics that make it attractive to tourists, whether natural, recreational, or historical and cultural.

If tourism is an economic activity and if it is possible to define its elements with some precision, especially those related to supply and demand, we will be in a position to understand this phenomenon, predict its evolution, and ultimately guide its development toward preconceived goals and objectives. The economic nature of tourism also allows the theory of economic planning and many of its specific techniques to be applied, provided they are adapted to its own peculiarities. There are numerous examples of tourism programs and projects, both government and private initiatives, that have emerged in isolation and have led to impressive tourist complexes and units (Hernández, 1991).

From the point of view of (Campeche, 2017), the vegetation of Calakmul, Campeche, is unique and extraordinary from several perspectives. It is the largest and best-preserved tropical forest in Mexico, consisting of widespread forest cover in a very good state of conservation, according to international, national, peninsular, and local standards of importance. All of this forest cover appears to be uniform. However, it is composed of a complex mosaic of different plant communities, all of which are concentrated in the southern tip of Calakmul. It is also considered a priority area for bird conservation in Mexico.

Tourism brings both benefits and problems. If well planned, developed, and managed, tourism generates income and offers opportunities for local entrepreneurs to create businesses. All of this translates into a better standard of living for residents. Tax revenues generated by tourism can be used to improve infrastructure and social programs. Tourism stimulates the expansion of other economic activities such as agriculture, fishing, manufacturing, and handicrafts, and encourages the development of new and better commercial and cultural facilities that are used by the local community and visitors (Navarro, et. al., 2012 p. 25).

Craft activities involve the creation of handmade products using traditional skills and techniques passed down from generation to generation or learned out of a desire to learn or because of the need to engage in an activity that provides an income to support oneself or one's family. Carrillo Pérez (2017) tells us that handicrafts are part of the extraordinary cultural heritage of the state of Campeche and are a testament to the creative spirit of those who have the privilege of living there. There is extensive knowledge about the natural resources used in handicrafts. For example, bejuco, henequen, and jipijapa have been woven since ancient times, and other plant fibers are woven into chairs, rugs, hats, fans, etc.

The use of tourist resources for the production of products is not being fully exploited. However, there are people in the area who do use and maximize the resources offered by nature. These people design, create, manufacture, and transform products using raw materials such as wood, shells, coconut shells, and other natural resources. This is not only used for the local culture, but also allows tourists visiting the area to take home a souvenir or gift. Thus, it becomes a tourist attraction that can attract those who appreciate these hand-crafted items.

## **METHODOLOGY**

### **DESCRIPTION OF THE STUDY AREA**

This research was carried out in the municipality of Escárcega, Campeche, on the Escárcega-Chetumal highway, covering a total of eight ejidos in the south-southeast area, such as Silvituc, Adolfo López Mateos, Justicia Social, Lechugal, Libertad, Belén, Rodolfo Fierro, and Matamoros. Producers, merchants, and families were visited, and producers were interviewed. A tool was used to obtain accurate information and gather the data sought by this research.

### **METHOD USED**

This was carried out through mixed research with a study design integrating qualitative and quantitative data, since in these designs the researcher defines the number of phases, the approach that carries the most weight (quantitative or qualitative), or whether they are given the same priority, the functions to be covered, and whether or not there is a theoretical perspective and what it is. (Hernández Sampieri et al., 2006, p. 535) . Using a descriptive approach, this consists of characterizing a fact, phenomenon, individual, or group in order to establish its structure or behavior. The results of this type of research are at an intermediate level in terms of depth of know-

ledge (Arias, 2012, p. 24) . These detailed the activities and actions carried out, structuring a diagnosis for each locality, with the results of the measurement instrument (questionnaire).

## POPULATION

Based on the population and obtaining an adequate sample from each locality, the formula is calculated using the data. A population of less than 500,000 inhabitants is considered a finite sample. To calculate the sample size, the equation for finite populations (less than 500,000 elements) was used, from the authors (Fischer de la Vega & Espejo, 2017, p. 40) as shown below in **Equation 1**.

$$n = \frac{\alpha^2 Npq}{e^2 (N-1) + \alpha^2 pq} \quad (\text{E. 1})$$

## WHERE

$n$ = Number of elements (sample size)

$\alpha$ = Confidence level

$N$ = Universe or population

$p$ = Probability in favor

$q$ = Probability against

$e$ = Estimation error (accuracy of results)

The following data are used to calculate the sample size:

## WHERE

$\alpha = 1.96$

$N = (N^o \text{ dwellings in the localities})$

$P = 50\%$

$q = 50\%$

$e = 5\%$

$n = x$

## CLUSTER SAMPLING

In some cases where the researcher is limited by financial resources, time, geographical distances, and other obstacles, cluster sampling is used. This type of sampling reduces

costs, time, and energy, considering that sometimes the sampling/analysis units are encapsulated or enclosed in specific physical or geographical locations, which are called clusters (Hernández Sampieri et al., 2014, p. 182) .

Based on the population of each locality, the formula is cleared to obtain the total number of samples for each ejido. However, according to this research, a probabilistic reduction by clusters is taken, applying a minimum of 20 to 70 surveys to each of the aforementioned. It should be noted that another criterion considered for sample reduction was that the communities should be engaged in the activities considered in the application instrument.

## RESULTS

According to information obtained from the communities surveyed in the municipality of Escárcega, based on the opinions of 391 producers, it was determined that the most predominant activity was as follows:

During the fieldwork carried out, it was found that of the 391 producers surveyed in the different communities of the Escárcega municipality region, 174 are engaged in agriculture, 153 in trade, 50 in livestock farming, and 14 in beekeeping, with the following highlights in the towns of Matamoros, Lechugal, Adolfo López Mateos, Libertad y Justicia Social, the presence of precious wood tree species such as cedar (*Cedrela odorata*), mahogany (*Swietenia macrophylla*), jabín (*Piscidia piscipula*), and granadillo (*Platymiscium spp.*) was identified, which are used by farmers mainly as boundaries for plots in pastures. However, the potential of these species for alternative uses with higher added value, **such** as the manufacture of furniture and decorative items, was evident, representing an untapped opportunity in the region.

Similarly, the localities of Silvituc and Justicia Social, together with the above, are predominantly livestock-oriented. In these

No.	Localities	Population	Equation/sample	Sample stratum
1	Silvituc	249 dwellings	$n = \frac{1.96^2 (249)(0.5)(0.5)}{0.05^2 (249 - 1) + 1.96^2 (0.5)(0.5)}$ $n = \frac{239.1396}{1.5804} = 151.31 \text{ (E. 2)}$	56 surveys
2	Adolfo López Mateos	122 homes	$n = \frac{1.96^2 (122)(0.5)(0.5)}{0.05^2 (122 - 1) + 1.96^2 (0.5)(0.5)}$ $n = \frac{117.1688}{1.2629} = 92.77 \text{ (E. 3)}$	66 Surveys
3	Social Justice	227 homes	$n = \frac{1.96^2 (227)(0.5)(0.5)}{0.05^2 (227 - 1) + 1.96^2 (0.5)(0.5)}$ $n = \frac{218.0108}{1.5254} = 142.92 \text{ (E. 4)}$	56 Surveys
4	Lechugal	168 homes	$n = \frac{1.96^2 (168)(0.5)(0.5)}{0.05^2 (168 - 1) + 1.96^2 (0.5)(0.5)}$ $n = \frac{161.3472}{1.3779} = 117.09 \text{ (E. 5)}$	56 Surveys
5	Libertad	381 homes	$n = \frac{1.96^2 (381)(0.5)(0.5)}{0.05^2 (381 - 1) + 1.96^2 (0.5)(0.5)}$ $n = \frac{365.9124}{1.9104} = 191.53 \text{ (E. 6)}$	55 surveys.
6	Belén	77 homes	$n = \frac{1.96^2 (77)(0.5)(0.5)}{0.05^2 (77 - 1) + 1.96^2 (0.5)(0.5)}$ $n = \frac{73.9508}{1.1504} = 64.28 \text{ (E. 7)}$	27 surveys
7	General Rodolfo Fierro	35 homes	$n = \frac{1.96^2 (35)(0.5)(0.5)}{0.05^2 (35 - 1) + 1.96^2 (0.5)(0.5)}$ $n = \frac{33.614}{1.0454} = 32.15 \text{ (E. 8)}$	20 surveys
8	Matamoros	495 homes	$n = \frac{1.96^2 (495)(0.5)(0.5)}{0.05^2 (495 - 1) + 1.96^2 (0.5)(0.5)}$ $n = \frac{475.398}{2.1954} = 216.54 \text{ (E. 9)}$	55 Surveys

Table 1. Sample calculation for the localities

Source: Own elaboration

Activities	Silvituc	Adolfo López Mateo	Matamoros	Social justice	Lechugal	Freedom	Bethlehem	Rodolfo Fierro	Total
Agriculture	17	25	34	18	30	24	16	10	174
Beekeeping	3	3	0	2	3	3	0	0	14
Livestock	8	10	2	8	10	5	3	4	50
Commerce	28	28	19	28	13	23	8	6	153
Total	56	66	55	56	56	55	27	20	391

Table 2. Main activities detected

Source: Own elaboration

communities, during the spring-summer season, considerable animal losses were reported due to various causes, including fires. Despite this, some producers have identified alternative uses for animal remains, such as horns and bones, which can be used in the manufacture of jewelry and decorative accessories for the home, although this practice is not yet sufficiently widespread or systematized.

On the other hand, it was observed that most of the localities studied have between 15 and 28 local shops, which purchase their products in the municipality of Escárcega at high prices, thus affecting the competitiveness of resale. In the agricultural sector, producers face difficulties in marketing their crops at fair prices, generally selling them to intermediaries who come directly to the communities and offer prices below market value.

In the beekeeping sector, limited use of products derived from the activity was identified. Although honey is extracted, the wax is discarded, despite its potential to be transformed into value-added products. This limitation is attributed, in part, to the organizational structure of beekeeping groups, which are made up of three to four members of the same family, restricting the possibility of expansion and diversification of activities.

Interviews with producers revealed their perceptions of access to government programs. Most said that relevant information about such support only reaches the ejido

commissioner, which limits its reach. They also highlighted that the administrative processes for accessing benefits are complex and bureaucratic, which discourages their participation.

As a result of this research, it was possible to establish a direct dialogue with the different productive actors, promoting reflection on the importance of developing more efficient marketing channels. This strategy would improve their income, promote the comprehensive use of resources, and, consequently, raise their quality of life.

## DISCUSSION

The findings of this research show the existence of natural and productive resources with high potential for valorization in rural communities in southern Campeche. However, their use is limited by traditional practices, lack of information, and absence of marketing strategies. The use of precious woods for fencing, while functional, represents an alternative use given their potential to generate income through activities such as carpentry and handicrafts. Similarly, products derived from livestock and beekeeping—such as bones, horns, and wax—are resources that could be diversified through local production chains.

The presence of small businesses that purchase inputs in Escárcega at high prices highlights the external economic dependence

and lack of collective organization for wholesale purchasing or the creation of fair trade circuits. In addition, the sale of agricultural products to intermediaries at low prices reflects the weak bargaining power of producers, associated with the lack of direct sales channels and business training.

Another critical issue identified is the limited participation in institutional support programs, influenced by the concentration of information in local authority figures and extensive bureaucratic processes. This situation reinforces the marginalization of small producers and restricts their development opportunities.

## CONCLUSION

As part of the research project, an analysis was carried out in eight communities located in the southern part of the municipality. The results showed that most of these communities are not fully aware of their tourism potential, as their focus has historically been on agricultural, beekeeping, and commercial activities, mainly related to the purchase and sale of products. This limited vision has led to the underutilization of the resources available on their plots and the potential use of inputs and materials present in their environment, which could be transformed into value-added

products to diversify their sources of income and improve their economic and living conditions.

One of the most relevant findings relates to livestock farming, where a significant dependence on intermediaries for the marketing of livestock was identified. This situation places producers at an economic disadvantage, as sales prices are set by collectors, who obtain greater economic benefits.

As part of the project, activities were carried out to raise awareness among producers, with the aim of promoting the revaluation of their production practices and strengthening local capacities. Strategic links were also promoted with regional artisans and traders, with the aim of promoting a more comprehensive production cycle based on the sustainable use of the resources available in their territory.

It should be noted that the municipality of Escárcega has significant tourism potential. In previous decades, particularly during the 1970s, it was recognized for its importance as a gum extraction area—functioning as a gum camp—and for its abundance of fruit trees, as well as for its important role in the export of raw materials. This historical heritage represents a value that can be recovered and integrated into the region's tourism and economic development strategies.

## REFERENCES

- Acerenza, M. Á. (2006). *Conceptualización Origen y Evolución del Turismo*. Mexico: Trillas S. A. de C. V. Obtenido de <https://www.entornoturistico.com/wp-content/uploads/2017/11/Conceptualizaci%C3%B3n-origen-y-evoluci%C3%B3n-del-turismo-de-Miguel-Acerenza-PDF.pdf>
- Amaiquema, L. (2015). Recursos Turísticos. En L. Amaiquema Illesca, *Recursos Turísticos* (pág. 50). Ecuador: Machala. Obtenido de <http://repositorio.utmachala.edu.ec/handle/48000/6892>
- Arias, F. (2006). *El proyecto de Investigación. Introducción a la metodología científica*. Caracas - República Bolivariana de Venezuela: Editorial Episteme, 6ª Edición, ISBN: 980-07-8529-9. Obtenido de <https://abacoenred.org/wp-content/uploads/2019/02/El-proyecto-de-investigaci%C3%B3n-F.G.-Arias-2012-pdf-1.pdf>
- Brack Egg, A., & Mendiola V., C. (2002). *Ecología del Perú*. Lima: Asociación Editorial Bruño : Programa de las Naciones Unidas para el Desarrollo. Obtenido de <https://digitallibrary.un.org/record/479437>

Bradbeare, N. (2005). La apicultura y los medios de vida sostenibles. Roma: Organización de las Naciones Unidas para la Agricultura y la Alimentación FAO. Obtenido de <https://www.herbogeminis.com/revista/IMG/pdf/apicultura-y-medios-de-vida-sostenibles.pdf>

Campeche, D. d. (2017). Calakmul, Corazón de Jade. Campeche México: Signum Digital. Obtenido de <https://turismocampeche.com/libro-calakmul-corazon-de-jade/>

Carrillo Pérez, D. (2017). Artesanías de campeche, expresión viva de nuestras raíces. México: Artes Graficas Panorama, S.A. de C.V. Obtenido de <https://turismocampeche.com/libro-artesantias-de-campeche/>

Guerrero González, P. (2014). Introducción al Turismo (1ra Ebook 2014 ed.). México: Patria, S.A. de C.V. Obtenido de [https://frrq.cvg.utn.edu.ar/pluginfile.php/15987/mod\\_resource/content/0/Introducci%C3%B3n%20al%20Turismo%20-%20Sancho%2C%20A.pdf](https://frrq.cvg.utn.edu.ar/pluginfile.php/15987/mod_resource/content/0/Introducci%C3%B3n%20al%20Turismo%20-%20Sancho%2C%20A.pdf)

Hernández, D. E. (1991). Planificación Turística. México: Trillas. Obtenido de <https://www.entornoturistico.com/wp-content/uploads/2018/02/Planificaci%C3%B3n%20Tur%C3%ADstica-un-enfoque-metodol%C3%B3gico-de-Edgar-Alfonso-Hern%C3%A1ndez-PDF.pdf>

Hernández, L. (2001). Historia ambiental de la ganadería en México. Xapala: México: Instituto de Ecología, A.C. Obtenido de [https://horizon.documentation.ird.fr/exl-doc/pleins\\_textes/divers11-03/010026355.pdf](https://horizon.documentation.ird.fr/exl-doc/pleins_textes/divers11-03/010026355.pdf)

Hernández Sampieri, R., Fernández Collado, C., & Baptista Lucio, P. (2006). Metodología de la Investigación 4ta edición. México: McGraw-Hill Interamericana. Obtenido de <http://187.191.86.244/rceis/registro/Metodolog%C3%ADa%20de%20la%20Investigaci%C3%B3n%20SAMPIERI.pdf>

Hernández Sampieri, R., Fernández Collado, C., & Baptista Lucio, P. (2014). Metodología de la Investigación 6ta edición. México D.F.: McGraw-Hill / Interamericana Editores, S.A. de C.V. Obtenido de [https://api.periodico.jalisco.gob.mx/api/sites/periodicooficial.jalisco.gob.mx/files/metodologia\\_de\\_la\\_investigacion\\_-\\_roberto\\_hernandez\\_sampieri.pdf](https://api.periodico.jalisco.gob.mx/api/sites/periodicooficial.jalisco.gob.mx/files/metodologia_de_la_investigacion_-_roberto_hernandez_sampieri.pdf)

Fischer de la Vega, L., & Espejo Callado, J. (2017). Introducción a la Investigación de Mercados. México: McGraw-Hill Education. Obtenido de [https://www.ingebook.com/ib/NPcd/IB\\_BooksVis?cod\\_primaria=1000187&codigo\\_libro=10594](https://www.ingebook.com/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=10594)

Navarro Ochoa, B., Barroso Alarcón, E., Colorado Estrada, A., & Reyes Espíndola, A. (2002). Planeación Y Gestión Del Desarrollo Turístico Municipal “un enfoque de cambio”. México: Centro de Estudios Superiores en Turismo. Secretaría de Turismo. Obtenido de <https://cedocvirtual.sectur.gob.mx/janium/Documentos/003162Pri0000.pdf>

Ramírez Hernández, V. (17 de Junio de 2014). Evolución De Las Teorías De Explotación De Recursos Naturales: Hacia La Creación De Una Nueva Ética Mundial. Luna Azul, 39, 291-313., 23. Obtenido de <http://www.scielo.org.co/pdf/luaz/n39/n39a17.pdf>

Rodríguez Van Gort. (2021). Vulnerabilidad y recursos naturales. México: Bonilla Artigas Editores. Obtenido de <https://elibro.net/es/ereader/itsescarcega/17697>

Soto Angli, F. (2001). Monografía del Municipio de Escárcega. Campeche: INDEFOS. Obtenido de <https://indefos.gob.mx/portal/escarcega/>