



Sustainable tourism and social entrepreneurship. The magic town of Tequila, Mexico

Turismo sostenible y emprendimiento social. El pueblo mágico de Tequila, México

Dr. José Manuel Saiz-Álvarez is a GIEE Faculty-Researcher at the EGADE Business School-Tecnológico de Monterrey (Mexico) and visiting professor at the Catholic University of Santiago de Guayaquil (Ecuador) and the Universidad Mayor, Real and Pontificia San Francisco Xavier de Chuquisaca (Bolivia) (jmsaiz@itesm.mx) (jmsaiz@itesm.mx) (<http://orcid.org/0000-0001-6435-9600>)

Abstract

The UNESCO World Heritage Site and the "Magic Towns" program in Mexico, both granted to Tequila, aim to guarantee the tourist sustainability of the territory to fight poverty, preserve the rich and unique existing cultural and historical heritage, and promote the inclusion of the indigenous population. However, 57,1% of the population lives in poverty in Tequila (IIEG Jalisco, 2017). The objective of this paper is to analyze whether the appointment of Tequila as a UNESCO World Heritage Site and as "Magic Town" has contributed to reducing poverty. A qualitative-quantitative methodology based on the technique of observation and content analysis is used to answer this question, close with a SWOT analysis to have a holistic review of the topic. The main conclusions are: 1. There are high levels of poverty in Tequila, although they are lower than in non-Agave locations; 2. Excessive tequila protection prevents the development of other distilled beverages within the region; 3. The production and marketing of tequila contributes to the sustainability of gastronomic tourism and nature in the tequila region; and 4. Tequila is a crucial piece in the Tourism Policy of Mexico by 2040, which guarantees its continuity and prevents the strengthening of tequila substitute beverages.

Resumen

Tanto la concesión a la villa de Tequila como Patrimonio de la Humanidad de la UNESCO como el programa "Pueblos Mágicos" en México tienen como objetivo garantizar la sostenibilidad turística del territorio para combatir la pobreza, preservar el rico y único patrimonio cultural e histórico existente y promover la inclusión de la población indígena. Sin embargo, un 57,1% de la población vive en pobreza en Tequila (IIEG Jalisco, 2017). El objetivo de este trabajo es analizar si el doble nombramiento de Tequila como Patrimonio Cultural de la UNESCO y como "pueblo mágico" ha contribuido a reducir la pobreza. Para responder a este interrogante se utiliza una metodología cuali-cuantitativa basada en la técnica de la observación y el análisis de contenido y se realiza un análisis DAFO para tener así un análisis holístico del tema a analizar. Las principales conclusiones son: 1. Existen altos niveles de pobreza en Tequila, aunque son menores que en pueblos no agaveros; 2. La excesiva protección del tequila evita el desarrollo de otras bebidas destiladas dentro de la región; 3. La producción y la comercialización del tequila contribuye a la sostenibilidad del turismo gastronómico y de naturaleza en la región tequilera; y 4. El tequila constituye una pieza clave dentro de la política turística de México al 2040, lo que garantiza su continuidad y evita el fortalecimiento de bebidas sustitutivas al tequila.

Keywords | palabras clave

Tourist industry, ecotourism, sustainable development, entrepreneurship, regional development, poverty alleviation. Industria del turismo, ecoturismo, desarrollo sostenible, emprendimiento, desarrollo regional, lucha contra la pobreza.

Suggested citation: Saiz-Álvarez, J. M. (2018). Sustainable tourism and social entrepreneurship. The magic town of Tequila, Mexico. *Retos Revista de Ciencias de la Administración y Economía*, 15(8), 51-66.
<https://doi.org/10.17163/ret.n15.2018.04>

1. Introduction

Since 2003 the town and city (since 1873) of Tequila was named «Magical Town» of Mexico and since July 12, 2006 both the agave landscape and the old Tequila industrial facilities were listed as UNESCO World Heritage Sites, within the category of Cultural Landscapes. Developed from 2001 by the Tourism Secretariat of Mexico (SECTUR) with the publication of Agenda 21 for Mexican Tourism, the «Magical Towns» program has the following objectives (Velarde, Maldonado & Maldonado, 2009, García & Guerrero, 2014, p.1). 1. To structure a complementary and diversified tourist offer towards the interior of the country, and whose singular sites have great historical-cultural attributes; 2. Generate and promote the crafts, festivities, traditions and cuisine of the place; 3. Generate tourism products such as adventure, extreme sports, ecotourism, sport fishing, and 4. Revalue, consolidate and reinforce the tourist attractions of this group of populations of the country, which represent different alternatives to meet the demand of national and foreign visitors.

Both the development of tourism and the success of tequila production have attracted labor from other towns near Tequila, which has made the town grow. According to data from 2010 collected by the National Institute for Federalism and Municipal Development of Mexico, the municipality of Tequila had 157 localities that occupy a total area of 1 692.99 square kilometers and 40 697 inhabitants (20 148 men and 20 549 women), the population of Tequila being the lead with 29 203 inhabitants (14 340 men and 14 863 women). However, multidimensional poverty, whose characteristics will be analyzed in this work, reaches 57.1% of the population in Tequila (20 751 people).

The goal of this work is to analyze if the combination between the tequila production, the magic town characterization and the attraction of a tourism that is friendly towards the environment has contributed to diminish the poverty in the municipality of Tequila. To this end, we will begin by analyzing the pillars that have led to the development of sustainable tourism in Tequila, then analyze whether the degree of poverty is lower in the municipality, as well as the description of the public-private measures of social entrepreneurship carried out in the municipality. All this will lay the foundations for a SWOT analysis with some suggestions for improvement, leading up to concluding remarks.

2. Sustainable tourism in the magical town of Tequila

At present, there are 113 magical towns distributed in 31 Mexican states, of which seven are located in the State of Jalisco (table 1). Sustainable tourism at the magical town of Tequila is a result of a privileged natural environment formed by the volcanic lands of the Tequila hill, as well as by the abundance of rivers (Bolaños, Chico and Grande de Santiago), streams (Arroyo Hondo, Balcones, Barranco, Carrizal, El Maguey, Joyas de las Tablas, Las Higueras, Mirador, Picacho de Balcones, Piedras Grandes, San Bartolo, Tejón and Tequesquite), springs (Los Azules, Aguacatillo, La Fundación, La Gloria and La Toma) and the dam of Santa Rosa, inaugurated on September 2, 1964 and located on the Rio Grande de Santiago with a capacity of 403 hm³ and an installed capacity of 70 MW.

Table 1. The magic towns of the State of Jalisco

Populations	Inhabitants (n°)	Area (km2)
Lagos de Moreno	153 817**	2 648
Mascota	104 045***	1 591
Mazamitla	11 671****	177.2
San Sebastián del Oeste	5 626*	1 400
Talpa de Allende	13 612*	2 685
Tapalpa	19 506****	442.2
Tequila	40 697**	356.1

Notes: * In 2005 ** In 2010 *** In 2013 **** In 2015

Source: Secretariat of Tourism (2017)

This tourist sustainability rests on three fundamental pillars: two public and one private. The first public pillar is inserted within the framework of the National Tourism Policy of Mexico (2013-2018), through which the Tourism Secretariat signed, in 2015, a collaboration agreement with the National Commission for the Development of Indigenous Peoples and the National Tourism Promotion Fund to promote the development and competitiveness of indigenous peoples through the development of sustainable projects linked to alternative tourism, ecotourism and rural tourism. This National Tourism Policy of Mexico is based on four principles:

Principle 1 The ordering and sectoral transformation of the territory, with the creation of a Tourism Cabinet to optimize efforts in tourism.

Principle 2 Innovation and competitiveness in the republic, with the launch of new tourism offers in Mexico and the consolidation of existing destinations.

Principle 3 The promotion and support of tourist destinations by the State, as well as the creation of conditions to generate private investment in the tourism sector.

Principle 4 The achievement of sustainability and social benefit through the creation of instruments for tourism to care for and preserve the great natural, historical and cultural heritage of Mexico.

The second public pillar is given by the support of the five states that have the Tequila Denomination of Origin (DOT) and the localities producing tequila, especially the municipality of Tequila, state of Jalisco. This strong support, in the case of the magical town of Tequila, is reflected in the 2015-2018 Municipal Development Plan, according to which municipal growth is structured into six axes of development: (1) *Environment and Sustainable Life*, where the aquifers and hydrological reserves existing in the municipality are protected by respecting biodiversity, in order to guarantee irrigation to the agave plantations and the supply of drinking water to the population; (2) *Prosperous and Inclusive Economy*, through a sustainable, competitive and quality tourism development that leads to the creation of stable employment, rural development and economic growth; (3) *Equity of Opportunities*, guaranteeing access to health, housing and education, especially to the population at risk of poverty; (4) *Community and Quality of Life*, with a cultural and creative development that benefits the population and strives for community cohesion;

(5) *Guarantee of Rights and Freedom*, with an adequate plan for citizen security and civil protection, introducing measures to prevent (or at least alleviate) intrafamily violence, and (6) *Reliable and Effective Institutions* characterized by their transparency policy.

The private pillar is defined by the private entrepreneurship ecosystem, formed by tequila companies and research centers that promote the efficiency and productivity of the Tequila manufacturing industry (CIATEJ, 2004). In fact, this industry in Tequila (table 2) represents 97% of the production value of tequila companies (Municipal Development Plan 2015-2018, page 75), added to small microenterprises and cooperatives that offer the market products derived from tequila, such as agave honey, and crafts made with tequila motifs (wooden barrels for storing tequila, pyrography in wood and tequila glasses (“caballitos”) made by fifty families of the municipality integrated in the two cooperatives of existing artisans in Tequila. All this means that there is a strong diversification in the reasons for a tourist visit to the village of Tequila, as shown in table 3.

Table 2. Tequila companies in the Municipality of Tequila

Tradename	Legal name
Antes Viuda de Romero	Auténtica Tequilera, S.A. de C.V.
Tequila Cuervo	Casa Cuervo, S.A. de C.V.
Ex Hacienda el Martineño	Casa Reyes Barajas, S.A. de C.V.
El Llano	Destiladora Azteca de Jalisco, S.A. de C.V.
Casa Maestri	Destiladora del Valle de Tequila, S.A. de C.V.
Rubio	Destiladora Rubio, S.A. de C.V.
Leyros	Destilería Leyros, S.A. de C.V.
La Estación	Fábrica de Tequilas Finos, S.A. de C.V.
La Cofradía	La Cofradía, S.A. de C.V.
El Llano	Tequila Arette de Jalisco, S.A. de C.V.
La Villa Sauza	Tequila Los Abuelos, S.A. de C.V.
La Orendain	Tequila Orendain de Jalisco, S.A. de C.V.
Sauza	Tequila Sauza, S.A. de C.V.
Xalisco	Tequileña, S.A. de C.V.
Don Roberto	Tequilera Don Roberto, S.A. de C.V.
Antes La Arenita	Tequilera La Primavera, S.A. de C.V.
El Mendineño	Tierra de Agaves, S.A. de C.V.
El Castillo de los Luna	El Castillo de los Luna, S.A. de C.V.
La Guarreña	Jorge Salles Cuervo y Sucesores, S.A. de C.V.
La Alborada	Unión de Productores de Agave, S.A. de C.V.
San Pedro de los Landeros	Destiladora Génesis, S.A. de C.V.
La Curva a la Toma	Grupo Tequilero Weber, S.A. de C.V.
Las Norias	Tequila Hacienda Las Norias, S.A. de C.V.

Source: Social Communication Department, Tequila City Council, Jalisco

Table 3. Reasons for tourist visits to the magical town of Tequila (2016)

Tequila houses	20.16%	Natural heritage	6.60%
Town	18.32%	Traditions	2.90%
Historical Center	15.03%	Cultural activities	1.19%
Agave landscape	12.44%	Gastronomy	1.09%
Cultural heritage	8.83%	Recreational activities	1.04%
Walks and tours	8.17%	Others	4.23%

Source: Yearbook 2016, Secretariat of Tourism, Government of the State of Jalisco, Mexico.

The strong tourist growth has been due to an intense public-private collaboration in which the Public Administrations have raised tourism as a tool to combat poverty, promote social inclusion and generate economic development, which is why González-Terrero (2010) distinguishes four stages in the development of the tourist activity of Tequila: Spontaneous Tourism (before 1997), Informal Tourism (1997-2002), Institutionalized Tourism (2003-2006) and Tourist Euphoria (Since 2007). However, this raises the question of whether this tourist euphoria has reduced the levels of poverty in the population. This is what we will see in the following section.

3. Multidimensional poverty in Tequila and magical towns

According to the «Evaluation of Social Development Policy 2016» Report by CONEVAL (National Council for the Evaluation of Social Development Policy), the state of Jalisco has managed to lift almost half a million people out of poverty, and according to data from SEDESOL (Department of Social Development) for 2017, the degree of social backwardness is considered low in the Magic Towns of the state of Jalisco, as education has improved, as well as access to health services and housing. These improvements are observed due to a lower lack of access to health services (33.8% in 2010, 18% in 2015), a greater willingness to have piped water in the home (6.8% in 2010, 1.8 % in 2015) and a lower lack of electricity in housing (0.9% in 2010, 0.3% in 2015) (SEDESOL, 2017). Despite these achievements, the high levels of measured poverty still existing in Tequila are worrisome, according to the Statistics and Geographic Information Institute (IIEG) of Jalisco, due to:

- Population in multidimensional poverty: Individuals with an income below the value of the welfare line and who suffer from at least one social deprivation.
- Vulnerable population due to social deprivation: Population that presents one or more social deficiencies, but whose income is higher than the welfare line.
- Vulnerable population by income: not presenting social deficiencies but income is less than or equal to the welfare line.
- Population without multidimensional poverty or vulnerability: has no social deprivation and income is above the welfare line.

As can be seen in Table 4, high levels of multidimensional poverty exist in magical towns, ranging from 38.1% in San Sebastián del Oeste to 73.6% in Talpa de Allende, with Tequila at 57.1%, leading to the conclusion that the expected results after the implementation of the state anti-poverty plans have not been too positive. This situation also occurs in terms of extreme poverty, which ranges in these municipalities between 14.4% in Talpa de Allende and 4.7% in San Sebastián del Oeste, and which is related to a low (and even non-existent) educational level and the performance of informal jobs with very low salaries and without any type of coverage and health protection.

Table 4. Multidimensional poverty in the magical towns of the State of Jalisco

	Multidimensional poverty (In % and population)			Vulnerability (In % and population)		
	Total	Moderate	Extreme	VSD	VI	NV
Lagos de Moreno	43.4% 70 720	37.3% 60 872	6.0% 9 849	32.4% 52 847	7.1% 11 660	17.1% 27 908
Mascota	56.7% 7 665	51.5% 6 962	5.2% 703	28.1% 3 799	4.8% 649	10.4% 1 406
Mazamitla	56.5% 7 141	48.4% 6 114	8.1% 1 027	32.9% 4 158	2.6% 329	8% 1 011
San Sebastián del Oeste	38.1% 2 755	33.4% 2 416	4.7% 339	56.2% 4 059	0.5% 36	5.2% 372
Talpa de Allende	73.6% 10 915	59.2% 8 781	14.4% 2 135	18.9% 2 803	3.3% 489	4.1% 608
Tapalpa	65.1% 12 049	53.4% 9 889	11.7% 2 160	28.2% 5 219	2.5% 463	4.2% 777
Tequila	57.1% 20 751	47.4% 17 243	9.6% 3 508	22.7% 8 249	7.7% 2 798	12.6% 4 579

Note: VSD (Vulnerable by Social Deprivation), VI (Vulnerable by Income) and NV (Not Vulnerable).
Source: IIEG (2017a, b) and CONEVAL-SEDESOL (2010) for all municipalities.

This failure in the fight against multidimensional poverty is also observed in the existence of high levels of vulnerability, especially in terms of social deprivation, in aspects such as poor nutrition, low levels of health care and not belonging to health systems, reduced levels of schooling and disposition of housing with structural deficiencies and lack of means (Table 5).

Table 5. Social deprivation in the magical towns of Jalisco

Lagos de Moreno						
	RE	AHS	ASS	HQS	BHS	AF
In %	26.7	36.6	54.7	5.8	17.2	36.1
Population	43 619	59 707	89 305	9 426	28 100	58 821
Mascota						
	RE	AHS	ASS	HQS	BHS	AF
In %	26	18.6	74	4.5	8.7	13.6
Population	3 514	2 511	10 002	613	1 178	1 836
Mazamitla						
	RE	AHS	ASS	HQS	BHS	AF
In %	26.1	34.7	78.6	7.9	25.8	20.1
Population	3 292	4 378	9 927	1 003	3 256	2 535
San Sebastián del Oeste						
	RE	AHS	ASS	HQS	BHS	AF
In %	28.6	23.9	84.5	8.4	23	16.4
Population	2 066	1 726	6 107	604	1 663	1 182
Talpa de Allende						
	RE	AHS	ASS	HQS	BHS	AF
In %	27.1	17.8	83.8	13.4	34.6	27.3
Population	4 011	2 636	12 413	1 991	5 121	4 051
Tapalpa						
	RE	AHS	ASS	HQS	BHS	AF
In %	28.3	23.7	85.5	10	21.7	27.3
Population	5 231	4 378	15 834	1 853	4 013	5 056
Tequila						
	RE	AHS	ASS	HQS	BHS	AF
In %	19	36.4	68.6	10.7	23.6	31.8
Population	6 925	13 223	24 947	3 893	8 582	11 577

Note: EL (Educational Lag), AHS (Access to Health Services), ASS (Access to Social Security), HQS (Housing Quality and Spaces), BHS (Basic Housing Services), AF (Access to Food).

Source: IIEG (2017a, b) and CONEVAL-SEDESOL (2010) for all municipalities.

Educational lag, which ranges from 19% in Tequila to 28.6% in San Sebastián del Oeste, it is defined by the non-completion of basic studies due, mainly, to the need to work (usually illegally) at an early age, a situation that also occurs in Mexico because, according to data from the Secretariat of Public Education (SEP) for the academic year 2016-2017, the net enrollment rate for Pre-school Education (from 3 to 5 years of age)

was 62.3%, for Primary Education (from 6 to 11 years of age) of 97.5%, for Secondary Education (from 12 to 14 years of age) it reached 86.2% and in Higher Secondary Education (from 15 to 17 years of age) it reached 57.2% and only 29.8% for Higher Education (from 18 to 22 years of age) (SEP, 2017). The fact that barely more than half of the Mexican population is schooled from 15 to 17 years of age harms the economic development of the Aztec nation in the medium and long term and tends to aggravate social inequalities within Mexico. Therefore, the improvement in educational quality leads to a generation of employment that acts as a necessary but not sufficient condition to achieve important changes in the distribution of income and achieve greater permeability among the different social strata existing in Mexico (Peticara, 2012).

A second aspect to be improved within the social deprivations of the Magic Towns of the state of Jalisco is given by the development of a greater advancement of basic primary health care in the localities, as well as with the need for an increase in the number of hospitals with doctors specializing in surgery, as only five hospitals exist among all the Magical Towns: the Elena Margarita Hospital in Tequila, the Regional Hospital of Mascota and three hospitals in Lagos de Moreno: Regional Hospital, Rafael Larios Hospital and San Hermión Hospital. Since the rest of the municipalities are covered mainly by health centers and not by hospitals, this explains the great divergence that exists in the Magic Towns between access to health services whose degree of deficiency reaches 27.38% on average, and access to hospitals managed by Social Security whose degree of deficiency reaches 75.67% on average.

With regard to housing, and although the magical town of Mascota is an exception with 8.7% of homes lacking basic needs, it is necessary to make a greater effort, both by the owners of the houses and the State of Jalisco, so that there is an improvement in the habitability conditions since, on average, almost a quarter of the houses located in the Magical Towns present some type of lack in their construction.

Finally, the high levels of food deprivation existing in Magic Towns, which oscillate between 36.1% in Lagos de Moreno and 13.6% in Mascota, are noteworthy. This high food deficiency is due to the low incomes received by those who work in these Magical Towns, largely in informal street stalls (tianguis) with artisanal products that are not very diversified and are aimed at tourists. This small diversification and the massification in predetermined places tend to lower prices, which reduces the profits of sellers. That is why the establishment of a single price or the willingness to agree on a range of prices (minimum and maximum) to prevent sellers from cannibalizing each other is desirable.

These social deficiencies in terms of health, education and housing encourage the population to migrate to other municipalities, regions and countries, which increases the degree of migratory intensity (DMI) in these localities. It should be noted that the only magical town with a low DMI rating is Tequila, and together with Tapalpa it exceeds the 1,000th position in the Mexican municipalities with the lowest DMI (table 6).

Although the DMI at Tequila is considered low with a migratory intensity index (MII) of 2.25, this situation contrasts with the DMIs classified as high observable in San Sebastián del Oeste (MII = 5.06), Mascota (MII = 4.93) and Lagos de Moreno (MII = 4.62). These high rates suggest that the income generated by tourism is insufficient in these municipalities, despite the tourist attractions in them, mainly, among others, the silver mines in San Sebastian del Oeste, the Regional Museum of Archeology in Mascota and the Historic Center of Lagos de Moreno, designated as a World Heritage site by UNESCO.

Table 6. Degree of migratory intensity in the magical towns of Jalisco

Lagos de Moreno				
%HR	MII	DMI	Position in Jalisco	Position in Mexico
10.23	4.62	High	65	469
Mascota				
%HR	MII	DMI	Position in Jalisco	Position in Mexico
19.29	4.93	High	55	412
Mazamitla				
%HR	MII	DMI	Position in Jalisco	Position in Mexico
10.67	3.94	Medium	75	629
San Sebastián del Oeste				
%HR	MII	DMI	Position in Jalisco	Position in Mexico
16.51	5.06	High	50	390
Talpa de Allende				
%HR	MII	DMI	Position in Jalisco	Position in Mexico
5.45	2.92	Medium	95	893
Tapalpa				
%HR	MII	DMI	Position in Jalisco	Position in Mexico
4.96	2.39	Medium	104	1084
Tequila				
%HR	MII	DMI	Position in Jalisco	Position in Mexico
4.31	2.25	Low	108	1141

Note: % HR (Percentage of households that receive remittances), MII (Migration Intensity Index), DMI (Degree of Migratory Intensity)
Source: Government of Mexico (2010) and CONEVAL-SEDESOL (2010a,b,c,d,e,f,g,h)

In the state of Tequila, both the Metropolitan Area of Guadalajara, formed by the municipalities of El Salto, Guadalajara, Tlajomulco de Zúñiga, Tlaquepaque, Tonalá, Zapopan, Juanacatlán and Ixtlahuacán de los Membrillos, and the coastal municipalities of Puerto Vallarta, Cihuatlán and Cabo Corrientes and Ocotlán, considered the capital of furniture in Mexico, have lower emigration rates than the magical town of Tequila. The opposite is true in Ajijic and Chapala, where the largest natural lake in Mexico is located, and which are characterized by having a growing population of people of retirement age (over 65 years), mainly American and Canadian.

Table 7. Wealth in Tequila vs. rural municipalities of Jalisco

Tequila		12.6%	
Nearby municipalities		Other municipalities	
Amatitan	14.7%	Mezquitic	0.7%
El Arenal	12.2%	Encarnación de Díaz	4.3%
Tapexco	12.6%	Santiago Ixcuintla	8.0%
San Juanito de Escobedo	10.0%	Tomatlán	5.8%
Magdalena	10.6%	Cuquío	1.3%

Source: IIEG Jalisco (2017) for each of the municipalities

There have been attempts to alleviate the persistence of these levels of poverty with public-private activities based on social entrepreneurship, as well as ad hoc measures taken at both the state and federal levels to combat this serious social inequality. This is what we will see in the following section.

4. Social entrepreneurship in the magical town of Tequila

Following Merino (2013), cited by Rodríguez and Ojeda (2013), social entrepreneurship is characterized by the identification of a social problem that can be resolved by creating social value (Mair & Marti, 2006) through the realization of strategic policies to achieve a social transformation and improvement that benefits the whole society.

Optimally, the design of these strategic policies must come from the combination of public and private initiative to create positive externalities for the entire population and thus relaunch economic growth. The magical town of Tequila is an example of public-private collaboration to achieve sustainable economic growth with environmental and tourism preservation, as well as to fight against poverty.

In fact, there is a high level of social entrepreneurship activities carried out by the municipality of Tequila, with the ultimate goal of supporting the most economically disadvantaged populations and achieving a harmonious development of the entire territory that benefits tourism, whether through the creation of cooperatives that produce and sell products complementary to tequila (for example, agave honey) or substitutes to it (for example, typical sweets and different types of fruit preserves) that are purchased by tourists (table 8).

Given the structural transformation of the magical town of Tequila in little more than twenty years, we could say that social entrepreneurs within the municipality are characterized by being visionaries and, in Schumpeterian terminology, have become social engineers (Rodríguez & Ojeda, 2013). However, given the still existing poverty data, there is still work to be done. Some of these measures are integrated in the SWOT analysis in the following section.

Table 8. Social Entrepreneurship in Tequila (4th Quarter 2017)

Start		Activity	Organizers
			December 2017
Pb		Support for elderly people	City Council Jalisco Institute for the Elderly
Pb		Basic Rehabilitation Unit of the Tequila DIF System	City Council
Pb	Pr	Agricultural Expo 2017	City Council Secretariat of Rural Development (SEDER)
November 2017			
Pb	Pr	Dispute Resolution Workshop	City Council Institute of Alternative Justice (IJA)
Pb		Fight against dengue, zika and chikunguya	Jalisco Secretariat of Health
October 2017			
Pb	Pr	Help from the City Council for two women's cooperatives (traditional sweets and fruit preserves)	City Council Cooperatives
Pb		SEDESOL Pension Program for the Elderly	City Council Secretariat of Social Development (SEDESOL)
Pb	Pr	Opening of a road to Cerro de Tequila to benefit 100 shareholders of the Tequila Agrarian Community	City Council and shareholders (cover cost of diesel)

Note: Init (Initiative), Pb (Public), Pr (Private)
 Source: City Council of Tequila (2017)

5. SWOT analysis

Weaknesses

1. Strong dispersion of crops (5,700 farmers who grow 269 million agave plants in 90,000 hectares) (Abaco, 2014) which increases transport and tequila manufacturing costs.
2. Excessive dependence on the cultivation and production of tequila, which prevents the development of other varieties and products.
3. Existence of a quasi-oligopolistic tequila production (23 companies, part of which are in foreign hands) on which the entire population of the municipality depends economically.

4. In some tequila companies that are not excessively technified, and are generally smaller, the production process of tequila is not optimized, so there are losses of sugars by not using the entire fruit during the hydrolysis and extraction of the sugars from the fiber. This weakness can be overcome, among other ways, with the installation of production processes based on *kaizen* and installation and commissioning of systems of TQM, *Total Quality Management* and control both for the process and the final product, through Six Sigma, Lean Management and TPM, *Total Productivity Management*, as has been done in tequila companies in foreign hands.

Threats

1. Climate change is slowing the development of agave. The climate of the municipality is semi-dry, with a dry winter and spring, and semi-warm without a defined winter season. The average annual temperature is 23.2° C and the average annual precipitation is of 1 073.1 millimeters of rain in the months of June to October. The prevailing winds blow in a northeast and southeast direction. The average number of days with frost per year is 0.4. Given the relative dryness of the land, an increase in temperature could endanger the production of agave.
2. The sale of production plants to foreign multinationals leads to the loss of control in the medium and long term to local companies in the production and distribution of tequila in the world.
3. The growing international competition in the production of distilled beverages, especially with the growth of vodka and whiskey, can threaten the tequila market in the medium term.
4. The entry into the Mexican market of distilled tequila substitutes, with a similar alcoholic strength (becherovka, bourbon, brandy, cachaça, cognac, fermet, gin, grappa, mezcal, white marc, rum, vodka, and whiskey, among others).
5. The generalization of the four diseases of tequila agave (wilt, bud rot, gray spot and red ring) although, according to data from the Tequila Regulatory Council (2010), they hardly have an impact on production.

Strengths

1. As the orographic and climatic characteristics of the region are unique, it is difficult to grow agave tequilana in other regions and countries, which gives unique competitive advantages to the producers that have the Tequila Denomination of Origin (TDO).
2. The implementation of a TDO since 1974 by the National Chamber of the Tequila Industry (CNIT) and its declaration as Cultural Patrimony of UNESCO in 2006 have led to protection in the production and distribution of tequila to 181 municipalities of Guanajuato, Jalisco, Nayarit, Michoacán and Tamaulipas, of which 125 are in Jalisco (table 9).
3. The integration of tourism policies through the combination of municipal activities and those of the Magic Towns program, the Tequila Train that connects the Metropolitan Area of Guadalajara with Tequila through the agave landscape, museums of tequila factories and the renovation and maintenance of the historical

downtown area, have attracted tourists to the magical town of Tequila to a total of 256,047 tourists, of which 223,400 (87.25%) are Mexican and the rest (12.75%) foreigners (SECTURJAL, 2017).

Table 9. Quantity of blue agave plants

State	Number of plants	%
Jalisco	430 056 509	85%
Nayarit	34 209 235	6.79%
Michoacán	15 638 408	3.10%
Tamaulipas	12 110 083	2.40%
Guanajuato	11 823 084	2.35%
Total	503 837 319	100%

Source: González-Terrero (2010)

- The proximity to the Metropolitan Area of Guadalajara, formed by the populations of El Salto, Guadalajara, Ixtlahuacán de los Membrillos, Juanacatlán, San Pedro Tlaquepaque, Tlajomulco de Zúñiga, Tonalá and Zapopan, forming an urban agglomeration of more than 4.4 million inhabitants, facilitates the arrival of tourism, both national and international, mainly on weekends.
- As 'tequila' is the third word most strongly associated with Mexico after the words 'mariachi' and 'charro' (Murià, 2015), it is a well-known product both in Mexico and abroad, which makes it easier to market.

Opportunities

- It would be possible to organize visits to some of the mines, mainly gold and silver, but also lead, copper, opal, kaolin and bentonite that exist in the region.

Table 10. Tequila production in Mexico

	Production ¹	Export	Consumption of agave ²
2010	257.5	152.5	1 015.1
2011	261.1	163.9	998.4
2012	253.2	166.7	880.6
2013	226.5	172.0	756.9
2014	242.4	172.5	788.2
2015	228.5	182.9	788.9
2016	273.3	197.9	941.8
2017 ³	209.2	158.4	721.4

Note: 1 In millions of liters expressed at 40% Alc.

2 In thousands of tons

3 Until October included

Source: Website of the Tequila Regulatory Council

2. The 28,430 hectares of forest are underutilized for tourism, so you could make trekking routes based on ecotourism to admire the forests of pine, oak, strawberry tree, oak, huizache and mesquite, mainly, as well as trees and fruit or edible plants (avocado, plum, guamúchil, lemon, mango, mezcal, nopal, pitahayo and banana) and flora.
3. The existing rich fauna (squirrel, armadillo, rabbit, coyote, lizard, raccoon, badger, deer, fox, skunk and some reptiles and birds) could lead to an Observatory of animal life in strategic points of the territory.
4. There is strong federal and state support for the cultivation and improvement of agave that is observed by the approval in 2014 of the Strategic Project for the Arrangement of the Agave-Tequila Chain that consists of five axes: 1. Phytosanitary management to prevent pests and diseases; 2. Research and Technology Transfer to improve productivity and maximize growth; 3. Technical assistance and training; 4. Legal Framework and Standardization, to have a single Internal Regulation for the Agave Producer; and 5. Access and promotion, to increase sales in the 90 countries to which it is exported and find new markets. Therefore, guided tours of the interior of the agave fields, as done by the company La Cofradía, could be of interest for tourism.

6. Conclusions

Given its economic importance, the production and distribution of tequila has become a strategic industry in the 181 municipalities that produce and distil tequila in Mexico. For this reason, it is very important to continue with the granting of badges and the tracking of product traceability, both by the Tequila Regulatory Board and by the National Chamber of the Tequila Industry. In this way the quality of the product is guaranteed to avoid the proliferation of adulterated beverages and pseudo-tequila that directly affect the prestige of the product. That is why tequila is protected by the Denomination of Origin, the distinctive T of the Regulatory Council of Tequila, the TT distinctive of the Tequila Route, by the International Tequila Registry before the World Protection Organization, and by ad hoc regulations in international agreements.

This tequila protection also seeks to guarantee tourist sustainability of the region. This is backed up by social responsibility policies carried out in the municipalities following a double public-private perspective, such as the design and implementation of the Tequila Route (www.rutadeltequila.org.mx), formed the populations of Ahualulco de Mercado, Amatitán, El Arenal, Etzatlán, Magdalena, San Juanito de Escobedo, Tequila and Teuchitlán. Tourism sustainability of the tequila zone is framed within the so-called Tourism Policy of Mexico by 2040 in which the Secretariat of Tourism (SECTUR) participates in coordination with the Tourism Commission of the National Conference of Governors (Conago), public institutions and private organizations. The strategic value of tourism is very large since it is equivalent to 8.5% of Mexican GDP (INEGI, 2017a).

Despite this protection, the level of poverty in Tequila has barely been reduced due to:

- The sale of a large part of the main tequila companies to foreign multinationals, which prevents the benefits from reverting to the community, as would be the case if cooperative models were followed, as in other countries.
- The non-creation of quadruple helix models between Tequila companies, universities of the Metropolitan Area of Guadalajara, non-governmental organizations and the State.
- The low levels of formality in the labor market, especially in street vending and informal tequila companies.
- The underdevelopment of alternative industries to the tequila industry, which results in reduced job opportunities in this environment.
- The concentration of wealth in a few tequila families, which means that this wealth does not permeate the rest of the population.
- The high levels of insecurity in Mexico. According to the INEGI (National Institute of Statistics and Geography), the social perception of public insecurity at the national level reached 72.9% in March 2017 (INEGI, 2017b), reducing the number of tourists wishing to travel through the interior of the country.

Although it is true that the level of multidimensional poverty existing in non-Agave municipalities is much higher than in Tequila, the results in the fight against poverty in the magical town of Tequila have been insufficient. Hence, the tourism industry has a great challenge ahead to support its reduction, along with public and private administrations in the region.

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