

Perception and rating of tourism entrepreneurs in the recovery of travel destinations affected by social-natural disasters: Case study from the April 16th earthquake in Ecuador

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ABSTRACT

This study analyzes the perceptions and rating of local tourism entrepreneurs affected by the earthquake on April 16th, 2016 in the Province of Manabí, Ecuador. A hybrid methodology was utilized to identify the resiliency and potential recovery of tourist destinations after this social-natural catastrophe. The questionnaire consisted of structured questions with an assigned value according to the Likert scale and was supported by a checklist of questions and actions carried out in the territory during the post-disaster recovery. Previous fieldwork was used to determine a sample size of the population. Currently, the precise amount is unknown because despite relying on statistics of registered tourist establishments in the official MINTUR census, there exists a high number of businesses that operate in the field of an informal and irregular economy. A simple random sample of 196 entrepreneurs was used and the results gave off averages that were graded “insufficient” and “regular” for the on-site actions taken by local authorities. Leisure and free time services were perceived to have the lowest level of recovery while the basic services of hospitality and accommodation showed better values. The perception of the impact on tourism activities in the destination recovery was low and one of the most concerning points was related to the migration of the local population and relocation of many tourist businesses to other areas not affected by seismic disasters.

1. Introduction

Tourist destinations are subjected to situations of external crises and vulnerability resulting from a wide range of natural disasters. External crises have a major impact on territories of tourist development that have no prevention plans and/or are disorderly and those that count on few resources. They also tend to have enclaves of greater concentrations of tourist-residential activities and have typologies that depend on the use of natural resources as occurs in coastal zones, mountainous, forest areas, and river valleys. Sadly this problem has become a phenomenon on a global scale and is not just seen in a few specific conflictive destinations. (World Organization of Tourism [OMT], 2003; Ghimire, 2016b; Sigma Funds Development, 2018). These socio-natural disasters are spontaneous and most of the time, unpredictable; they cannot be monitored with prior notice [1,19,75]. They also leave behind enormous material and human losses in the affected territories, especially in economic activities like tourism, which has been previously represented as

one of the main instruments of development.

Nowadays, the tourism sector is considered an industry of great strength and possess resistance to crises and a quick recovering capacity when compared to other industries of economic activity (Pike and Page, 2014). This becomes a very important factor in the general socio-economic development of many territories (OMT, 2003; World Economic Forum [WEF], 2005; De Suasmarez, 2007). Tourism shares common grounds with many other sectors so public administrations tend to concentrate initial investments into the tourism sectors in the post-disaster recovery process to obtain quicker investment returns and drag effects. (Nagai, 2012; Ghimire, 2016b). However, in a short term period, crises start with an important reduction in the numbers of visitors, a decreased average expenditure and reservations. This may extend to other close territories due to bad management and even expand to other sectors (Beirman, 2003 [2]; De Saumarez, 2007). The consequences of these socio-natural disasters on businesses and other tourist destinations can also be negative due to feelings of insecurity and

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mistrust in the destination until it returns to normal (Rodríguez-Toubez y Alvarez, 2013). It is during the medium-long term spans when tourism acquires a greater recovery capacity to reboot itself, due to its character and transversal activity and its connections to many other economic activities.

The degree of initiative and involvement of the tourist entrepreneurs, their level of cohesion, the inter-business collaboration and collaboration of public-private sectors, are fundamental factors in guaranteeing the efficiency of the post-disaster recovery process. To achieve this, it is essential to have a plan and a proactive, non-reactive, governance system of the tourist destination (Rivera y Felix, 2019). An analysis of opinions, and behaviors of local businessmen and the main tourist agents, should always be considered while diagnosing needs and start-up limitations, recovery potential and resiliency capacity of the destination.

This research attempts to analyze the perception and vision of the local businessmen in the recovery process of tourist destinations affected by the earthquake of April the 16th in Ecuador. Due to this, several things have been taken into consideration: a review of the literature related to the crisis of the tourist destinations affected by natural disasters, focusing above all, in the recovery of its tourist image; in this particular case in Ecuador, perception, involvement of local tourist agents, and knowledge of actions taken to reconstruct the destination. We also considered the efficiency of the strategies; management models and impacts that tourism has on the affected areas.

Finally, this investigation has attempted to obtain a series of guidelines and lessons learned that can improve post-disaster management proposals in tourist destinations affected by socio-natural disasters based on studied experiences, and more concretely, in opinions and ratings of the local tourist agents principally affected by the effects of the catastrophe; in addition to the elaboration of a critical analysis of numerous case studies at an international level.

The main objective proposed for the development of this work is to evaluate the perception of entrepreneurs on the actions developed by the authorities for the recovery of the destinations located in the North Coast of Manabí in Ecuador after the earthquake occurred on April 16, 2016. This study is preceded by results related to the development of a theoretical model for planning in the affected area [3], this information is complemented with an analysis of the demand-side behavior in the years after the disaster which results have been included in different publications, some of them to be referenced in the literature review. At the end of the document, in the discussions, it is displayed the development of the 4 R model adapted to the needs of the affected territory which has been complemented with the information obtained from this research and will serve as a basis for the management of future natural disasters as well as a close reference for future research that needs nearby case studies.

2. A review and current status of the literature

The studies on the impact of natural disasters on tourist destinations and recovery processes have expanded significantly in the past two decades. Because of their impact and unpredictability, they can produce an important crisis in the affected territory [1]; Rodríguez, 2012). Even though these natural disasters cannot always be prevented with sufficient notice, their impacts can be minimized with the involvement of public administrations and private tourist agents of the tourist destination [2]. Hence, most of the studies in disaster management provide reactive responses to crises that affect tourist industries through strategies and initiatives to reduce the impacts of these disasters. However, prevention, mitigate and proactive measures through effective planning models, tourism governance, and cooperation from the private-public sectors are needed. [4]; Rodríguez, 2012).

2.1. - Crisis, resilience, and tourism

Since the 1980's specialized literature has been focusing on the social-territorial vulnerability in risk management. In this manner, technological solutions are considered insufficient, inefficient and counter producing (Aledo y Sulaiman, 2014). This thesis directly compared the traditional and technocratic vision that established that disasters related to natural phenomena were extreme, physical and external events produced by nature to the anthropogenic social issues and therefore, required technological investments and solutions, adequate control, and monitoring of nature and specialized management (Bankoff, Frerks and Hilhorst, 2004). Ultimately, it is thought that risks are consequences of exceptional natural phenomena, conditions of vulnerability, developmental level of the population, social-historic factors and resiliency [5]. In other words, good, strategic planning and governance in the recovery of affected zones are needed for the anticipation, prevention, and recovery from the impacts of these natural threats.

While it is true, that quick and slow changes that affect the tourist systems should be studied, conceptual problems concerning resiliency must be kept in mind [6]. Resiliency is a concept of growing interest to those looking to understand how local communities can better adapt to changes [7]. Many recent investigations are focusing in understanding factors that allow or improve the capacity of recovery of the communities through tourist activities [8]. Resilience integrates many central aspects of tourist sustainability. Simultaneously, it recognizes considerable influences that multiple contexts such as social-economic, cultural, political, have on the populations and territories to adapt to the situations created by natural disasters, so it can, in last instance, reconstruct and regenerate the initial tourist production fabric [9–11].

On the one hand, some authors [1,2] [[,13], in order to measure the resilience of the territory and through the implementation of a score-card, detect serious gaps in the risk management plan to which structural problems of poverty, social inequality, lack of infrastructure and lack of investments add up and snowball into other issues that end up highlighting them even more. On the other hand, others focus their analyses on the importance of actions that promote dialogue and cooperation between actors. Endogenous and exogenous actors [14] that adopt measures, in many occasions do not have the consensus between public and private organizations, prioritizing the sporadic recovery of the destinations through isolated actions of little importance like fairs, cultural and touristic festivals especially on specific dates like local and national holidays. (Felix & Rivera, 2018; Felix et al., 2017).

2.2. Recovery of the image of tourist destinations

In the recovery of territories affected by catastrophes, the tourist activity in many occasions can be an instrument of particular interest not only for their proven ability to stimulate economic recovery but because they facilitate the activation and enhancement of the cultural and natural heritage affected by the disaster; it is the basis of support for new tourist initiatives and/or upgrades of preexisting ones [15,82]. Faced with these scenarios, we should keep in mind, that the recovery of destinations tends to be slow depending not only on the actions that develop within the affected territories but on outside national and international junctures that can be influenced by the consequences of the disaster and loss of the destination image.

There is no doubt then, that prospective studies about the real and potential tourist demand are necessary [16]; those that allow precise information about the possibility of recovery of the destination [17]. Adequate planning measures can be implemented and promoted activities such as coordination, organization of promotional programs by demand segments, talks, and conferences, product presentation, and PR activities on a national and international level, are all part of the mandatory actions to be implemented after a disaster [18]. Among the most undertaken actions, is the creation of inexpensive tourism

packages that attract local tourists and those neighboring the national territory (empathy tourists), and other appealing visits to the affected areas which are in the context of growing trends of “dark tourism” [19]. However, the insufficient demand studies mean the undertaken actions do not to truly respond to the motivations of the national and foreign tourists that visited the destination before the disaster or of other potentially attractive demands. Therefore, the analysis of the actual demand of the affected area is fundamental to centralize the efforts made in the recovery of landscapes, infrastructure amenities, attractive preexisting offers, and the own tourist image of the destination which is very important to the satisfaction and motivation of the tourists [20,21,73]. In Thailand, for example, after the 2004 tsunami, the return of tourism was nature-based, in its beaches, the beauty of natural landscapes, the hospitality of the local population and the relation between quality and price, while the new proposals for the low-cost package tours and scheduled visits to areas affected by the tsunami were not interesting to tourists [22].

In reading, we found numerous studies on the important effects natural disasters have on the tourist image of the destination and essential perceptive attributes [54] due to, above all, sensational media news [23,78]. However, other studies underline how these natural disasters allow these tourism destinations an opportunity to reinvent themselves and improve upon their image (Seraphin, 2019) taking, for example, strategic communication instruments like the theory of multiple steps that subtract personal opinions and go beyond stereotypes and prejudices. They also amplify the promotion of the destination through relevant national and international celebrities and promote the tourist image through many differentials and attractive territorial attributes at a patrimonial, natural, cultural and geographical level [24,25,70,71]. The study of the image of the tourist destinations is a mental representation tourists have, and they become a crucial factor in coping with post-disaster recovery [26–28] for professionals and businessmen alike as it is for public administrations for touristic competencies, academics and scientists [29,30,72]. And given the competition that exists between tourist destinations and the need to capitalize on public and private investments in the commercialization process, the marketing strategies will be more demanding.

The challenges that the tourist destinations have to overcome to recover are certainly varied and complex and go beyond what literature has considered conventional and traditional, exclusively centered on the improvement of infrastructure, hospitality offers and amenities that support tourist activity. The chaotic situation and uncertainty after a crisis, suggest challenges relating to the management and good governance of tourist organizations both public and private and are accompanied by preparation and resiliency to face crisis and adapt to the necessary changes [31]. Partly, the success of the recovery process depends on the local owners, crisis management and prevention in its many ways, as well as shared responsibilities in the disaster scene among interested agents in a rational and coordinated way [8,32].

2.3. Perception of the population and local businesspeople

The populations located in high-risk disaster areas face one of the biggest challenges in developing a tourism-based economy that can be sustainable [33,74], but the situation in many occasions is aggravated by the low levels of preparation and lack of true planning for a future disaster, particularly in the case of tourist microbusinesses [34–36]. Therefore, recovery studies of the destinations should adopt an approach to determine the degree of resilience at both the business level and at the level of subsectors of tourist activities as well as public and private organizations’ involvement, tourism system and the destination itself. [37], But, despite the abundant studies on the social capital of businesses, there is much work needed to understand and decipher the relationships between these: structural, relational, cognitive and the capacity of organizational resiliency as predictive factors for the effectiveness of corporate management [38]. When the time comes to

evaluate and propose appropriate responses to the disaster crisis, we have to consider the perspective and vision of the local community, tourist businesses and the representing organizations of the sector itself and their relational dynamics, as well as detecting incidences that can negatively affect the recovery process [39,76,81].

In the tourist industry, one of the most affected subsectors by the post-disaster crisis is without a doubt, hotel accommodations due to multifaceted vulnerability problems [40]. In many case studies, there has been a special interest in understanding the recovery process of the tourism destinations from the deal/offer point of view and above all, from the experiences of perspective owners, business managers, and businesses related to tourism particularly, hotels [41] [42]. These studies precisely reveal five relevant problems for tourism hotel establishments [43] in the management of tourism crises: the development of competitiveness and entrepreneurship, operational management aspects, strategies in marketing and promotions, productivity and business efficiency, as are financing aspects; however, we cannot forget other equally important aspects like the exploration of new markets, the reduction of running costs and keeping the morale and implication of the employees all included in the framework of the application of a contingency plan [44]. To obtain information about the perception of the agents of the tourism sectors, an empirical study that observes subjective variables that allow verification of the quantitative analysis obtained from the undertaken actions, level of efficiency, and efficiency of obtained results, should be made [10,11].

2.4. Post-disaster crisis management in tourism

Even though the negative impacts of natural disasters can be decreased through the implementation of appropriate strategies (reactive, proactive, and preventive), the truth is few destinations have adequately developed disaster management plans to face such events (Rodríguez-Toubes, 2012; Seraphin, 2019). A key factor in the recovery of tourism destination management is to restore its image and reputation affected by negative and imprecise media coverage. [25,45]; Kisali, Kavaratzis & Saren, 2016b [46–48];). But according to Prayag’s criteria (2018), it is necessary to improve the academic approach and theoretic fundamentals of existing problems by analyzing major case studies and developing longitudinal and comparative investigations to bridge the information gap present in the management crisis of tourism destinations [49]; Prayag, 2018).

We should recognize, however, that the studies on crisis management have provided important lessons in the past couple of years in the contextualization of adopted actions, factors of major incidence and detailed answers of the destinations [50]. Therefore, from a wider perspective, Morakabati et al. [32] proposes a management strategy and governance with clearly stated assignments and responsibilities for all involved parties to create effective responses when facing an emergent situation; meaning, “knowing who is to do what” at a proactive and reactive level within the organization that centralizes the management in addition to assuming specific activities according to stages and processes [50].

The Organizations for Destinations Management (OGD translated from the Spanish) are responsible for the crisis administration and have an important role in actively promoting the collaboration of interested parties in the recovery of the tourism destination and are key in guaranteeing the competitiveness of the same [51,77]. The OGD is responsible for providing a set of requirements for the effective planning of disaster management [1]. The effective collaboration and inter-institutional communication in the immediate response phase and during the development and implementation of strategies is of utmost importance [52]. In short, the adoption of a strategic approach to management is necessary, from the proactive planning phase to the implementation of concrete measures, evaluation, and feedback [2]. Many authors coincide in the need to address these processes through a multidisciplinary perspective to investigate and better understand the

complex problem planning and crisis management since it involves investigators from all different disciplines from the Education for Development, Communication and Marketing, Sociology, Emergency planning, Risk management, and Tourism industries [4]. while taking into consideration the individual agents as well as the associations and tourism organizations [2].

This being said, one of the priorities of this research concerning socio-natural disasters is the present risk assessment model design, strategy design, management mechanisms and planned recovery to face the crises in the tourist industry [53]; Fan, Le y Li, 2019). In order to achieve this, many problems and limitations found in prior studies have to be overcome. For example, the difficulty in information and data gathering at the micro level, the identification of external factors in the number of incidences in the tourist destination, the improvement of risk-scene simulation models and catastrophe recovery. Also, the application of assessments and real results in public politics, promotional actions, marketing and attraction of the demand and optimal functioning of the public-private collaboration [54]; Chung & Zhang, 2020; Fan, Le y Li, 2019). Hence, we start from the hypothesis that it is fundamental to analyze the opinions, ratings, behaviors, and attitudes of the agents and the affected tourist entrepreneurs from a systematic, heterogeneous, and dynamic vision, as allowed by this tourist activity [21,31,55,69], since these can transmit first-hand information about recovery processes of the tourism destination and specific casuistic that condition them as we have attempted to obtain with this case study of the earthquake of April 16 in Ecuador.

3. Tourist and territorial contextualization of the study area and of the April 16th earthquake in Manabí

This research focuses primarily on the consequences and recovery actions as a result of the major catastrophe experienced in Ecuador since the earthquake of April 16th, 2016. The earthquake had a 7.8 magnitude on the Richter scale, and its epicenter was on the coast of Pedernales, north of the Manabí and Esmeraldas provinces. Other equally affected areas were in the Jama, Bahía de Caraquez and San Vicente cantons. (Fig. 1). Generally, these extended zonal areas on the northern coast of Ecuador, facing the Pacific Ocean, base their life system on economic

activities such as aquaculture, shrimp production, artisanal fishing, commerce, and sun and beach tourism. In its interior rural zone, traditional agrarian activities take place such as cattle raising for the production of milk and derived products. In the northern coast of Manabí there are several sun destinations of importance such as *Pedernales*, a city crossed by the equatorial line; *Bahía de Caraquez*, a resting destination for second home-owners primarily by people from Quito, capital of Ecuador; the canton of *Jama* with its rich pre-Colombian archeology and other destinations that specialize in nature sports as is *Canoa* where paragliding and surfing are practiced and are generally frequented by international tourists, (Felix et al., 2017).

According to information from the National Secretariat for Planning and Development (SEMPPLADES, 2016), this disaster marked the destruction of 58% of the preexisting tourist infrastructure and provoked the deaths of over 600 people including tourists staying in the different accommodations in and out of the zonal area. According to the official registry at the Ministry of Tourism in Ecuador (MINTUR) there are 3658 registered lodging establishments with a lodging capacity of 170,411 beds, to which a total of 17,233 bars, cafeterias, and restaurants with an estimated capacity for 766,064 customers, can be added. The province of Manabí, the object of this study, has 305 lodging establishments (close to 10% of the national level) and 1024 eating and drinking establishments. Even though these numbers do serve as a reference to contextualize the study and help us understand the economic importance of the tourist activities in the affected areas by the earthquake, we need to clarify that the country does not have an advanced statistical and censal system nor an efficient administrative regulation control. Numerous businesses and tourist activities are functioning within the margins of statistical and administrative control of the public authorities and do not allow for a true census of existing tourist offer/supply.

As you can observe in Table 1, the areas affected by the earthquake were unequal according to tourism destination zones and the crisis of the sector affected local entrepreneurs and tourist microbusinesses and experienced a 50% client decrease as a general average and in some specific cases, experienced a complete loss when their facilities were destroyed by the effects of the seismic movement. The origin of this data, which was taken from a post-earthquake loss report.

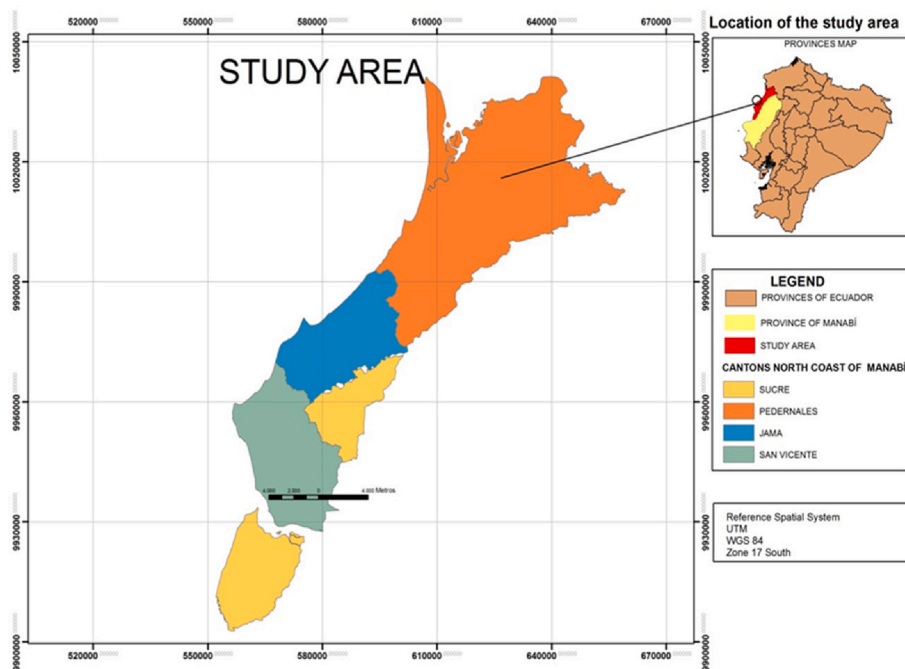


Fig. 1. Study area Northern coast of Manabí and main affected area by the earthquake of April 16th, 2016. Source: Own elaboration.

Table 1
Loss of tourist accommodation establishments in the north coast of Manabí.

Canton	Tourist accommodation establishments before the earthquake of April 16	Tourist accommodation establishments after the earthquake of April 16	Beds before the earthquake of April 16	Beds after the earthquake of April 16
Portoviejo	65	35	3178	2089
Manta	137	99	6800	5000
Sucre	54	24	2000	1250
San Vicente	69	27	2600	1055
Jama	10	8	350	199
Pedernales	84	41	3246	1819
	419	234	18,174	11,412

Source: SENEPLADES (2016).

After the earthquake, action was taken and implemented at different levels of the public sector and was guided to the recovery of the private sector and the reactivation of tourist activities in general. (Table 2). From the Ecuadorian State, the establishment of a festive bridge was decreed coinciding with the so-called “Day of the Dead” and the Remembrance Day of the Independence of Cuenca between October 28 and November 3rd, 2016 guided towards the reactivation of the destinations affected by the earthquake through the acquisition of the demand of national proximity. According to official data from the General Statistics and Investigation Coordination from the Ministry of Tourism, the province of Manabí was the second most visited province during the non-working festive period, receiving 14.6% of the total domestic/internal travel just slightly behind the province of Santa Elena, that received 14.9% of tourists [56]. In addition to this specific and immediate action, other promotional strategies of the affected destination were put in place almost immediately, like: ‘solidarity tours’, gastronomic festivals, cultural and sporting events, and marketing events aimed at the national tourism of proximity (Table 2).

4. Methodology

The procedure has allowed in first instance, an exploratory analysis of the character and nature of the obtained information [57] in the rating and perception of the reconstruction processes of the tourism destination on behalf of the local entrepreneurs affected by the earthquake in the north coast of Manabí. The statistical package SPSS version 21 was utilized as the software of choice to process this information.

To carry out the attribute assessment survey, the fieldwork took place during the month of July 2019 utilizing a questionnaire designed with a specific methodology to get to know the opinions and perceptions of the affected local businesspeople and was compared to and validated in case studies and experience studies in natural catastrophes in Chile [10,11].

The questionnaire was structured with a section for general questions and four sections with more specific questions. The first was related to

Table 2
Strategies of immediate recovery post-earthquake.

N.	Strategies	Actors
1.	Solidarity Tour	Ministry of Tourism
2.	Gastronomic Festivals	Several municipalities: Among them: Portoviejo, Tosagua, Chone, Pedernales
3.	Cultural & Sporting events	Several municipalities among them: Sucre & Manta
4.	“Unidos por Manabí” stands in	Provincial government of Manabí shopping centers in Ecuador
5.	Social Media marketing events	In all destinations

Source: Felix & Rivera, 2018; Felix et al., 2017.

the perception level of tourism agents regarding the destination recovery after the April 16th, 2016 earthquake. Keeping in mind the different components of the local tourist plant, they were given a value according to their evolution and behavior, ranking in numbers between 1 and 10. (where 1: is unsatisfactory and 10: satisfactory). The second segment was dedicated to the rating of the general tourism planning process in the territory utilizing a checklist. The third group of questions rated the work performed by the cantonal institutions and private tourism services using a Likert scale with ranking numbers from (1–5, 1 being “very deficient”; 2 “deficient”; 3 “average”; 4 “good”; and 5 “very good”). Finally, the last segment of the questionnaire used the same ranking system to evaluate the impact and real contributions of the tourism activity in the social-economic development of the territory.

To determine sample size, the proposed methodology by Alatorre & Perez (2001) was utilized, starting with an unknown population because despite having statistics of total zonal establishments registered by MINTUR, an updated and necessary cadaster does not exist and a considerable amount of establishments operating without official registry and administrative authorization was detected. In consequence, a simple random sample was utilized and the sample size was defined utilizing this formula:

$$n = \frac{Z_{\alpha/2}^2 \cdot p \cdot q}{d^2}$$

where:

z = confidence level: 1.96

p = success probability or expected proportion: 0.5

q = probability of failure: 0.5

d = precision (maximum error admissible in terms of proportion: 0.07.

Whereby, the sample size was obtained by the following calculation:

$$\frac{1.96^2 \cdot 0.5 \cdot 0.5}{0.07^2}$$

$$n = \frac{0.9604}{0.0049}$$

N = 196 surveys to local entrepreneurs

In consequence, a simple random sample was employed, randomly selecting 196 local entrepreneurs from the total of entrepreneurs that were formally-registered, or not-registered in the municipal census from which some could be (or not) operating their businesses. Within this study, people who lost or closed their businesses were also surveyed. Before the research started, we did a preliminary test of the surveys among 40 entrepreneurs to test the strength and reliability of the survey, which was satisfactory. Respondents were local business owners, who were surveyed in meetings periodically organized by local authorities with financial entities that promoted financing options for partially or fully affected businesses.

The conducted fieldwork consisted of 196 on-site surveys. They were subjected to a descriptive statistical analysis to obtain a clear vision of the recovery process of the tourism destination, three years after the catastrophe from the pre-existing business fabric and the local entrepreneurs’ perspective and of those interest groups most affected by the crisis (hotel establishments, restaurants, meal houses, travel agencies and other businesses related to the commercial tourist activity).

The study has also relied on specific secondary statistical sources. It is necessary to point out that except for the Galapagos Islands that has a tourism observatory, the country does not count on a highly trusted statistical management system, reason for which other general official organisms sources were utilized, such as, the Ministry of Tourism (MINTUR), the National Institute of Statistics and Census (INEC), the Ministry of the Interior that contributes migratory statistics, cost reports and economic impacts the earthquake had on the territorial recovery by the National Secretariat of Planning and Development (SENPLADES).

Later, a revision of specialized literature was made as well as a selection of special case studies based on methodologies, analytical and non-conventional focus of investigation; sources that relied on new technological advancements with broader perspectives depending on the type of information and data collected [58]. Likewise, other empirical results were kept in mind and performed beforehand in the study area [12,13]; Felix and Rivera, 2018; Felix et al., 2017) as well as management and governance model proposals for the recovery of tourism destinations in crisis [20,59–61,80]; were considered and were adapted to the specific needs and cases of the surrounding territory in the study and the competencies of the various state institutions existent in the area.

5. Results

Regarding the ratings and perceptions of the local tourist agents, a general rating was obtained from the perception of entrepreneurs and local tourism establishments about the evolution of the tourist activities after the earthquake and lastly, a more specific rating about the components of the touristic offer according to the activity of the subsectors, infrastructures, support equipment and its' recovery levels (Table 3).

The component with the less perceived value is that of the complementary services of the tourist activity which average is slightly above 50% of the proposed value scale (1–10 points). On the other hand, the basic public services that serve as support for the tourist activities also have a low value, under six points. Amenities and adapted tourist services have experienced what seems to be a more acceptable recovery to the present day, as it appears from the perceived value which exceeds six points. This data offers a view with several possible readings about the elapsed time since the catastrophe, the different support systems, and involvement in both national and international government and private officials.

A checklist that allowed data of interest regarding the amount of participation and consensus in the planning and governance post-crisis was put in place. It was based on the knowledge of the local agents in public institutions about territory planning strategies, as well as the perception of empowerment levels and involvement from the local business sector in the adopted initiatives (Tables 4 and 5).

For the analysis of this matter, we have taken the data from the questions related to the execution of the Development Plan and Territorial Order (PDOT) implemented by the Ecuadorian government. These documents enclose the actions that will be carried out by local governments in search of an improvement in the different areas of the political competencies.

Table 3
Recovery level of the touristic plant.

	N.	Minimum	Maximum	Average	Typical Deviation
Infrastructure (Streets, bridges Highways, communications, etc.	195	1.00	10.00	6.2154	1.89540
Basic services (drinking water Sewerage, waste pick up	194	1.00	10.00	5.7423	2.35360
Touristic equipment (restaurants Accommodation, camping	195	1.00	10.00	6.5231	2.18788
Complementary services (general Commerce, ATMs, mail, transportation	193	1.00	10.00	5.4663	2.74054
N valid (according to the list)	192				

Source: Own elaboration.

Table 4
Inclusion in the territory planning and socialization of strategies.

Checklist	%Yes	%No
Are you aware of the canton Development Plan and Territorial Order (PDOT)?	26.29	73.71
Have you participated in the design/implementation of the canton development plan and territorial order?	11.73	88.27
Do you know the Organizations/Tourist Business groups in your territory?	53.85	46.15
Have you received help on behalf of the canton's Department of Tourism?	58.46	41.54
Do you the norms and construction ordinances established by the municipality?(Construction materials, height, facades)	52.82	47.18
Have you received information about natural disaster prevention programs (Earthquakes, tsunamis) in the coastal sector?	63.78	36.22
Are you aware of a program or project directed to the development of the tourist sector in the canton?	41.03	58.97
Do you know of public financial incentives for the tourist investment in the canton?	32.65	67.35
Do you consider that the political and public ordinances favor and guarantee a sustainable management in your tourism business?	41.54	58.46

Source: Own elaboration.

Table 5
Participative actions developed in the territory post-earthquake.

	N.	Minimum	Maximum	Average	Typical deviation
Plans and Tourist programs impulsed by the Municipality	195	1.00	5.00	2.7487	1.13675
Efficiency of the public financial incentives for tourist investment	195	1.00	5.00	2.4667	1.01670
Management quality and direction of the Department of Tourism	195	1.00	5.00	2.7026	1.15041
Tourism training programs	194	1.00	5.00	2.8557	1.25082
Quality of tourist information	194	1.00	5.00	2.7577	1.26248
Potential tourist resources (not exploited)	195	1.00	5.00	2.8872	1.12497
Attractive natural tourist offer	194	1.00	5.00	3.0103	1.25086
Offer of cultural tourist attractions	195	1.00	5.00	2.9487	1.19165
Offer of tourist activities	195	1.00	5.00	2.9231	1.18810
Offer of tourist excursions	194	1.00	5.00	2.6340	1.15399
Tourist promotion	194	1.00	5.00	2.9278	1.19366
Support from financial institutions for the development of entrepreneurship	195	1.00	5.00	2.5282	1.13654
Local community disposition to the	196	1.00	5.00	3.2398	1.12256
Security in tourist sectors	196	1.00	5.00	2.8469	1.23912
N valid (according to list)	189				

Source: Own elaboration.

The main tourist companies in the destination are related to accommodation and gastronomy, reason for which the different entrepreneurs do not present significant differences that will grant and set aside each group of opinions. They have been integrated into a single criterion group which will be grouped in the following tables that will be analyzed below in the *results* section.

As you can observe in Table 4, it exists a high percentage of

decreased knowledge of the PDOT from the local businesspeople (73.71%), the lack of effective participation in the initial design and implementation, has been also considered (88.27%). Therefore, there is a disconnection between public and private actors in the planning process put in place. However, concerning other specific actions aimed at promoting private initiatives, moderately favorable figures are observed in the private tourism council areas of the sector, (58,46%), diffusion of norms and tourist ordinances (52.82%) and the socialization of natural disaster prevention programs (63.78%) being the latter one, the most applied in the affected zones. (Table 4).

On contrary, from the business point of view, it exists an acceptable amount of knowledge of the undertaken measures between the representative association guilds of the tourist sector after the disaster (53.46%). But the private entrepreneurs, in general terms, possess a decreased understanding of aide assistance, incentives for the improvement and reform of private tourist establishments affected by the catastrophe (a 67.35%) and programs and projects directed to the regeneration of the tourist activity in general. (58.97%). Finally, there is a lack of confidence in public politics developed at national, regional, and local levels regarding the promotion of new tourism business initiatives. (58.46%).

In what pertains to the assessment of the local institutions' actions and the predisposition of the local community, including the agents and tourist services, the data represented in Table 5 is very significant. The values obtained in a general form fluctuate between 2.4 (deficient) and 3.2 average, respectively. The rating is negative in the first case as a consequence, above all, to the lack of efficiency perceived by the financial incentive programs placed by the public administration to encourage tourist investments. The second case is related to the involvement and position of the local community in the impulse and development of the tourist activity, and is the item highest scored.

There is a deficient value (<3 points) in all the evaluated items except for the already commented case of the predisposition level and positive attitude of the local community. There are also low values in the offers for recovery initiatives of tourist attractions in the affected destination, in particular, the territorial resources tied to the beaches. The lowest values (2.4 and 2.5) considered deficient, correspond to the incentives and actions developed in the territory for the financial support of the companies and tourist establishments given from both the scope of public administrations and that from private financial entities.

Tourism promotion and the offer of cultural attractions was rated 2.9 points, though a poor value, there was a perceived interest in promoting cultural initiatives as new attractions of the tourist destination. Similarly, the participation of local tourist agents in training programs and the identification of non-exploited potential tourist resources had a rating of 2.8 points which explains that there were certain expectations from the tourist activity as instruments of development by the local businesspeople. In the meantime, the aspects related to management actions, planning, tourist information, and promotion of product offers at the destination, tended to oscillate in 2.7 points which denoted deficient results and where performance and reorientation were needed.

In the survey, importance was given to the general perception of entrepreneurs in regard to the contributions of tourism on the local development (Table 6) positive impacts as well as negative ones were considered (economic aspects and social aspects, primarily). The ratings were conducted using a Likert scale between 1 (very low) and 5 points (very high); we obtained results of the recovery procedure of the tourist activity and its strengths and weaknesses as a true motor of economic development after the crisis.

Generally, an average rating of >3 points in the perception of the impacts in tourist activities in the destinations can be observed; they do not reach a 4 point rating in any given case, but the inquiry related to the contribution of tourism in the reduction of migration demonstrated a low rating of 2.7 points and should be particularly emphasized for its non-average behavior.

The values with the highest ratings were precisely those related to

Table 6

Contribution of the Tourist activity in the local development of the area.

	N.	Minimum	Maximum	Average	Typical Deviation
Contribution of tourism to the fiscal and municipality incomes	194	1.00	5.00	3.1031	1.21719
Contribution of Tourism on employment	195	1.00	5.00	3.3744	1.12532
Contribution of Tourism on the development of other activities (commerce)	195	1.00	5.00	3.3897	1.11313
Contribution of Tourism in halting migration	1.00	5.00	2.7590	1.12073	
Contribution of Tourism in the recovery of culture, cultural and patrimonial resources	195	1.00	5.00	3.2923	1.08964
New opportunities of recreation for the population (fair, events)	194	1.00	5.00	3.2423	1.11888
Price increase in goods and services merchandise and gas	195	1.00	5.00	3.5385	1.03162
Price increase in housing and lots	196	1.00	5.00	3.6276	1.08560
Contribution of tourism in people and transport congestion	196	1.00	5.00	3.3673	1.10836
Contribution of Tourism in the general image of the destination	195	1.00	.00	3.5282	1.18972
N valid (according to the list)	191				

Source: Own elaboration.

the less positive impacts of tourism in the territories, as occurs in the increased prices for lots and housing (3.6 points) followed by the increase in prices for goods and consumer services (merchandise, gas, etc.) With a 3.5 rating used by local entrepreneurs, we also found the item that referred to the contribution of tourism in the improvement of the general image of the destination.

With sensibly low values (3.3 points) we found items related to the contribution of tourism in the development of other activities or economic activities of subsectors such as local commerce, the improvement of employment and its impact on mobility congestion and public and private transportation. Finally, we found ratings from tourism contributions in the recovery of local culture, ratings in cultural and patrimonial resources, and the generation of new opportunities of recreation for the population (events, fairs, etc.) with similar values of 3.2 on average. Better yet, was the rating concerning the contribution of tourism in the generation of municipal and fiscal income (3.1 average points).

6. Discussion and considerations about the results

The results obtained in this research, allowed us to compare a series of needs, objectives, premises, and initial approaches when dealing with tourism planning and governance of the destination studied in the northern coast of Manabí (Ecuador), keeping in mind the vision and perspectives of the local, tourist entrepreneurs and other agents directly

or indirectly involved in the tourism activity.

Literature review on tourism and natural catastrophes and the study of strategies undertaken in the recovery of affected territories by numerous international organisms (CATUE, PNUMA, y ASDI, 2005 [62–64]; y [65] insisted on the need to involve local agents in all phases of the recovery process and encouraged public-private collaboration at all levels, as it occurred in one of the crisis management models most commonly accepted and considered in the literature *4R Model of the Risk Reduction of Natural Disasters* (Table 7) taken as reference in this case study of Ecuador.

Hence, the creation of a *Monitoring System* is important in the first phase of model development (Reduction), which in this case study, would be coordinated and developed by the Provincial Delegation of the Ministry of Tourism of Ecuador (MINTUR) utilizing the data of the National Institute of Meteorology and Hydrology (INAMHI) and the Decentralized Autonomous Government (GAD) themselves. This system can provide information, climate prognostics and provisions for the prevention of catastrophes to the touristic municipalities particularly during the high season tourist flows, holidays and non-working bridges. This would ease without a doubt, the implementation of preventive actions and protocols in the area through consensus and group work between local authorities, private tourist agents and the local population, as well as organizations (ONG) and public entities like the Red Cross, Civil Defense, National Police, Ministry of Health, etc. all within the framework of Emergency Operations Committees (COE).

In the “Preparation” phase of the model, a tourist destination like the northern coast of Manabí should implement a *Risk Management Plan* that contemplates the tourist activity as a transcendental instrument for the recovery of the territory; one that strengthens the relational dynamics between the involved local actors; socializing and democratizing all the decisions, objectives and strategies addressed in each of the phases of the procedure. But in the tourist destinations, visitors should be considered (tourists and hikers); those who may have been affected during the same crisis or certainly influenced after the disaster and who are no longer motivated to travel to the affected area. This implies the need to carry out a differential work to address the consequences of an unexpected event and anticipate the needs of these tourists: use of translators, recovery of lost passports and official documents, subsistence, transportation, contacts with embassies and relatives abroad, etc.

The “Response” phase of the 4R model is certainly crucial for the survival and sustainability of the tourist destination; communication is a key tool to use here. Within the response protocols, the management of the *image of destination* has to be prioritized. For example, keeping an inventory of susceptible tourist resources that can be recovered or improved with the involvement of local agents and aid from public administrations; identifying operative and non-operative elements and

carefully managing the information disseminated through the mass media and social networks while avoiding sensational news post-catastrophe. The management of the transmitted information to the outside directly affects the speed of the recovery process of the image of the destination and therefore affects the visitor’s trust [24,25,66].

In the final “Recovery” phase, consolidation of the organizations of destinations management (OGD) would have to be promoted in the area of study through the Reconstruction and Productive Reactivation Committee at the request of the local and regional government. This is performed through the adoption of basic criteria of governance in the tourism sector, maximum transparency, and management of public resources and prioritizing of actions. In this point, the cooperation between public, private actors and academia, rated as “Insufficient” in the study, become an essential incentive in the recovery of human capital, patrimony, and in the economy of the territory as is the adequate distribution of powers and responsibilities in the management of *The Recovery Plan of the Tourist Destination*, with the effective participation of the OGDs.

While it is true that a review of natural disaster case studies in areas of tourist interest offers a series of useful lessons for the case at hand [32, 50], an important part of the specialized literature related to tourist destinations affected by social-natural disasters tend to be very descriptive. They focus on material losses, identification, and characterization of the actor map and only review improvised and reactive recovery strategies. On the other hand, the analysis and assessment of preventive planning or proactive actions carried out in these destinations by the public administrations and private tourist agents are much scarcer. Therefore, a reorientation of the research, rating, comprehensive management and planning strategies as well as behaviors and initiatives on behalf of the entrepreneurs, resiliency capacity and the establishment of proven theoretical models of performance, are still very necessary [6], as well as simulation of post-disaster scenarios based on the actions taken by public and private agents in the tourist sector. For this reason, in this research we have focused on analyzing and considering the most referred to and commonly accepted post-disaster tourist destinations management models, both theoretical and general. [1]; Caroline [34]; B. W [2,59–61]. as more practical and based on real experiences. (CATUE, PNUMA, y ASDI, 2005 [62–64]; y [65]. But starting from these proposals and models, an effort was made to summarize and contrast the important planning strategies to obtain some guidance about the management and recovery of the tourist destination, adapted to the circumstances of the study area, as well as according to the rating, needs and critical opinions of the entrepreneurs and public tourist agents. In this manner, we have attempted to solve deficits, insufficiencies, or problems detected in this study on the actions taken in the destination of the northern coast of Manabí, in Ecuador.

Taking for example, the ‘deficient’ and ‘average’ values perceived by the local entrepreneurs in what relates to the efficiency of the actions taken in this region after the 2016 earthquake, allowed visualization of non-efficient planning processes as well as the lack of inclusion of local tourist entrepreneurs in the strategic planning of the area as is the case in many analyzed case studies. [40,41,43]; Ickov, 2019). This is also reflected in the low generation of economic incentives for private companies; a great majority of them non-existent according to the verification process of the pre-existing and post-disaster census. Others will survive exclusively with their limited resources. And although in the present time an improvement can be seen in the recovery of the tourist image of the destination with results obtained in the short term, its consolidation and survival in the long term will be subjected to the increased quality and operating capacity of the lending establishments that provide tourist services. For this they will require an advanced and rational comprehensive strategy that includes tourism planning actions, activity promotion, commercialization, governance and sustainable management of the destination, as well as the empowerment of the local tourist actors to improve training and resiliency levels to overcome the crises.

Table 7
4R Model in the management of the post disaster crisis.

Reduction	Crisis vigilance and risk identification, dangers, threats, and impacts Observance politics, diagnostics and monitoring Public-Private Cooperation and security policies Protocols and Operational procedures: problem anticipation and possible bottlenecks and reinforcement of surveillance personnel
Preparation	Risk evaluation Crisis Management Plan and formation of specialized personnel with effective participation of local agents Planning the action model to overcome the crisis Health and security measures for tourists and visitors.
Response	Communication plans Emergency procedures Investigation Comprehensive assistance to families and affected local agents
Recovery	Continuous business development plan Management and training of human resources in the tourism sector Return to normalcy of the tourist destination and involved organizations

Source: [59]; De Suasmarez, 2004; [61].

Other equally but worrisome results obtained from this case study that has to be addressed with the application of a strategic planning model and sustainable recovery of the destination studied, is the lack of recovery perceived by the complementary services of the tourist activity due to the slow recovery of interior commerce and the migration of the population after the disaster. This migration caused the definite closure of many preexisting businesses. Regarding this data, we also understand the low score given by the surveyed local agents to the positive impact tourist activity has had on the decreased migration phenomenon and allows local and governmental authorities to seriously ponder about real opportunities of employment for the local population through tourism, adequate planning, and promotion of this activity, taking on the resiliency challenges and sustainability of the affected tourist destination [8]. Adaptation of local communities to the changes required in these crises suggest they focus actions towards establishing local production in the tourist activity and its' related sectors and through local traditional commerce, handicrafts, and quality food while trying to replace activities that are slow to recover and complementing others with new economic development options.

The main limitation of the study lies in the lack of a reliable statistical data system in the territory, this is a barrier for researchers of tourism in Ecuador, as the only available statistics comes from the Ministry of the Interior who provides the basic data of visitor arrivals at the country. From time to time, MINTUR carries out samples of little relevant information during national holidays. To obtain better results, it would be ideal to carry out a stratified study, especially differentiating the business areas and their size, but the availability of resources was not enough to perform a more extensive field work, for this reason, it was decided take advantage of the meetings organized by the cantonal authorities with different financial entities that came to offer their products, this is where the information was collected. It is important to consider in future studies to obtain a larger sample of respondents. The management of technology by local business owners did not allow the application of an online tool that would have improved the efficiency of the data collection process. The gaps in management and planning issues are enormous in the coastal territories of Manabí, and there is no clear idea of the functionality of processes by the entrepreneurs, which can create a small bias in the information obtained.

7. Conclusion

The average rating obtained by local agents and tourist entrepreneurs regarding the recovery level and tourist offer of the destination has certainly been disappointing (5.95 points out of 10) and invites us to reflect on the public management organisms especially if we consider three years have gone by since the tragedy. Considerable public investments were made in the area and were estimated as being ineffective and inefficient at least from the tourist offer perspective. This perception was partially determined by the palpable disconnection between public and private actors of the destination and a low level of cooperation between them. Indicative of this situation are the high percentages of ignorance about the local development plans (a 73.71% of the responses), by the entrepreneurs and affected local agents who were scarcely involved in the planning process from the beginning design phase, approval and launching of the same (88.27% of the people surveyed expressed it in that manner).

The entrepreneurs and local tourist agents have not felt backed by public authorities particularly in the incentive sector, economic aid or low-interest credit to reestablish the business' activities, micro-businesses in their majority. Most of them had to rely on their resources to recover their operational capacity.

On the other hand, the tourist destination promotion and the generation of attractive cultural offers (folkloric and musical events, gastronomy fairs, etc.) have the best rating value in the management of tourism performed by public authorities. These actions have in fact, served to generate the short term recovery of the flow of national visitors

and those within close range. And ultimately the lack of participation, consensual planning and the absence of an active OGD in the territory capable of coordinating the actions coherently has been a notable obstacle for the achievement of a significant improvement in the tourist positioning of the northern coast of Manabí and the establishment of solid bases of sustainability in the medium and long term.

Another relevant aspect of the study was the rating the local businesspeople gave the impact of tourist activity in their territories. Despite being in an area of high touristic potential and of relatively fast and important development, the agents and local entrepreneurs, though considering tourists as instruments capable of decreasing or halting the migration of the local population to other areas of the country or abroad, gave them a very low rating (only 2, 7 points on average). The lack of assistance and incentives for the tourism industry and other inflationary factors such as the high prices of land and premises for the location of activities as well as the goods and services necessary for their development seems to be the explanatory basis of the problem.

In conclusion, all the variables studied in this work aim at the lack of a previous tourist planning and a well-supported consensus on a territorial model with the participation and involvement of the affected local agents. It is at this point where we realize the need to promote spaces for dialogue and consensus that will allow the recruitment and efficient management of resources and material goods available for the destination recovery; taking into account each one of the components of the local tourist system and each of their needs and circumstances.

On the one hand, as presented by several authors (Luecke, 2005), the tragedy suffered by a social-natural disaster can be converted into a new opportunity for the development of a requalifying process of the tourist sector and overcoming errors from the past. But in the Manabí province case, there hasn't been an efficient plan management, resulting in an even more aggravated and amplified crisis when compared to its initial crisis. On the other hand, the impact of the social-natural disaster we studied on the northern coast of Manabí, was less homogenous at the territorial level because some areas were more affected than others and some are recovering at different speeds. Some have even benefited in the short term, by the arrival of visitors that leave the most affected areas. These circumstances have to be considered in the adopted planning process in each of these areas, by collecting better practice cases, having a management and crisis planning in sub-regional environments with a certain level of decentralization as stated and highlighted in other case studies. [59]; 2003; [15].

We have also seen many research projects about tourist recovery strategies after socio-natural catastrophes but in their majority, they were studies with limitations based on qualitative methodologies or somewhat traditional quantitative studies; they were case studies with non-transferrable experiences, based on conceptual-theoretical models, or based on reviewed literature. But very few times, behaviors, attitudes, perceptions and opinions of the entrepreneurs and local tourist agents about the recovery process, are considered despite the importance, as seen in this work, it has on the implication of delivering positive transfer information to ensure an effective resilience of the destination to overcome the crisis [21,53,55].

The methodological limitations indicated in many studies are due partially to the initial hypothesis in mind, that have considered the tourist activity as linear, homogeneous and static, which is far from true and allows an incomplete characterization of tourism [67]. Consequently, it would be better to understand the responses, attitudes, opinions, and scores of visitors and local tourist agents in a systematic, heterogeneous and dynamic manner [31], as well as to consider that the empirical studies contribute to strategies that may not be appropriate for other cases. In general, with this study, we have understood that the assessment of the efficiency of recovery strategies put in place, is essential. But this is rarely performed because it's a lengthy and costly process, reason for which our study still hasn't been undertaken.

To overcome the deficits in the recovery process, which have been observed specifically in the case study of the Manabí province, the

design and application of scenario simulation models in the evolution of post-disaster tourist systems and in the tourist recovery process, would be very useful since it would allow us to determine predictable results, strategies and recommended action guidelines. As a matter of fact, several studies have been successfully achieved by keeping in mind the ratings, opinions and behaviors of the local tourist agents, visitors and public institutions [54,67,68]. It would have been desirable in our case study, to have established better preventive and proactive actions and more optimal and feasible post-disaster recovery strategies. In this context, it is fundamental to determine the relationship between the perception of the impact in the tourist activity and the resilience capacity and adaptation of the community agents involved- and not just governmental politics-when responding to future crisis scenarios, developing parallel long term capabilities through the empowerment of the local tourist community.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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