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Perception of Tourism Sector about Community Resilience in Puerto Vallarta, México in the Face of a Disaster Such as COVID-19

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ABSTRACT

As tourist destinations grow, they become more complex and may compromise their resilience and sustainability. Community resilience, understood as anticipating and minimizing destructive forces through adaptation or resistance, maintaining basic functions and structures during events, and recovering after these events, is an aspect that has not been extensively explored in tourism research. This study analyzed the resilience of the tourist destination Puerto Vallarta under the Hyogo Action Framework, focusing on themes such as governance, risk assessment, knowledge and education, risk management, vulnerability reduction, disaster preparedness, and response. The Delphi method was employed to evaluate resilience through the perspectives of 15 key actors. The data collected was processed using descriptive statistics, ANOVA, and factorial correspondence analysis. No significant differences were found between the groups of actors, and it is concluded that the destination is not resilient. Its recovery from the COVID-19 crisis is expected to be slow due to a lack of strategies in this regard. This research aims to contribute to the understanding of community resilience as perceived by stakeholders in a consolidated tourism destination.

1. INTRODUCTION

Tourism has become a very important economic activity in the world and beyond, a phenomenon with great influence in the social, environmental, and cultural spheres. For this reason, academic research has also multiplied in this field, using and adapting concepts and approaches from the natural and social sciences. Some concepts, such as carrying capacity and resilience, have a long history; they arose to promote nature conservation through environmental management, and these concepts align well with the concept of sustainable tourism [1].

In the last two decades, the use of the resilience concept has spread within multidisciplinary approaches, making it a boundary concept that enables interaction between disciplines. This fact, along with the management of resilience and its evolution from natural to social sciences, has led to the construction of diverse definitions that imply socio-ecological systems and sustainable futures. These definitions are frequently adaptations to the context of each discipline, ranging from engineering to psychology sciences [2]. The definitions derived for the tourism sector are mainly focused on destinations or enterprises (Table 1).

Table 1. Some concepts of resilience by field

Field	Definition	Author
Ecology	Capacity of an ecosystem to tolerate disturbance without collapsing or transforming into a qualitatively different state, governed by different processes.	[3]
	Systems´ ability to absorb the disturbance and reorganize itself in order to preserve its main functions and structure.	[4]
Social Sciences-Tourism	A resilient enterprise in tourism is able to maintain its existing level of employment and income, and stay operating in the face of one or more shocks or crises.	[5]
	A way to improve the ability of destinations to cope with tourism development, disasters and conflicts that may eliminate or drastically reduce tourism suddenly.	[1]

Despite the variety of definitions depending on the field of study, the most commonly used words in the definitions are "capacity" and "adaptation" [6]. This means that the concept of resilience implies a state in which the human population can adapt to any crisis that occurs in its environment, regardless of the area involved. According to the City Resilience Framework, empirical evidence suggests that urban systems exhibiting characteristics such as being reflective, robust, redundant, flexible, integrated, resourceful, and inclusive are more likely to be resilient [7]. Carpenter et al. [8] proposed general enabling conditions of resilience, including "diversity, modularity, openness, reserves, feedbacks, nestedness, monitoring, leadership, and trust." They also stated that the processes for building general resilience were not well known and therefore represented a very important area of research.

All these conditions for general and urban resilience can also be considered for planning tourism in urban destinations. If resilience means the ability to recover from difficulties or disasters, then tourism businesses in urban destinations face diverse problems related to that condition, as well as resilience

challenges. On the other hand, if resilience means the ability to recover from difficulties or disasters, then tourism businesses and destinations face resilience challenges such as over-dependence on one source market or company, recession, over-dependence on tourism, health issues and pandemics, extreme weather and climate change, man-made disasters, pollution, beach closures, overtourism, and terrorism [9]. By other way, on February 11, 2020, the World Health Organisation announced a new disease caused by a coronavirus: COVID-19. On March 11, it was declared as a pandemic without a clear idea about its duration and effects. Tourism recovery has been stated in many ways for nations but the question is: Have we built tourism resilient systems? The World Tourism Organization (UNWTO) proposed the crisis as an "opportunity to rethink tourism and its contribution to the people and planet; an opportunity to build back better towards a more sustainable, inclusive and resilient tourism sector that ensure the benefits of tourism are enjoyed widely and fairly" [10].

Resilient tourist destinations promote prevention, adaptation, and recovery of the territory in which they operate, reducing vulnerability or exposure to disaster risk. They have a long-term vision and promote the construction of plans and programs among representatives of society, strengthening social capital. In other words, they establish prevention, adaptation, and recovery actions for the local and floating population. They prepare, organize, order, and teach the community and tourists to adapt quickly to situations of crisis and adversity [6].

The current situation has caused tourism to be one of the sectors severely hit and that does not foresee a prompt reactivation. Besides the main problems that tourism has to cope with, like competitiveness, growth, poverty, and inequality gaps, among others, the effects prompted by the global pandemic COVID-19 must be added, which has caused worldwide paralysis. In the face of social confinement measures, services such as hotels, restaurants, tourist activities, and other recreational services were the first sectors in the economy to be affected. Additionally, the chain effect has resulted in economic consequences, estimating a fall of up to 197 million jobs worldwide related to tourism [11]. In Mexico, tourism associations' projections indicated that it could cause the loss of more than a million jobs, which would imply in monetary terms subtracting about 10 billion dollars from Mexican tourism [12].

UNWTO [13] proposed priorities for tourism recovery from the pandemic crisis in the world, but it was a reactive proposal document aimed at solving some problems. Thus, it is essential to take advantage of the lessons learned in tourism related to the COVID-19 crisis and develop a route to respond to future crises and build a resilient sector in a broad sense.

These new challenges as a whole lead to rethinking sustainable development as a priority, given the inevitable negative impacts on tourism, especially for those countries, states, and municipalities with a high dependence on this sector. In this sense, the objective of this work is to evaluate the stakeholder's perception of community resilience in Puerto Vallarta, Jalisco, Mexico in the face of a disaster such as COVID-19. The perception of the different actors in the tourism sector about community resilience in this city can lead to strategies that allow shaping the different political decisions and adapting them to their needs [14] towards a resilient destination.

1.1 Literature review on community resilience and tourism

The focus of resilience on the community emphasizes adaptive capacity, disturbance, and social orientation [2]. It can be defined as a factor that links adaptive capacities to a positive trajectory of functioning and adaptation after a disturbance [15]. The adaptive competence associated with high resilience implies that residents and local organizations can reduce the impacts of disasters by introducing and enforcing policies that are advantageous to community resilience. Thus, analyzing resilience requires focusing on organizations whose functions are essential for community well-being [16]. Community adaptation is directly related to the well-being and quality of life of the population, and it arises from a set of essential adaptive capacities: economic development, social capital, information and communication, and community competence as stated by Norris et al. [15]. The same authors explain that these offer a strategic base in the face of disasters. Thus, communities that want to build collective resilience need to reduce risk and inequities in access to resources, create organizational links, involve the local population in mitigation tasks, boost social supports, and plan with flexibility, decision-making skills, and based on reliable sources of information.

Lew [17] has argued that planning for resilience provides a new perspective on community development and social and ecological adjustments in a changing global context, representing an alternative to the sustainability paradigm.

Cutter et al. [18] pointed out that most of the academic work has focused on various dimensions of community resilience, and the development of consistent factors or standard metrics to evaluate the disaster resilience of communities remains a challenge.

A variety of authors reported by Quinlan et al. [2] have worked on this challenge with multiple approaches, in which metrics include qualitative resilience attributes, indicators, meta-indicators, resilience properties, quantitative indicators developed by the community itself, and even the lack of using indicators.

In this context, Twigg [19] prepared a guide to assess the characteristics of a resilient community and promote initiatives to reduce disaster risk at the local level. The research was performed under the United Nations Hyogo Framework [20] with its main outcome being the substantial reduction of disaster losses in lives and in the social, economic, and environmental assets of communities and countries. At first, resilience seemed utopian due to the number of characteristics derived for a resilient community.

The work was based on the key concepts of "risk reduction," "community resilience," and "community." Risk and vulnerability reduction occur through the development and application of policies and strategies. Community resilience involves emphasizing what communities can do for themselves and how their capacities can be strengthened, rather than focusing on their vulnerability or needs in the face of disaster. While the terms "resilience" and "vulnerability" are opposites, they are related, both being complex and multifaceted [21]. The "community" has different meanings. Beyond the spatial connotation, there are characteristics related to interests, values, activities, and common structures. It is complex and dynamic, making it difficult to define. For this reason, the geographical reference is decisive for risk management [19].

Community resilience includes the economic, social, environmental, and political attributes, which together influence the prospects for sustainability. The perspective it offers can be used at the community level to evaluate situations in the context of tourism development [18, 22].

Tourism destinations face numerous crises, which significantly affect the tourism industry. Although resilience-related research has been conducted for decades, resilience studies linked to tourism are still scarce in general. They have focused on the concept, scales, and theoretical approaches and assessment, but empirical studies and practical applications remain limited [23, 24].

Disasters leave important lessons on the behavior of socioeconomic systems, especially in the business system. Herrera Enríquez and Rodríguez Rodríguez [25], based on the literature, analyzed the criteria that determine the capacity for learning and adaptability to self-organization in response to internal or external shocks in destinations. They proposed that business vision, entrepreneurship, business environment, company behavior in the face of disaster, and female business activity were elements that promote sustainability based on resilience.

The literature related to tourism also aims to understand how destinations manage crises and how tourism actors respond to them, as well as understanding how the tourism industry recovers after a crisis and their ability to find alternative businesses. In some ways, this literature points to the path to resilience based on the vulnerability to crises of destinations [26].

Recently, the concept of resilience has been explored concerning the axes of sustainability, and the influence of multiple contexts on the ability of communities to adapt to drastic changes and sustain their tourism businesses is recognized [27].

It can be concluded that there are multiple definitions of resilience adapted to different areas, and efforts to measure and manage for planning purposes. In tourism destinations as complex systems, the challenges are greater. We want to contribute to this area by exploring the community resilience perceived by stakeholders in a consolidated destination: Puerto Vallarta.

Puerto Vallarta is a coastal municipality and tourist city of the state of Jalisco, Mexico, in Banderas Bay (Figure 1). In 2020, Puerto Vallarta had an estimated population reported by the Institute of Geography, Statistics, and Informatics of 304,141 people [28] and more than 5,000,000 annual tourists [29].

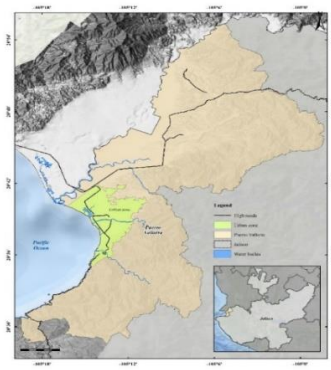

Figure 1. Location of Puerto Vallarta
Source: [30]

It is the second most important economic zone in the state of Jalisco and one of the most visited places in the country. As a national tourist destination, it ranks among the top three places in terms of receiving visitors, which explains why tourism is the basis of the local economy. In fact, there is an excessive concentration of economic activity around tourism, since close to 80% of the jobs are related to it. Its highly tourism-dependent economy makes it very vulnerable to possible contingencies in the sector. Regarding companies linked to the tourism sector, 331 lodging establishments and 234 service establishments were identified [28]. Some of them were closed temporarily or working under restrictions.

2. METHODS

The variables to assess community resilience in tourist destinations were identified in the literature, then synthesized and adapted. A tool was developed based on the work of Twigg [19, 21] to define the factors and the extent to which they affect the development of resilience in tourist destinations. Synthetically, the main components for measuring resilience used in this work. Components considered by area in the resilience measurement tool based on Twigg [19].

The indicators were raised in two approaches: destination and company. The first approach corresponds to raising measurable indicators in the destination, obtaining information from tourists and the local population. The second approach is to propose measurable indicators at the level of the destination's companies. This information was synthesized in a matrix containing the variables and indicators separated by focus.

Delphi method permitted to address the validation of the identified resilience variables and indicators. The stakeholders were selected according to the influence they have within each group, main businesspersons of the region, representatives of the tourism sector and leaders of the community. The Delphi method is effective in allowing a group of individuals to deal with a complex issue.

It allows prospective analysis based on the consultation of a remote group of experts with the use of structured questionnaires, coordinated and analyzed by the team that directs the research. The purpose is to predict the future behavior of variables or factors in the study area to generate valuable information for decision-makers [31].

The above is the case of this research that aims to define the factors that affect resilience in vulnerable tourist destinations for subsequent measurement. The tool proposed for collecting the research data corresponds to questionnaires prepared by area, which groups the components into the five thematic areas (Figure 2).

The email-sent questionnaire to selected experts, requested a position related to each of the variables and resilience, using the Likert scale to determine the degree of relevance of each variable: strongly disagree, disagree, neither agree nor disagree, agree, and strongly agree. Although never is clear how many rounds will be necessary to reach a final answer, the rounds of questionnaires should continue until the opinions converge towards a specific value, that is, a consensus, and that the values are consistent. The responses have some statistical stability, in this case in three rounds [32, 33].

Components in the resilience measurement tool of a Tourist Destination in the face of Covid-19.

How much do you agree that Puerto Vallarta has the following components (1-strongly disagree; 2-disagree; 3-neither agree nor disagree; 4-agree; 5-strongly agree)

Subject area	Tool component	1	2	3	4	5
Governance	Community leadership					
	Knowledge of rights and advocacy					
	Integration with development planning					
	Access to financing and alliances					
	Inclusion of vulnerable groups and participation of women					
Risk assessment	Threat assessment					
	Vulnerability/Capacity Analysis					
	Scientific and local methods for risk awareness					
Knowledge and Education	Public awareness, knowledge and skills					
	Dissemination of knowledge of health risks					
	Attitudes and Values					
Risk management and vulnerability reduction	Sustainable environmental management					
	Access to health services during emergencies					
	Access to health and awareness services in normal times					
	Food and water supply					
	Hazard Resilient Livelihoods Practice					
	Market Access					
	Social protection					
	Access to financial services					
	Income and asset protection					
	Infrastructure and basic services					
	Land use and territorial planning					
	Education services during emergencies					
Disaster Preparedness and Response	Capabilities for preparedness and response					
	Early warning system					
	Contingency planning					
	Infrastructure for emergencies					
	Volunteering and accountability					

Figure 2. Questionnaire for collecting information

Then the selection of experts was based on the following criteria [33]:

• Selection of participant's panel, the size of which often varies between 15 and 20 members.

• Each one must have recognition of at least 2 years in the study and research of resilience in each field.

• Work at a resilience center or lead research at universities.

• Territorial, national and international representativeness, understanding resilience as a topic of study at a global level.

• Equal gender representation in the experts panel.

The data were analyzed by descriptive statistics when the responses of the minimum number of participants were completed according to the criteria mentioned above, that is when obtaining a response from at least 15 experts in the first round. The mean, standard deviation and percentages of the sum of "agree" and "very agree" in each of the variables. In addition, an ANOVA test and a factorial analysis of correspondence were performed using statistical software SPSS© to find out significant differences between the groups analyzed (destination's companies, tourists, and local actors) and to establish the factors that explain the community resilience system in Puerto Vallarta.

3. RESULTS

The descriptive statistics in Table 2 show that the actors have a clear conceptualization of community resilience. Some variables have values greater than three, however, there are still variables with values lower than three.

Regarding the thematic area of governance, the average is 3.1, risk assessment 2.9, knowledge and education 3.0, risk management and vulnerability reduction 3.0, and disaster preparedness and response 3.0. The 40.0% of those interviewed agree or strongly agree that Puerto Vallarta has community leadership. For 53.3%, there is knowledge of rights and incidents, regarding integration with development planning, 60% agree or strongly agree, however, only 13.3% consider that there is access to financing and alliances. Related to the inclusion of vulnerable groups and the participation of women, 60% of those interviewed agree or strongly agree.

Table 2. Descriptive statistics of the stakeholders' assessment of the community resilience

Tool Components	N	Minimum	Maximum	Mean	Std. Deviation
Community leadership	15	1	5	2.93	1.486
Knowledge of rights and incidence	15	1	5	3.13	1.506
Integration with planning for development	15	1	5	3.40	1.454
Access to financing and partnerships	15	1	5	2.40	1.183
Inclusion of vulnerable groups and women participation	15	1	5	3.47	1.407
Threat assessment	15	1	5	3.27	1.163
Vulnerability / Capacity Analysis	15	1	4	2.47	1.302
Scientific and local methods for risk awareness	15	1	5	2.93	1.438
Public awareness, knowledge and skills	15	1	5	3.27	1.534
Dissemination of knowledge of Health Risks	15	1	5	3.13	1.506
Attitudes and Values	15	1	5	2.67	1.397
Sustainable environmental management	15	1	5	2.67	1.113
Access to health services during emergencies	15	1	5	3.33	1.291
Access to health services and awareness in normal times	15	1	5	2.53	1.552
Food and water supply	15	2	5	3.27	0.884
Practice of threat resistant livelihoods	15	1	5	3.00	1.464
Market Access	15	1	5	3.53	1.246
Social protection	15	1	5	3.27	1.335
Access to financial services	15	1	5	3.53	1.302
Income and asset protection	15	1	5	2.87	1.506
Infrastructure and basic services	15	1	5	2.87	1.356
Land use and territorial planning	15	1	5	2.40	1.352
Education services during emergencies	15	1	5	3.20	1.474
Capacities for preparedness and response	15	1	5	2.87	1.506
Early warning system	15	1	5	2.93	1.335
Planning for contingencies	15	1	5	3.53	1.407
Infrastructure for emergencies	15	1	5	2.67	1.291
Volunteering and accountability	15	1	5	2.87	1.356

Regarding the frequencies of each of the variables, it is observed that the sample was distributed in the 3 types of stakeholders, 5 businessmen, 5 representatives of the tourism sector, and 5 representatives of the local community.

In the case of the risk assessment thematic area, 40% agree that there is an assessment of threats, 46.7% believe that vulnerability analysis is carried out in Puerto Vallarta and the capacity that exists in this regard, however, only 33.3% consider that the scientific method is used to raise awareness in the local population about risks.

In the thematic area of knowledge and education, 53.3% consider that Puerto Vallarta has public awareness, in addition to knowledge and skills, however, only 40% agree that there is dissemination of knowledge of health risks, and even for a smaller percentage (26.7%) consider that they have attitudes and values.

Regarding the thematic area risk management and vulnerability reduction, only 26.7% of the interviewees, say that there is sustainable environmental management in Puerto Vallarta. The 46.7% think that there is access to health services during emergencies, for 33.3% there is access to health services and awareness in normal times, 40% believe that there is a good supply of food and water, for the same percentage; there are livelihood practices resistant to threats.

For 60% there is good access to markets, 53.3% believe that there is social protection, for 60% access to financial services is good. However, only 33.3% think that there is protection of income and assets, the same percentage thinks that there is infrastructure and basic services, only 26.7% agree or strongly agree that land use and territorial planning are carried out, concerning education services during emergencies, 46.7% agree or strongly agree.

For the thematic area disaster preparedness and response, 40% agree that there is an early warning system, for 66.7% there is planning for contingencies, however, for 33.3% there is infrastructure for emergencies, in terms of volunteering and accountability, 40% agree or strongly agree.

It was analysed whether there were significant differences in the level of knowledge of the different concepts depending on the stakeholder type using an ANOVA. The results showed that, overall, there were no significant differences in the level of knowledge depending on the type of stakeholders for 27 variables (P-value > 0.05); however, for one variable (Infrastructure and basic services), we found significant differences (P-value < 0.05) (Table 3).

The "Scientific and local methods for risk awareness" is the variable best explained by the nine factors when registering the highest commonalities (Table 4). The value of 0.966 is interpreted as follows: 96.6.0% of the variability of the Scientific and local methods for risk awareness is explained by the nine factors, whereas the value of 0.789 indicates that the variable "Vulnerability / Capacity Analysis" is only 78.9% explained by the nine factors.

Table 5 shows the percentage of model variance that is explained by the nine factors or components. In the column labeled Extraction Sums of Squared Loadings. Component 1, "Scientific and local methods for risk awareness", explains 15.69% of the total variation; Component 2, "Knowledge of rights and incidence" explains 13.27%; whereas Component 3, "Market Access", explains 12.33%; Component 4 "Public awareness, knowledge and skills", explains 11.29%; Component 5 "Access to health services during emergencies", explains 9.67%; Component 6 "Community leadership", explains 8.10%; Component 7 "Food and water supply", explains 6.83%; Component 8 "Dissemination of knowledge of Health Risks", explains 6.51%; and Component 9 "Planning for contingencies", explains 5.58%. Combined, the nine factors explain 89.31% of the behavior of the stakeholders' assessment of Community Resilience (Table 5).

Table 3. Anova between types of stakeholders

Tool Components		Sum of Squares	df	Mean Square	F	Sig.
Community leadership	Between Groups	2.533	2	1.267	0.535	0.599
Knowledge of rights and incidence	Between Groups	8.933	2	4.467	2.351	0.138
Integration with planning for development	Between Groups	5.200	2	2.600	1.279	0.314
Access to financing and partnerships	Between Groups	1.200	2	0.600	0.391	0.684
Inclusion of vulnerable groups and women participation	Between Groups	2.533	2	1.267	0.603	0.563
Threat assessment	Between Groups	5.733	2	2.867	2.606	0.115
Vulnerability / Capacity Analysis	Between Groups	0.933	2	0.467	0.246	0.786
Scientific and local methods for risk awareness	Between Groups	2.533	2	1.267	0.576	0.577
Public awareness, knowledge and skills	Between Groups	1.733	2	0.867	0.333	0.723
Dissemination of knowledge of Health Risks	Between Groups	5.733	2	2.867	1.323	0.303
Attitudes and Values	Between Groups	2.533	2	1.267	0.613	0.558
Sustainable environmental management	Between Groups	3.333	2	1.667	1.429	0.278
Access to health services during emergencies	Between Groups	5.733	2	2.867	1.955	0.184
Access to health services and awareness in normal times	Between Groups	4.133	2	2.067	0.838	0.456
Food and water supply	Between Groups	1.733	2	0.867	1.130	0.355
Practice of threat resistant livelihoods	Between Groups	1.200	2	0.600	0.250	0.783
Market Access	Between Groups	2.133	2	1.067	0.653	0.538
Social protection	Between Groups	0.933	2	0.467	0.233	0.795
Access to financial services	Between Groups	0.933	2	0.467	0.246	0.786
Income and asset protection	Between Groups	6.533	2	3.267	1.556	0.251
Infrastructure and basic services	Between Groups	12.933	2	6.467	6.063	0.015
Land use and territorial planning	Between Groups	4.800	2	2.400	1.385	0.288
Education services during emergencies	Between Groups	7.600	2	3.800	2.000	0.178
Capacities for preparedness and response	Between Groups	3.333	2	1.667	0.704	0.514
Early warning system	Between Groups	6.533	2	3.267	2.130	0.162
Planning for contingencies	Between Groups	2.533	2	1.267	0.603	0.563
Infrastructure for emergencies	Between Groups	0.533	2	0.267	0.140	0.870
Volunteering and accountability	Between Groups	1.733	2	0.867	0.433	0.658

Table 4. Commonality of the assessment of the stakeholders of community resilience

Tool Components	Initial	Extraction
Community leadership (6)	1.000	0.936
Knowledge of rights and incidence (2)	1.000	0.956
Integration with planning for development	1.000	0.891
Access to financing and partnerships	1.000	0.852
Inclusion of vulnerable groups and women participation	1.000	0.862
Threat assessment	1.000	0.906
Vulnerability / Capacity Analysis	1.000	0.789
Scientific and local methods for risk awareness (1)	1.000	0.966
Public awareness, knowledge and skills (4)	1.000	0.943
Dissemination of knowledge of Health Risks (8)	1.000	0.923
Attitudes and Values	1.000	0.903
Sustainable environmental management	1.000	0.866
Access to health services during emergencies (5)	1.000	0.939
Access to health services and awareness in normal times	1.000	0.828
Food and water supply (7)	1.000	0.931
Practice of threat resistant livelihoods	1.000	0.908
Market Access (3)	1.000	0.944
Social protection	1.000	0.861
Access to financial services	1.000	0.891
Income and asset protection	1.000	0.880
Infrastructure and basic services	1.000	0.898
Land use and territorial planning	1.000	0.864
Education services during emergencies	1.000	0.913
Capacities for preparedness and response	1.000	0.915
Early warning system	1.000	0.811
Planning for contingencies (9)	1.000	0.922
Infrastructure for emergencies	1.000	0.899
Volunteering and accountability	1.000	0.811

Extraction Method: Principal Component Analysis.

Table 5. Explained variance of the stakeholders' assessment about community resilience

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.395	15.698	15.698	4.395	15.698	15.698
2	3.716	13.270	28.967	3.716	13.270	28.967
3	3.455	12.339	41.307	3.455	12.339	41.307
4	3.164	11.299	52.605	3.164	11.299	52.605
5	2.709	9.675	62.280	2.709	9.675	62.280
6	2.269	8.103	70.383	2.269	8.103	70.383
7	1.913	6.832	77.215	1.913	6.832	77.215
8	1.825	6.518	83.732	1.825	6.518	83.732
9	1.564	5.586	89.318	1.564	5.586	89.318
10	0.974	3.479	92.797			
11	0.789	2.819	95.616			
12	0.590	2.107	97.723			
13	0.386	1.379	99.102			
14	0.251	0.898	100.000			
15	1.014E-15	3.621E-15	100.000			
16	7.753E-16	2.769E-15	100.000			
17	6.868E-16	2.453E-15	100.000			
18	4.865E-16	1.737E-15	100.000			
19	2.230E-16	7.963E-16	100.000			
20	1.428E-16	5.099E-16	100.000			
21	4.915E-17	1.756E-16	100.000			
22	-9.396E-18	-3.356E-17	100.000			
23	-3.400E-17	-1.214E-16	100.000			
24	-1.627E-16	-5.810E-16	100.000			
25	-3.393E-16	-1.212E-15	100.000			
26	-5.013E-16	-1.790E-15	100.000			
27	-5.818E-16	-2.078E-15	100.000			
28	-9.891E-16	-3.532E-15	100.000			

Extraction Method: Principal Component Analysis.

4. DISCUSSION

In the literature review, a central problem was found in tourism studies on crises and disasters - and it is undoubtedly much more extensive since it affects multiple areas of tourism research. When the existing bibliography on crisis-disasters in tourist destinations is reviewed, the central theme of the analyses revolves around the economic effect of these stressful events on the tourist industry [34-36]. The impacts that crises and disasters cause on host populations are scarcely covered in the literature [37-39]. It is convenient to treat this deficit in more detail since its consequences are relevant and reflect the uncritical spirit of tourism products, as well as its submission to the interests of the market.

It is highly significant that in the review of the literature on tourism, crises and disasters risk, fear and mistrust appear as the three main and most recurrent keywords. In the articles oriented to the proposals and measures for the recovery of the sector in post-crisis periods, the concepts of security and trust production dominate the scientific discourse [40-42]. These keywords emerge in works that investigate how disasters affect the tourist decision-making process (pull and push factors) [43, 44], the impact on tourist services [45, 46] and the most appropriate strategies for the recovery of infrastructure and reputation of the destination [47].

In this sense, the results of this research show that the perception of Puerto Vallarta stakeholders means that, there are deficiencies in community resilience in this destination. Only 13 variables are found with an average greater than three, which means that none of the positive trends exceed 3.53, which is closer to the category of agree nor disagree. This implies that Puerto Vallarta does not have the necessary conditions to emerge as a destination with community resilience and a lack of planning for resilience which is tightly related to sustainability as proposed by Lew [17].

Similarly, regarding the thematic areas, in the case of governance, risk assessment, knowledge and education, risk management and vulnerability reduction, and for disaster preparedness and response, have an average of three, which is why it follows that in Puerto Vallarta community resilience is incipient.

The ANOVA analysis shows that there are no differences between the type of stakeholder (Company, Tourists and local people) specifically in 27 of the 28 variables, only the variable: Infrastructure and basic services has significant differences.

The factor analysis reaffirms this position since the nine factors that explain the system are: Scientific and local methods for risk awareness; Knowledge of rights and incidence; Market Access; Public awareness, knowledge and skills; Access to health services during emergencies; Community leadership; Food and water supply; Dissemination of knowledge of Health Risks; and Planning for contingencies. This tells us that we should focus on these nine factors and carry out a new analysis in the future.

It is wrong to think that the problem will be solved simply with health interventions, such as a vaccine, new public health measures, new hygienic behaviors, and effective treatments [48]. We have to protect biodiversity and, if we want to live with other animal species, we must respect them and preserve their spaces [49]. Therefore, community resilience is essential to be prepared for future eventualities.

Tourism resilience is a collective socio-spatial construction, with variations between sites, forged through a process that involves public and private actions. Like other complex social issues, resilience does not move in one direction, tourism destinations can win or lose it. Each region of the world, each urban or rural space, faces conditions that demand specific actions [50].

The disease has put the tourism development model in crisis and questioned its resilience. Under these conditions, the COVID-19 pandemic has multiple implications for local economies based on tourism, whose vulnerabilities deserve public attention to mitigate short-term effects and increase resilience in the long term as pointed by Verduzco Chávez [50]. He found that the most vulnerable local economies in the Jalisco state are the metropolitan ones, with Puerto Vallarta at the forefront.

In the case of Puerto Vallarta, the pandemic has increased the vulnerability of the "two cities" model that defined a coastal corridor with the offer of lodging and an urban area in the hills where the working-class lives. In addition to the consequences of pre-existing urban inequality, this city model magnifies the consequences of the policy of social distancing to face the pandemic and leaves conditions that are very difficult to face in the medium and long term to achieve social integration.

5. CONCLUSIONS

According to the analysis carried out in Puerto Vallarta, community resilience is incipient concerning the five thematic areas. Governance is the best positioned, however, only four out of 10 stakeholders agree or strongly agree that governance exists in destination. Similarly, in the case of the risk assessment, only Three out of 10 consider that the scientific method is used to raise awareness in the local population about risks. In the thematic area of knowledge and education, seven out of 10 consider that attitudes and values do not exist.

Regarding the thematic area risk management and vulnerability reduction, only 26.7% of the interviewees, say that there is sustainable environmental management in Puerto Vallarta. For the thematic area disaster preparedness and response, seven out of 10 consider that there is no infrastructure for emergencies.

The results presented suggest that, when designing policies to improve resilience and reduce vulnerability, it should not be forgotten that the latter is a problem that unequally affects different companies and sectors of the population. The multidimensional nature of vulnerability demands public and private actions to address the situation in the short term, but also greater committed participation of businessmen and society, aimed at reconverting tourist destinations and making them more resilient.

For a destination to be resilient, it must be managed actions before, during and after a disaster. At this point, it is important to highlight the human capital of the territory, which shows the degree of efficiency of the organizations and the internal cohesion of society.

On the other hand, the disadvantages of using this method indicate that the answers of authentic experts can be diluted by the opinions of other participants; the results can be affected by the way the questions are posed or by bias in unanswered questions; it becomes difficult to maintain the anonymity of experts in very limited fields.

The experts may not provide all the information; the optimistic or pessimistic tendencies of the experts can affect results that are far from reality, attention must be paid to these

disadvantages to minimize them and achieve the most accurate investigation possible with the conditions that are counted, regarding the disadvantage of information delivery by experts.

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