

Integrated assessment of the renovation of mature touristic destinations using participatory multi-criteria methods: The case of Puerto de la Cruz

Oswaldo Ledesma González ^{1*}, Serafin Corral Quintana ², Juan Israel García-Cruz ³
and Jesús Francisco Hernández ⁴

¹ Department of Geography and History. University of La Laguna, Canary Islands, Spain. Email: oledesma@ull.edu.es

² Department of Applied Economics and Quantitative Methods. University of La Laguna, Canary Islands, Spain. Email: scorral@ull.edu.es

³ Department of Geography and History. University of La Laguna, Canary Islands, Spain. Email: jgarcia@ull.edu.es

⁴ Department of Geography and History. University of La Laguna, Canary Islands, Spain. Email: jfhdez@ull.edu.es

*Corresponding author

Abstract

This study examines the impact of renovation plans on mature tourist destinations through the utilisation of multi-criteria methodologies and participatory approaches, with a specific focus on Puerto de la Cruz in the Canary Islands. The tourism sector, characterised by instances of governmental intervention stemming from market inefficiencies and external factors, strikes a delicate equilibrium between individual economic interests and public regulations. This study highlights principal obstacles encountered in developed destinations, such as physical and operational outdateding, underscoring the significance of adaptable, context-specific rejuvenation protocols. By employing the NAIAD multi-criteria evaluation technique, this research amalgamates both quantitative and qualitative information, comprising surveys, discussions, and geospatial data, to evaluate the efficacy of renovation efforts. The results underscore the advantages of integrating multi-criteria decision-making with participatory methodologies to analyse the results of the revitalization of tourist destinations. This methodology facilitates the inclusion of a variety of stakeholder viewpoints, thereby enriching the significance of the proposed methodology. The results from Puerto de la Cruz provide insights into how systematic and inclusive assessment frameworks can support the successful modernization of ageing tourist areas.

Keywords: multi-criteria assessment; tourist renewal; mature tourist destinations; participatory approaches; sustainable tourism.

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1. Introduction

The tourism industry is widely regarded as a vital component of many economies, contributing significantly to GDP and employment (Sabah, 2019). However, as tourism activities expand, there is a growing need to strike a balance between economic growth and environmental/social sustainability (Thahir *et al.*, 2020). The growth of tourism does not automatically translate into economic development; proper management and policy implementation is required to improve the socioeconomic conditions of the population. García *et al.* (2013) recognise that the positive relationship between tourism growth and economic development faces limitations, particularly in countries with lower levels of economic development, due to factors such as loss of control over local resources, limited pulling capacity relative to other sectors, and the leakage of potential profits. Moreover, because mature touristic destinations often face challenges such as infrastructure deterioration, environmental degradation, and loss of attractiveness, renewing these destinations is crucial for sustaining their appeal and economic viability.

Although tourism activity is fundamentally supported by the private sector, it constitutes one of the few fields of private business in which the business community welcomes public intervention. On the one hand, this is consistent with the approaches of economic theory from Sidgwick (1887), Pigou (1920), Keynes (1936, 1937) and Musgrave (1985), in that public intervention in the social and economic sphere is justified based on its legitimate objectives or by the set of market failures – and, therefore, by the externalities or negative diffusion effects that prevent it from functioning according to the principle of perfect competition, the general interest and social well-being (Ledesma and Simancas, 2018). On the other hand, the territorial dimension, decisively conditioned by the planning of the tourist destination, means that sectoral and territorial policies (strongly regulated) are highly interrelated. Therefore, there is no alternative regarding the intervention of the public administration in tourism activity; rather, the debate lies in defining the intensities and limits of said intervention (Ledesma and Simancas, 2018).

From this point of view, for decades the public sphere and the private sector have been showing interest in implementing policies aimed at the renewal of tourist destinations based on the verification of lost competitiveness compared to more modern tourist destinations, which usually manifests in the transition from a demand market to a supply market, as well as in the progressive reduction of profitability, which makes destinations' restructuring necessary (Agarwal, 2002; Faulker, 2002). Restructuring policies have taken the form of legal provisions and management instruments derived therefrom, and within the three spheres of the market (supply, demand and marketing), such provisions and instruments have been directed mainly towards two kinds of actions: (1) limiting the entry into the market of new places and (2) qualifying tourist establishments and products, especially in archipelagic tourist destinations (Corral and Hernández, 2010).

The instruments designed for the renewal of tourist destinations tend to coincide in identifying two main types of problems that cause the loss of competitiveness: (1) physical obsolescence (i.e. the supply of accommodation and complementary services is old and has deteriorated) and (2) functional obsolescence (i.e. the offer of tourism products has not adapted to changes in markets, types of tourists and marketing processes). Added to these is the environmental problem, particularly the deterioration of the landscape, which has worried part of the tourism sector since the early 1990s, as well as the problems of carrying capacity and overtourism that often appear very often in mature tourist destinations.

In any case, it is necessary to design specific ad hoc instruments adapted to each tourist area and with sufficient flexibility to compensate for the rigidity of planning systems – and, specifically, urban planning, which in most cases serves to slow the renewal of the destination by distancing itself from the logic and dynamics of the tourism market, which are highly conditioned by cycle changes. In this sense,

whatever specific renewal policy is developed must be flexible enough to adapt to the unique needs of specific destinations and strategies (Goeldner and Brent Ritchie, 1992).

This study examines the impact of renovation plans (under previous budgets) on mature tourist destinations by applying multi-criteria methodologies and participative methodologies. In this sense, such plans are instruments used by public decision-makers to specify their policies; thus, analysing the impact of their contents allows us to assess their results (Getz, 1992; Howlett and Ramesh, 1995; Howlett, 2014; Edgell and Swanson, 2019).

Specifically, the implementation of plans in the tourism industry is crucial in that it reflects the degree to which the government can turn its intentions into realities (Krutwaysho and Bramwell, 2010). Here the case of the Plan for Modernization, Improvement and Increased Competitiveness of Puerto de la Cruz (Canary Islands, Spain) is considered as an example, focusing analytical interest on the public space renovation actions included in the instrument that have been executed in their entirety.

Although the literature has advocated various techniques for measuring the success of territorial and urban policy instruments (Barbier *et al.*, 1990; Coombes and Wong, 1994; Hemphill *et al.*, 2002; del Giudice *et al.*, 2014; Manupati *et al.*, 2018), there is no consensus on the appropriate technique for evaluating the impact of renovation instruments. Decision-making in this context is complex and must involve multiple stakeholders with varying interests and priorities. Traditional approaches often fail to adequately incorporate these diverse perspectives, leading to suboptimal outcomes.

To find efficient and sustainable solutions to these challenges, flexible methods and the application of multidisciplinary approaches, such as multi-criteria decision-making (MCDM) tools, are required (Kangas *et al.*, 2001). Here, multi-criteria analysis (MCA) has been chosen because it allows us to simultaneously and systematically address the multiple dimensions affected by the urban renewal processes of tourist destinations, thereby enabling the integration of qualitative and quantitative variables.

This paper aims to demonstrate the effectiveness of integrating MCDM methods with participatory approaches to assess and guide the renovation of mature touristic destinations in a well-known European touristic area, namely Puerto de la Cruz in Spain's Canary Islands. The paper is organised as follows: The literature review covers relevant theories and practices; the methodology section outlines the research design; the case study presents the application of the methods; results are then discussed, followed by a discussion of implications; finally, the conclusion summarises the findings and recommendations.

2. Literature review

2.1. *Renewal of tourist destinations*

Sustainability in tourism development is a multifaceted concept that encompasses economic, social, and environmental dimensions (Assagaf *et al.*, 2018), with the renewal of tourist destinations being a public policy strategy to achieve it. Renewing tourist destinations involves upgrading infrastructure, improving service quality, and enhancing environmental sustainability. Studies highlight the importance of addressing both physical and experiential aspects to attract and retain visitors (Hall, 2005, 2021).

Corral *et al.* (2016) discuss the transformation of mature tourism resorts into sustainable destinations through participatory integrated approaches, focusing on Puerto de la Cruz as a case study. Transforming mature tourism resorts into sustainable destinations often involves incorporating sustainable practices into tourism operations, engaging stakeholder participation, revitalising facilities

and services, and implementing strategies that consider the long-term environmental, economic, and social impacts of tourism. Another study by Rodríguez-Díaz and Rodríguez-Díaz (2018) examines a decision-making and governance framework for the renewal of tourism destinations, again using the Canary Islands as an example. The authors present an evaluation of actions to renew lodgings and infrastructures through special legislation, leadership, sources of financing, and investment guarantees to determine the level of success achieved. The case of the Canary Islands, as one of Europe's main tourist destinations, provides insights that can be applied to other destinations with similar characteristics.

García *et al.* (2013) explore the relationship between tourism growth and economic development, particularly the extent to which tourism activity contributes to the economic development of the territories where it takes place, and under what conditions tourism growth can effectively promote economic development. The researchers analyse the efficacy of different types of interventions in the tourism sector and the need for favourable conditions to encourage the positive transformation of tourism growth into sustainable development.

Panfiluk (2023) suggests several key recommendations for building innovation management strategies in the tourism sector for destination management organisations. Although these recommendations arise from drivers and barriers to innovation identified in the Polish tourism industry, those insights may be relevant and adaptable to other regions as well:

- Partnership and networking: Encourage the building of cooperation between the economy, science, public authorities, social and consumer organisations, and centres of highly specialised knowledge transfer. Developing strong partnerships and networks is crucial for fostering innovation;
- Involvement of civil society: Increase the involvement of civil society in innovation processes, because their participation can be a significant factor in network activities and the overall innovation environment;
- Cooperation with scientific institutions: Enhance the level of cooperation with scientific and research institutions for the transfer of highly specialised knowledge, which can lead to innovations with greater novelty and impact;
- Market environmental impact: Recognize and leverage the strong influence of the services market and customers as co-creators and drivers of innovation. Consumer needs and preferences can drive the adaptation and innovation of tourist offerings;
- Addressing barriers: Identify weaknesses and work to overcome them, such as the low level of cooperation in networks, poor development of structures of collaboration, and the low level of civil society involvement in innovation processes;
- Use of own knowledge: public and private touristic institutions should be aware of the current dependency on their own, as well as their employees' knowledge for innovation, which tends to result in incremental and adaptive innovations. Expanding knowledge sources to include external expertise can enhance the novelty and impact of innovations;
- Policy support: Public institutions should play a role in stimulating regional innovation processes by fostering collaborations at the regional, national and local levels, aiming to develop networks of entrepreneurs, universities, industry organisations and local governments.

2.2. Integrated assessment: Multi-criteria and participatory methods

Combining multi-criteria methods and participatory approaches has shown promise in complex decision-making contexts, including tourism planning (Mardani *et al.*, 2015; Işık and Demir, 2017; Khosravi *et al.*, 2019; Etxano and Villalba-Eguiluz, 2021). This combination provides a holistic framework for decision-making, thereby enabling the integration of quantitative data and qualitative insights from stakeholders (Kangas *et al.*, 2001; Munda, 2008; Paneque *et al.*, 2009; Ferretti and Comino, 2015).

Multi-criteria methods encompass various techniques to evaluate multiple conflicting criteria. Methods like Analytic Hierarchy Process (AHP), Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) and NAIADe are widely used due to their ability to structure complex decision problems and provide clear, rational outcomes (Saaty, 1980; Hwang and Yoon, 1981; Corral *et al.*, 2016; Greco *et al.*, 2016). Manumpil *et al.* (2023) explore the utilisation of multi-criteria decision-making (MCDM) methods in sustainable tourism and low-carbon tourism research, analysing 135 relevant studies from 1999 to April 2022. It highlights the predominant use of the AHP in the analysed studies, along with the emergence of hybrid methods and new techniques, indicating advancements in decision-making methodologies for sustainable tourism destinations. Garabinović *et al.* (2021) also provide a comprehensive overview of the application of MCDM methods in the field, highlighting the increasing importance of sustainability in tourism practices.

Multi-criteria methods play a crucial role in evaluating and prioritising sustainability initiatives in the tourism industry, helping researchers and practitioners make informed decisions to promote environmentally friendly and socially responsible practices. Thus, Marafon *et al.* (2015) and Andria *et al.* (2019) state that MCDM methods can effectively support research and development management as well as organisational performance evaluation, both of which are relevant to the tourism industry. This study proposes a fuzzy MCDM method for ranking tourist destinations based on sustainability performance, offering simplicity and easy readability for stakeholders.

There are various multi-criteria methods; this study focuses on so-called ‘discrete’ multi-criteria evaluation techniques, which involve considering a finite set of criteria in the evaluation process (refer to Bana and Costa (1990) and Munda (1995) for more details). According to Roy (1998), the primary goal of multiple-criteria decision aids is not to find a solution but rather to establish relationships among actions that provide better information to decision-makers.

Regarding participatory approaches, the literature has been insisting that engaging stakeholders in decision-making processes ensures that diverse perspectives are considered, leading to more accepted and sustainable outcomes. Participatory methods include public consultations, workshops, and surveys (Roy, 1998; Reed, 2008). Arnstein (1969) considered citizen participation as a means for the redistribution of power to give marginalised or less powerful groups a say in political and economic processes.

3. Methodology

Given the complexity of the problem to be addressed, we propose an integrated approach that allows the evaluation to include both qualitative information, such as in-depth interviews and surveys, or media content analysis, and quantitative information from official surveys and field work. The mixture of quantitative and qualitative information is invaluable for understanding the complex and nuanced nature of the socio-environmental issues surrounding tourist destinations.

The integration involved combining the quantitative data from MCA methods with qualitative insights from participatory approaches to create a comprehensive assessment framework. This approach ensured that all relevant factors and stakeholder perspectives were considered in the assessment process, including the impacts of the renovation activities, which, as in the case of the mature tourist destination of Puerto de la Cruz, face challenges such as outdated infrastructure, environmental degradation, and declining visitor numbers.

Next, the NAIADe method Munda (1995) was selected to analyse the collected data, following the procedure detailed in Figure 1. NAIADe stands for Novel Approach to Imprecise Assessment and Decision Environments; it is a multi-criteria method originally developed at the Joint Research Centre

by Munda (1995). This approach allows the incorporation of different measures with clear, random, fuzzy and linguistic values of the performance of the evaluation criteria; this flexibility allows its application in real-world situations (Corral *et al.*, 2016).

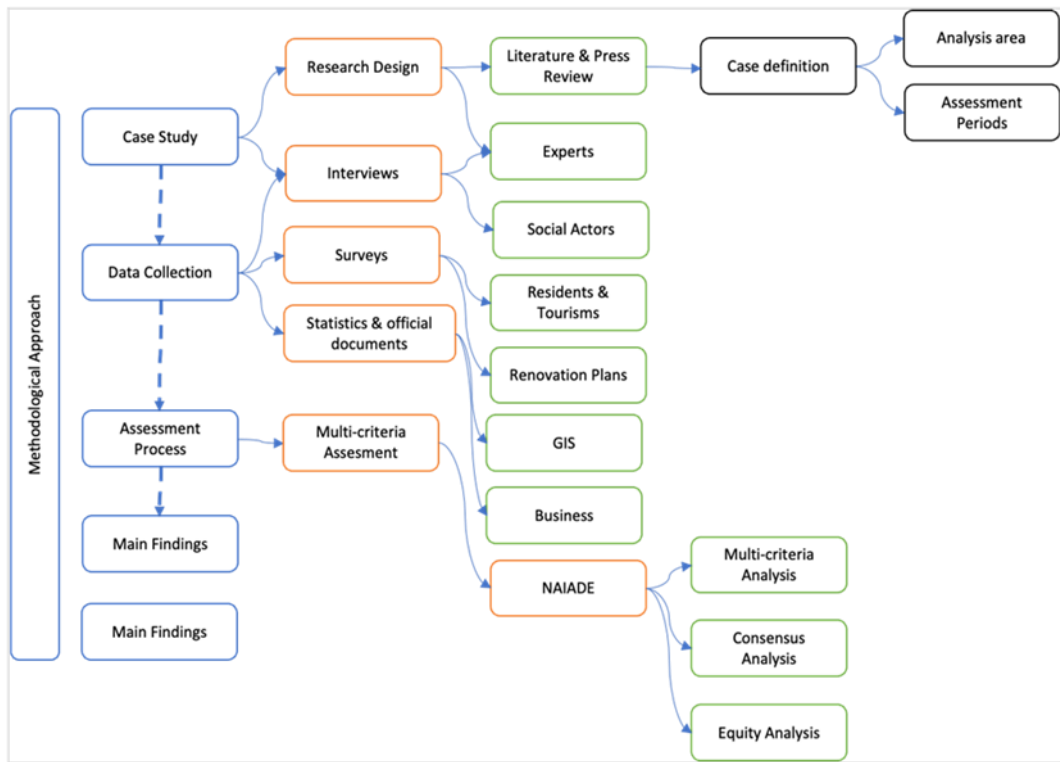


Figure 1. Methodological Approach

3.1. Data collection

This integrated approach was implemented through several stages. First, in order to identify the various dimensions of the problem to be addressed, the proposed plans were subjected to a review process; this review was complemented by a press analysis and a first round of interviews with experts on the subject. By involving individuals in in-depth interviews, researchers can capture a wide range of perspectives that might otherwise be overlooked (Hernández-González and Corral, 2016; Brinkmann and Kvale, 2018).

This first stage of analysis allowed a contextualization of the case's dimensions and the relevant criteria for evaluating the impact of the destination's renewal plan. Next, the quantitative and qualitative information was collected for later analysis. Different sources were used, including the plans initially proposed and their subsequent modifications, as well as the existing socioeconomic statistics for the periods under analysis (i.e. data on visitor numbers, infrastructure conditions, environmental indicators, and economic performance were collected from local government and tourism authorities). Likewise, georeferenced information was used to detail the changes produced before, during and after the actions carried out, for those variables with a spatial component.

Quantitative information was complemented with a second round of in-depth interviews with the actors involved, who represent those most directly involved in the problem being investigated. These participants were identified through the procedure presented in section 4.3, which articulated their thoughts and feelings in their own words (Rubin and Rubin, 2005). In the present case study, 25

interviews were conducted, giving stakeholders the opportunity to participate actively in discussions, providing valuable insights and feedback. These processes consisted of open interviews, although the research team followed a previously defined document containing general areas of interest but also specific questions to be used as guidance for the interview process. These interview questions, derived from the first stage of analysis as well as the review of press and existing documentation, were intended to capture insights from diverse social actors involved in different phases of renovation.

Together, various surveys (totalling around 80 responses) were conducted among both the resident population and tourists, as well as the merchants and tourism entrepreneurs, to assess their satisfaction with the renovation actions, as well as with the process and outcome. Thus, social actors' opinions were gathered through interviews and surveys that encompassed residents, business owners, tourists, and local government officials. Surveys allow collecting qualitative data, which provides rich, detailed information about social actors' attitudes, beliefs and experiences, offering insights that quantitative data alone cannot capture (Patton, 2015).

3.2. Stakeholders' involvement

Stakeholders were initially identified through purposive sampling and subsequently through non-probability snowball sampling assisted by a structured questionnaire. First, stakeholders with political or technical responsibilities for the tourist destination renewal process were selected. Second, stakeholders with in-depth knowledge of the tourism reality of the tourist destination, as well as representatives of civil society, were identified. Altogether, eight stakeholders were identified in the initial relationship, distributed equally between public and private.

To expand the initial relationship of stakeholders, structured in-person interviews with a questionnaire were held with each of those initially identified: They were asked to identify 10 important stakeholders for the destination's urban renewal processes. In this regard, it is worth noting that there is no exact number when identifying interested parties; rather, it will vary depending on the territory, time and specific situation. The imperative was established to identify 10 interested parties with the objective of pointing out others beyond those already elicited, in coherence with what was proposed by Beritelli (2011). Consequently, at the end of this first round of interviews, 80 interested parties had been identified, but after eliminating duplications, the expanded list was 34.

At this time, a fundamental criterion for the relationship of interested parties was introduced, namely considering those interested parties that had been identified on at least two occasions. This criterion was incorporated to minimise the interviewees' bias in relation to the identification of interested parties linked to the interests of the organisation they represented, as well as to obtain a more rational relationship with respect to the interested parties who are important for the urban renewal of the destination. tourist. As a consequence of applying this criterion, around half of the interested parties in the extended relationship were discarded because they had been identified only once.

Subsequently, a second round of interviews was carried out with the new identified stakeholders with the intention of obtaining the most diverse and representative relationship possible. This second round was developed under the same terms as the previous one (i.e. structured interviews with a questionnaire and in person); interviewees were also asked to select 10 important stakeholders for the urban renewal processes of the tourist destination. This second round of interviews revealed new stakeholders not previously identified, although only one was identified at least twice, thus being incorporating into the stakeholder map as important. This new interested party was then interviewed, completing a third round of interviews where the so-called saturation point was reached, as no new interested parties were identified. Consistent with Corbin and Strauss (2015), the saturation point indicated that the sample had achieved maximum possible representativeness.

3.3. Data analysis

NAIADE is a discrete multi-criteria method, based on some aspects of the partial comparability axiom, which features mixed information types and conflict analysis (Munda, 1995, 2006). Because NAIADe operates within fuzzy contexts, any attempt to achieve a high degree of precision in the results tends to be somewhat artificial; therefore, a pairwise linguistic evaluation of periods of action was used. This is done by means of the notion of fuzzy relations, based on ‘semantic’ distance between linguistic qualifiers (the distance between qualifiers like ‘good’, ‘better’, etc.).

NAIADE is designed to engage a wide range of social actors, including policy-makers, community members, environmental groups, and industry representatives. Its strength lies in its ability to accommodate and process diverse viewpoints and preferences, which is crucial for socio-environmental decision-making (Munda, 1995), and the analysis of the results of the implementation of public policies. One of the key features of NAIADe is its capacity to handle qualitative information effectively. Traditional multi-criteria decision analysis (MCDA) methods often focus on quantitative data, which can overlook important qualitative aspects such as social values, cultural significance and stakeholder perceptions. NAIADe addresses this gap by incorporating fuzzy set theory to assess qualitative criteria alongside quantitative ones (Munda, 2004). This integration allows for a more holistic evaluation of socio-environmental issues, capturing the complexities and nuances that purely quantitative methods might miss in case studies such as this.

NAIADE does not assume the commensurability of the different dimensions of the problem to be analysed; consequently, it is not necessary to reduce the dimensions to a common unit of measurement, thereby rejecting the weighting of the criteria and promoting the simultaneous treatment of all the dimensions of the problem (Munda, 2004). In this sense, it becomes possible to analyse complex phenomena in a multidimensional way, instead of adopting reductionist perspectives.

In urban studies, MCA has been used most often to evaluate the suitability of policies and/or projects, making it suitable for decision making. In the specific case of urban renewal, the long-recognised need to ensure a balance between environmental, social and economic dimensions during renewal endeavours has made MCA an attractive technique due to its ability to systematically address and effective multidimensional problems, making it possible to simplify complexity and easier to examine the information for each criterion separately. This trend has prompted several researchers to apply MCA to problems related to urban renewal (Giove *et al.*, 2001; del Giudice *et al.*, 2014; Cilona and Granata, 2015; Bottero *et al.*, 2018; Manupati *et al.*, 2018).

NAIADE has been used in many studies related to territorial management in a broad sense (Garmendia *et al.*, 2010; Oikonomou *et al.*, 2011; Acosta and Corral, 2015; Hernández-González and Corral, 2016; Sturiale and Scuderi, 2019); fewer analyses have focused specifically on urban renewal (Bottero *et al.*, 2019; Della Spina, 2019; Bottero and Giulia, 2020; Riola *et al.*, 2023) and none have evaluated renewal plans in tourist destinations (or, at least, no references have been found in this regard). Several case studies illustrate the effectiveness of NAIADe in socio-environmental contexts. For instance, its application in the evaluation of sustainable water management strategies in Italy demonstrated how NAIADe can integrate diverse stakeholder inputs and qualitative assessments to inform policy decisions (De Marchi *et al.*, 2000). Another example is its use in assessing land use options in a coastal area of Spain, where it successfully incorporated local community preferences and environmental criteria to guide sustainable development (Martinez-Alier *et al.*, 1998).

MCA methods, which enable the evaluation of complex phenomena, are numerous, but none of them are perfect or applicable to every type of problem; each has its own limitations, hypotheses, premises and perspectives (Ishizaka and Nemery, 2020). MCA emerged during the 1960s in response to the

limitations of traditional evaluation methods such as cost-benefit analysis and cost-effectiveness analysis (Nijkamp *et al.*, 1990; del Giudice *et al.*, 2014), and since then it has been progressively consolidated as an instrument to help make decisions regarding public policies.

3.4. *Multi-criteria, consensus and equity assessment of renovation destinations*

Quantitative and qualitative data were analysed using NAIADe to determine the weighted priorities of renovation criteria and the rankings of periods of action. Qualitative data from workshops and surveys were thematically analysed to identify common themes and stakeholder preferences.

The methodology employs pairwise comparison matrices and qualitative criteria assessments, allowing stakeholders to express their preferences and priorities in a structured manner (Munda, 1995). NAIADe's iterative process of stakeholder engagement and feedback helps to build consensus and reduce conflicts, which are common in renewal scenarios. This inclusive approach helps to ensure that the decision-making process reflects the values and concerns of all relevant parties, leading to outcomes that are more socially acceptable and sustainable.

The detailed narratives obtained through in-depth interviews can reveal underlying motivations, beliefs and values that drive social actors' behaviours and decisions. For instance, when investigating community responses to environmental policies, in-depth interviews can uncover the reasons behind support or opposition, providing insights that are critical for designing effective interventions (Silverman and Marvasti, 2008).

NAIADe conducts conflict by constructing an 'equity matrix' that gives a linguistic indication of the groups of interest's judgements of each of the periods of action. A similarity matrix is then computed to yield an index for each pair of the groups of interest, which reflects the similarity of their judgements of the proposed periods of action.

Thus, NAIADe supplies the user with two pieces of information: (1) a ranking of the periods of action based on the selected decision criteria, and (2) a ranking (usually different from the first) of these periods of action' 'acceptability' among the stakeholder groups.

4. Case Study

4.1. *Description*

Puerto de la Cruz is a municipality located in the north of the island of Tenerife (Canary Islands, Spain). With an area of 8.73 km², it is the smallest in the Canary Islands archipelago – yet it is ranked third among tourist destinations in Tenerife by the number of accommodation places, with nearly 23,000 (Canary Institute of Statistics, 2024; General Tourist Registry of the Canary Islands, 2024), representing just over 11% of the island's total offer.

Tourism in Puerto de la Cruz has a long history (González-Lemus, 2002; González-Lemus *et al.*, 2005; González-Lemus and Hernández, 2010), but only in the second half of the 1950s did it begin to develop tourism in an important way. This growth coincided with the arrival of the first tourists traveling on charter flights, the transformation of the municipal seafront, and the real-estate tourism expansion linked to high-rise buildings with greater accommodation capacities (Cáceres, 2002; Martín-Galán, 2008). The destination then enjoyed a true tourism boom that lasted until the mid-1980s (Álvarez, 2004; González-Lemus *et al.*, 2005), when a period of stagnation began due to the appearance of competing destinations, the decline in quality and the poor differentiation of the product offered, the obsolescence of accommodation establishments and complementary infrastructures, and similar challenges (Ledesma, 2012).

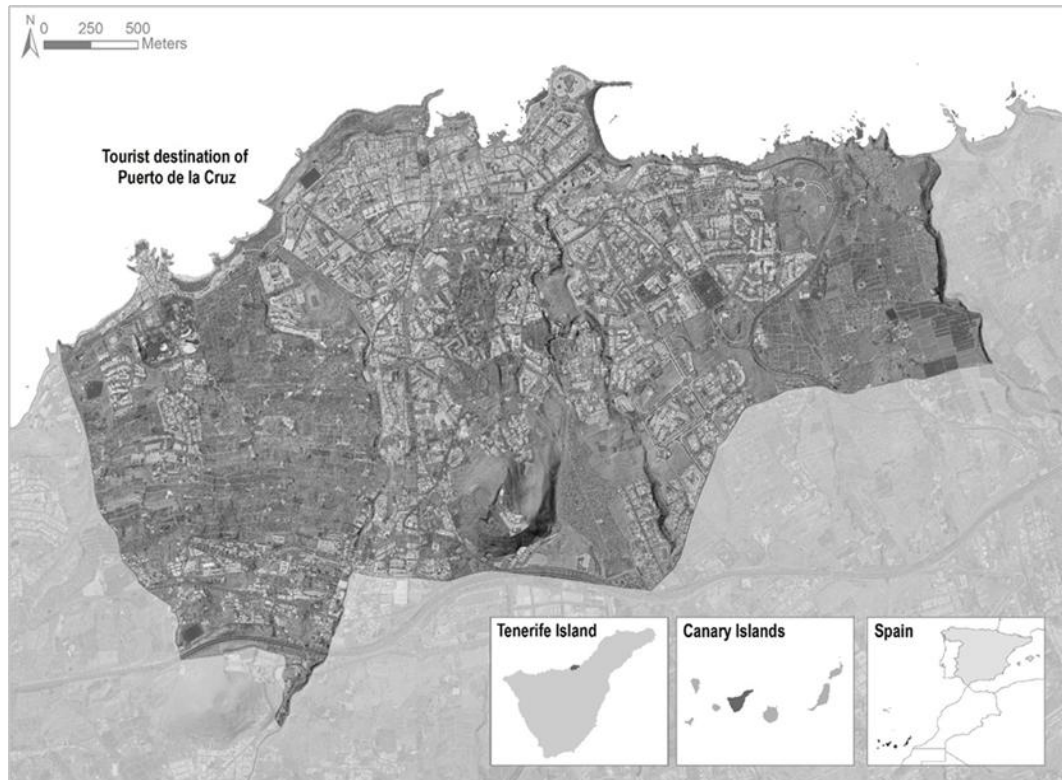


Figure 2. Location and limit of the tourist destination Puerto de la Cruz

4.2. Indicators of stagnation

With the aim of redirecting this situation of stagnation and improving the destination, various plans have been approved since the early 1990s, from both the state government as well as the regional and island governments. Fundamentally, these plans were designed to improve competitiveness indicators and boost the quality of the destination; however, they yielded unsatisfactory results (Ledesma, 2012). To reverse this situation, in July 2010 the Secretary of State for Tourism, the Government of the Canary Islands, the Island Council of Tenerife, and the City Council of Puerto de la Cruz signed the Collaboration Agreement for the rehabilitation of the tourist infrastructures of Puerto de la Cruz within the framework of Spain's Horizon 2020 Tourism Plan. In this agreement, two fundamental issues were established for the renewal of the destination:

1. The creation of an urban planning consortium (hereinafter Consortium), formed by the signatory administrations, with powers to formulate the new urban planning in their areas of action, as well as to execute, promote or manage urban planning actions and infrastructure and new works. equipment that must be approved by the Consortium administrations. The Consortium was the fourth to be established in Spain within the framework of the program for the requalification of mature tourist destinations of Spain's Horizon 2020 Tourism Plan, after Playa de Palma (Mallorca), Costa del Sol Occidental (Andalusia) and San Bartolomé de Tirajana (Gran Canaria) (Simancas, 2012; Rodríguez and Such, 2014). Since then, the Consortium has assumed the necessary powers regarding urban planning agreements, as well as the rest of the tasks assigned to the managing bodies of urban renewal (Ledesma and Simancas, 2018).
2. The commitment to approve the Plan for the rehabilitation of the tourist infrastructures of Puerto de la Cruz (hereinafter PRIT), whose drafting assignment was formalised in March 2011. The PRIT acted as a diagnostic and strategy document, articulating various existing studies, such as analyses

of the destination's problems, commercial strategy, accommodation establishments, mobility of the tourist area and regeneration of the tourist space, as well as the definition of the new tourist model (Ledesma, 2017). At the same time, the Consortium considered it necessary to draft the Plan for Modernization, Improvement and Increased Competitiveness of Puerto de la Cruz (hereinafter PMM), because a large share of the physical renovation actions included in the PRIT required a planning instrument to enable their execution. For this reason, the actions that had initially been incorporated into the PRIT were those that were later included in the PMM. However, within the framework of the PRIT, certain actions to renew public and private spaces that did not require a planning instrument for their execution, as well as various promotion and management programs for the destination, could be initiated before the approval of the PMM (Ledesma and Simancas, 2018).

Finally, the PMM was approved in 2015, with a modification in July 2017, which is why it is considered a second-generation renewal plan (Ledesma and Garcia, 2021). A detailed development of the strategic framework of the PMM of Puerto de la Cruz (strategic lines, strategies, programs and actions) can be consulted in Ledesma *et al.* (2023).

4.3. Stakeholders mapping

The methodological process, described in previous sections, resulted in a map of parts comprising 13 stakeholders from the public, private and civil society spheres. Table 1 shows the final list of interested parties and the areas to which they belong.

Table 1. *Stakeholder involvement*

	Government of the Canary Islands
Public sector	Island Council of Tenerife
	Puerto de la Cruz City Council
	Urban Consortium for the Rehabilitation of Puerto de la Cruz
Private sector	Hotel Association of Tenerife, La Palma, La Gomera and El Hierro (ASHOTEL)
	Center for Tourism Initiatives of Puerto de la Cruz (CIT)
	Puerto de la Cruz Business Development Association (ADEP)
	Old Town Business Association
	San Telmo Taxi Cooperative
Civil society	College of Architects of Tenerife
	Portuense Federation of Neighbourhood Associations
	Alisios Norte
	Citizen Platform Accomplices Mueca

Beyond the public administrations that have powers in territorial and urban planning, as well as tourism sector powers, approximately 70% of the identified stakeholders were private sector and civil society organisations.

ASHOTEL is the largest association of hotel and non-hotel accommodation establishments in the Canary Islands. It has more than 250 associates representing more than 97,000 accommodation places in the province of Santa Cruz de Tenerife. In Puerto de la Cruz, ASHOTEL has 45 associated establishments that together represent around 12,000 accommodation places (that is, more than 50% of all accommodation places in the tourist destination).

Old Town Business Association is the largest business association at the municipal level with approximately 275 SMEs and professionals dedicated to the accommodation, restaurant, commerce, transportation and tourism intermediation sectors. ADEP represents the largest municipal association oriented exclusively to the commercial sector with nearly 150 SMEs and associated professionals. CIT represents around 120 SMEs and professionals in accommodation, restaurant, commerce, tourism intermediation, recreation and similar sectors. San Telmo Taxi Cooperative has 155 municipal licences, which represents just over 75% of the total. The College of Architects of Tenerife represents 750 professionals dedicated to architecture-urban planning.

The interests of civil society are represented by the Portuense Federation of Neighbourhood Associations, Alisios Norte, and Citizen Platform Accomplices Mueca. The Portuense Federation of Neighbourhood Associations defends the interests of five neighbourhood associations. Alisios Norte is a relatively new association comprising about 70 members who have joined with the purpose of serving as interlocutors between civil society and public administrations on issues that concern citizens in the north of Tenerife. Finally, Citizen Platform Accomplices Mueca is an organisation based on the collaborative model that emerged in 2011 as a social movement to address the need to structure sustenance and support mechanisms for the International Mueca Street Art Festival. The organisation comprises 25 individuals and private entities with interests in promoting culture as an instrument of social and territorial development.

4.4. *Dimensions and criteria definition for tourism renewal*

Tourism planning faces several challenges due to its multifaceted nature. Some of the primary challenges include:

- **Balancing economic, ecological, and social sustainability:** Planning must ensure that tourism development is economically viable while also conserving biodiversity and supporting ecosystem services, as well as meeting social needs and values;
- **Long-term impact:** Actions have long-lasting effects, necessitating careful planning to ensure sustainability over long periods that often span multiple decades;
- **Complexity of management:** Planning involves generating alternative management schedules and predicting their outcomes, which can be complex due to the dynamic nature of forest ecosystems;
- **Incorporating stakeholder preferences:** A participatory approach involves considering the preferences of various stakeholders, which can be diverse and sometimes conflicting;
- **Technological advancements:** Adapting to technological changes and integrating them into strategic planning can be challenging;
- **Uncertainties:** Tourism is subject to uncertainties such as climate change, market fluctuations and natural disturbances, which must be factored into planning;
- **Data collection and analysis:** Gathering and assessing accurate data is crucial, but it can also be resource-intensive.

In the same line, Ilban and Yildirim (2017) analyse the tourism performance of some of the world's best tourism destinations using the following four factors as criteria: (1) international tourism expenditures, (2) international tourism receipts, (3) number of arrivals and (4) number of departures. These factors were considered essential in evaluating the tourism activities and performance of the top 15 global tourist destinations.

Following the methodology described in section 3, MCA was configured based on four dimensions: (1) environmental, (2) social, (3) economic, and (4) institutional. Thus, the renewal of the tourist destination was analysed through the main components of sustainable development based on the definition of 19 criteria (Table 2). Donegan *et al.* (1992) indicate that if a complex problem can be reduced to its constituent parts, a hierarchy can be organized that facilitates its subsequent analysis. In

this way, by disaggregating the analysis of the renewal into dimensions and subdividing these dimensions into criteria, a quantity of information was obtained about the structure of the problem, while reducing its complexity and facilitating its analysis by each criterion separately. This allowed us to establish the relative strength of each criterion with respect to each dimension and to synthesize the results, subsequently deriving a single general priority for the analysis.

The impact of the renewal on the environmental dimension of the tourist destination is analysed through five criteria, green zones, urban renewal, pedestrian surface, and conservation of renewal, seeking to assess the scope of the transition of the urban space of the tourist destination from a developmentalist conception to the perspective of sustainable urban development. The social dimension is examined through five criteria, physical accessibility, resident satisfaction, business satisfaction, life quality, and tourist satisfaction, seeking to obtain the assessment of different key actors – from both supply and demand – as well as to analyse elements that affect the living conditions of residents. The economic impact of the renewal of the tourist destination is analysed through five other criteria, that is, renewal cost, employment (hospitality and tourism), RevPAR, ADR, and destination spending, which report on the profitability of the tourist destination's renewal. Finally, the institutional dimension is also evaluated by five other criteria, efficiency (start-run), social participation, power distribution, plan acceptance, and European governance coherence, reflecting the capacity of the public administration to carry out the renewal actions of public space as well as its communication capacity.

Table 2. *Dimensions and criteria of the analysis*

Dimensions	Criteria	Unit	Type	Aim
Environmental	Green zones	Integer	Quantitative	Maximise
	Urban renewal	Integer	Quantitative	Maximise
	Pedestrian surface	Integer	Quantitative	Maximise
	Conservation of renewal	Linguistics	Qualitative	Maximise
Social	Physical accessibility	Linguistics	Qualitative	Maximise
	Resident satisfaction	Survey	Qualitative	Maximise
	Business satisfaction	Survey	Qualitative	Maximise
	Life quality	Survey	Qualitative	Maximise
	Tourist satisfaction	Statistics	Quantitative	Maximise
Economic	Renewal cost	Euro	Quantitative	Minimise
	Employment (tourism)	Total jobs	Quantitative	Maximise
	RevPAR	Euro	Quantitative	Maximise
	ADR	Euro	Quantitative	Maximise
	Destination spending	Euro	Quantitative	Maximise
Institutional	Efficiency (start-run)	Temporal	Quantitative	Minimise
	Social participation	Survey	Qualitative	Maximise
	Power distribution	Coalition matrix	Qualitative	Maximise
	Plan acceptance	Equity matrix	Qualitative	Maximise
	European governance coherence	Linguistics	Qualitative	Maximise

5. Results

Once the criteria to be used in the evaluation were defined, NAIADE was used to prove the three matrices of the analysis with the quantitative and qualitative information presented in previous sections.

5.1. Multi-criteria analysis

Applying the NAIADE method to the periods of action with the selected criteria (Table 3), the C (2020–2022) is shown to be the best-performing option overall, having the highest preference and the lowest non-preference.

Table 3. Multi-criteria analysis matrix

Criteria \ Periods of action	A (2010-2014)	B (2015-2019)	C (2020-2022)
Green zones	49,2	-325,782001	334,780878
Urban renewal	6063,9	24057,9	4456,4
Pedestrian surface	4320.000000	-4333.000000	0.000000
Conservation of renewal	Moderate	Moderate	Moderate
Physical accessibility	Good	Very Good	More or Less Good
Resident satisfaction	Good	Good	Good
Business satisfaction	Good	Good	Good
Life quality	Good	Good	Good
Tourist satisfaction	7.000000	8.000000	8.000000
Renewal cost	2122780.000000	9669330.000000	872976.000000
Employment	4.831000	5.464000	4.780000
RevPAR	27.000000	39.000000	33.000000
ADR	41.000000	50.000000	54.000000
Destination spending	119.000000	129.000000	131.000000
Efficiency (star-run)	1.000000	1.570000	1.000000
Social participation	Good	Good	Good
Power distribution	Good	Good	Good
Plan acceptance	Good	Good	Good
European governance coherence	Good	Good	Good

Period of action A (2010–2014) is the second-best option, while the B (2015–2019) is the least favourable (see Figure 3). The analysis reflects the results of three indicators: $\Phi+$ (Phi Plus) represents the degree of preference of a period over others, $\Phi-$ (Phi Minus) represents the degree of non-preference or the weakness of a period relative to others, and Intersection shows the overall ranking considering both $\Phi+$ and $\Phi-$.

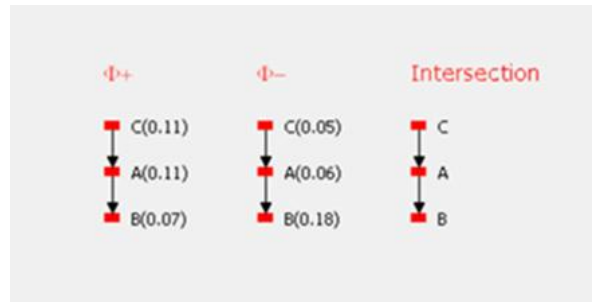


Figure 3. Multi-criteria analysis results

Thus, periods of action C and A have the highest degree of preference (Φ^+), both scoring 0.11, indicating that they are equally preferred, whereas period of action B is the least preferred, with a score of 0.07. According to the degree of non-preference (Φ^-), period of action C is the least non-preferred (or the strongest), with a score of 0.05, followed by A with 0.06. B is the most non-preferred, with a significantly higher score of 0.18, indicating that it is the weakest period of action. Combining the results of Φ^+ and Φ^- , the overall ranking is:

1. Period of action C (2020–2022)
2. Period of action A (2010–2014)
3. Period of action B (2015–2019)

NAIADE also allows a more in-depth analysis through the pairwise comparison of periods of action (i.e. A vs B, A vs C and B vs C). Each period of action is compared with every other period of action for each criterion. This comparison is often done using linguistic terms, which are then converted to fuzzy numbers. Several results might be highlighted in the present case study, based on the pairwise comparison:

- Period of action A (2010–2014) generally shows higher preference and less non-preference than period of action B (2015–2019);
- Period of action A (2010–2014) and period of action C (2020–2022) show balanced performance;
- Specific criteria such as ‘Urban renewal’, ‘Employment’, and ‘Efficiency (start-run)’ are strong points for period of action A;
- Specific criteria like ‘Employment’, ‘RevPAR’, and ‘Life quality’ are significant for both period of action A and C;
- Period of action B is generally preferred over period of action C across a majority of criteria, particularly in areas such as environmental impact (green zones, urban renewal, pedestrian surface), social factors (resident satisfaction, business satisfaction), and economic performance (renewal cost, employment, RevPAR);
- The aggregate and fuzzy relations suggest a balanced comparison (albeit with a slight advantage for period of action A over period of action B), whereas periods of action A and C present comparable performances.

5.2. Consensus vulnerability analysis

A consensus vulnerability analysis was also conducted using NAIADE. This analysis allowed a better understanding of the dynamics of stakeholder preferences, eliciting their positions about the analysed periods of action. The results of this consensus analysis were used to provide information regarding the criterion ‘plan stability’.



Figure 4. Consensus vulnerability analysis results

Figure 4 indicates that the components of the analysis are $\Phi+$ (Positive Flow), which represents the degree to which each period of action is better compared to the others based on certain criteria, whereas $\Phi-$ (Negative Flow) shows the degree to which each period of action is worse compared to the others based on certain criteria. Finally, Intersection shows the consensus, or the ranking of the periods of action based on the combined Positive and Negative Flows.

According to the consensus analysis, periods of action A and B are the most favourable options, with equal Positive Flow and no Negative Flow; period of action C is the least favourable due to its significant Negative Flow. In sum, periods of action A and B are equally preferable according to the criteria used in this analysis.

Likewise, an equity analysis was carried out with NAIADe to observe how different periods of action impact the various stakeholders involved in the renovation process of Puerto de la Cruz, eliciting whether the outcomes of the assessment do not benefit or disadvantage any particular group. The similarity indices range from 0 to 1, where 1.0 means complete agreement between two stakeholders (identical rankings of the periods of action) and 0.0 would indicate total disagreement (completely different preference orders). These indices are derived from the pairwise comparison of stakeholder preferences regarding the different periods of action. In the present analysis, values ranged from 0.7774 to 0.9674, meaning that all stakeholders share at least a moderate degree of alignment, though some are more divergent than others. Hence, the analysis identifies clusters of actors who share similar views. These clusters are visualised in a dendrogram (Figure 5), showing how tightly aligned or fragmented stakeholder perspectives are. For example, G10 and G13 (Alisios Norte and College of Architects of Tenerife) have very high similarity (0.9674), indicating they could work together easily in consensus-building. In contrast, G8 and G11 (ADEP and San Telmo Taxi Cooperative) have the lowest similarity index (0.7774), suggesting potential disagreement or underrepresented concerns. Stakeholders with high similarity form natural alliances that may support a policy direction or renovation plan, while, groups with low similarity require closer attention, since, their divergent views signal potential sources of conflict or contestation. Addressing their concerns directly can help reduce vulnerability in the consensus, particularly in the implementation phase of policies.

The equity analysis indicates that most stakeholder groups have aligned preferences, particularly regarding periods of action B and C, as previously analysed. This alignment suggests that decisions favouring period of action B, which was identified as generally preferable, are likely to be well received by most stakeholders. However, special attention may be needed for groups G8 and G11 to address their concerns.

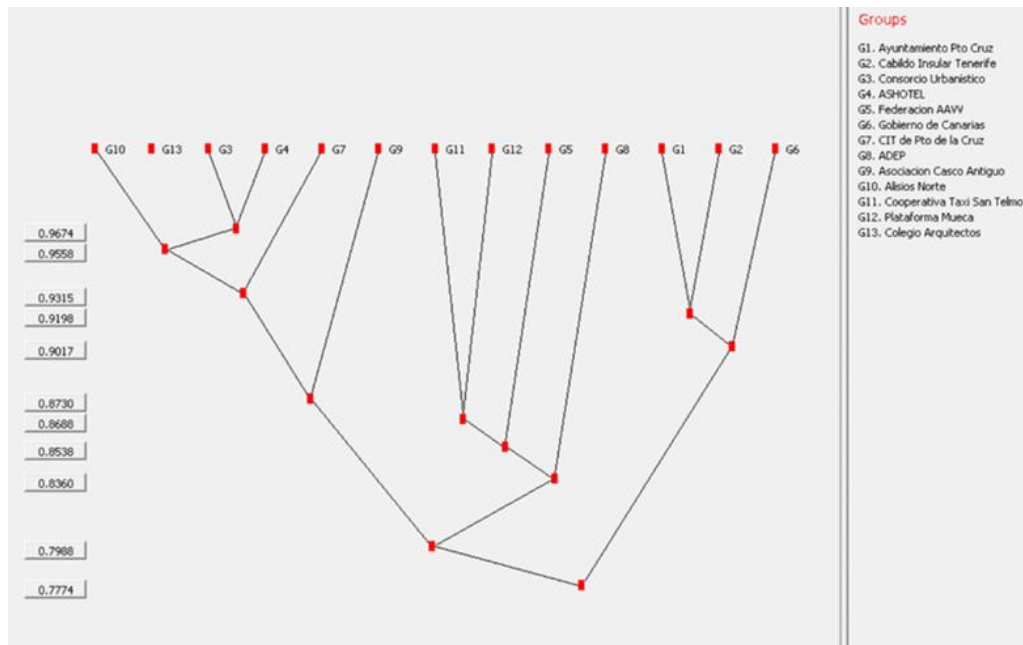


Figure 5. *Equity analysis results*

Three ranges of affinity may be emphasised:

- ‘High Similarity Clusters’: ‘G10 and G13’ (Alisios Norte and College of Architects of Tenerife) have the highest similarity index (0.9674), indicating very similar preferences. ‘G3 and G4’ (Urban consortium for the rehabilitation of Puerto de la Cruz and ASHOTEL) also show high similarity (0.9558). ‘G7 and G9’ (Center for Tourism Initiatives of Puerto de la Cruz and Old Town Business Association) have an index of 0.9315. ‘G1 and G2’ (Puerto de la Cruz City Council and Island Council of Tenerife) have an index of 0.9198;
- ‘Moderate Similarity Clusters’: Groups such as G5 and G12, as well as clusters like G1, G2 and others (e.g., G6) have moderate similarity indices, ranging from 0.8730 to 0.9017;
- ‘Low Similarity Clusters’: The groups G8 (ADEP) and G11 (San Telmo Taxi Cooperative) have the lowest similarity index (0.7774), indicating the least alignment in preferences with the other groups.

Thus, most stakeholder groups have relatively high similarity indices, suggesting a general consensus or alignment in their preferences. Groups such as G10, G13, G3, G4, G7 and G9 show very high alignment, which may be pivotal in driving the consensus. Finally, as mentioned before, G8 and G11 show the most divergent preferences, suggesting that they may have unique concerns or priorities that must be addressed to achieve broader consensus.

6. Discussion

The integrated assessment of the renovation of mature touristic destinations, particularly through the application of MCDM methods like NAIADÉ combined with participatory approaches, has demonstrated substantial value in managing complex stakeholder environments and addressing diverse evaluation criteria. This framework effectively combines quantitative data through MCDM methods with qualitative insights from stakeholder engagement, thereby ensuring a comprehensive evaluation of renovation periods of action. This study focused on Puerto de la Cruz in the Canary Islands, a mature touristic destination facing typical challenges such as infrastructure deterioration, environmental degradation, and loss of attractiveness. Stakeholders’ prioritisation of environmental sustainability and

infrastructure improvement highlights the growing awareness and importance of sustainable tourism practices.

Period of action A (2010–2014) was the second-best option, indicating that earlier renovation efforts still held substantial value, particularly in areas like economic impact and efficiency. Period of action B (2015–2019) was the least favourable, highlighting potential shortcomings in that period's strategies, possibly due to inadequate integration of key sustainability practices or low stakeholder engagement. The results of the three analysed periods of action confirm the difficulty of maintaining consensus, especially during the implementation phases, as well as the need to design robust governance mechanisms:

First, period of action A (2010–2014) corresponds to the development of the PRIT and the subsequent design of the PMM. The latter was characterised by the participation and integration of a wide range of agents in the specification of strategic lines, programs and actions to be developed, thereby creating future expectations favoured by a context of apparent inaction: The background consisted of a succession of public and private plans that did not materialise for various reasons, or whose actions had been partial and limited. Therefore, it was a favourable scenario for implementing transformation policies, as multiple actors demanded the development of a plan to renew the tourist destination. The designed instruments (PRIT and PMM) responded to this demand, creating improvement expectations that translated into a positive evaluation of the measures to be implemented.

Second, period of action B (2015–2019) corresponds to the approval and execution of the first PMM, along with the design, approval and initial execution of a second PMM. In this phase, the initiation of a significant set of construction works in the urban environment produced a first negative effect by altering and conditioning usual activities, with complaints from the affected parties. A second negative effect was the inevitable emergence of complications in project execution, with delays, modifications, and even suspension of some actions. As the governance structure was vertical, some decisions were perceived as disappointing by the agents, creating the first divergence from the initial consensus. Generally, the comparatively negative evaluation of this period of action corresponds to a context where perceptions, problems, and uncertainties about the benefits prevailed over the real impact of the actions, in addition to the lack of equity in the responsibility among agents in the process.

Finally, period of action C (2020–2022) corresponds to an advanced phase of the plan, where a significant number of measures have been completed or are being executed. In this phase, the completion of a large part of the interventions in the urban space, among other actions, begins to show their effects on the tourist destination. In the short term, the indicators in this phase constructed for the model (and the tourism indicators themselves) show a comparative improvement of the urban space and the tourist destination. This has facilitated the achievement of many of the plan's established objectives and partially reversed the imbalances detected in the governance of period of action B.

The similarity analysis revealed a spectrum of stakeholder alignment, with some groups showing nearly identical preferences (G10 and G13) and others stood out for their divergence (G8 and G11). These differences are rooted in structural and functional roles within the local tourism system: public sector generally shared high similarity, likely due to their involvement in the planning and coordination of the renewal strategy, while civil society aligned strongly on long-term urban quality and environmental enhancement goals. In contrast, small business sectors and mobility-dependent stakeholders expressed concerns about the short-term disruptions and operational constraints caused by certain actions, particularly those during period of action B (2015–2019).

While period of action B marked the onset of major construction works, it also generated substantial discomfort among affected groups. The discontent can be attributed to operational disruption of street closures, delays, and construction noise, directly affected commercial activity, especially for small retailers and transport services. Likewise, due to vertical governance, since the decisions during the period of action B were perceived as being imposed top-down, with little room for negotiation or adaptation, which alienated stakeholders who had initially supported the plan. Similarly for delayed benefits, because unlike period of action C, where visible improvements materialized, period of action B was dominated by transitory impacts, reinforcing perceptions of inefficiency or mismanagement. These factors eroded the early consensus forged in period of action A and illustrate how expectations set during planning can fracture during execution if governance structures are not inclusive and responsive.

Given the above, it appears clear that period of action C (2020–2022) would show better performance (which it has). The expectations set in its initial phase (period of action A), as well as the evidence of its effects (period of action C), explain the preference for these periods of action over the discomforts and uncertainties (whether real or perceived) developed in the time frame of period of action B, thus positioning it as the least preferred period of action. However, in pairwise comparison, the urban transformation process influences the evaluation of the periods of action. The schedule of execution of different construction works on public spaces has conditioned the availability of green areas, renewed urban land and pedestrian areas, among other criteria used in the analysis, thereby exerting positive or negative influences depending on the time frame established for each period of action. In this case, this allows us to explain the preference for period of action B over C in the pairwise analysis. Specifically, the green area has been significantly altered by changes in decision-making, with the execution of the new public transport interchange (which has conditioned the loss of a green area in favour of this infrastructure) influencing the available area among periods of action and ultimately the preference for period of action B over C.

However, as indicated, in the overall evaluation, period of action C stands out in criteria linked to employment, RevPAR and quality of life, which are evident positive consequences of the effects generated by the measures implemented. Nonetheless, the vulnerability of the consensus shows a significant Negative Flow in period of action C. This is explained by variations in the weight and role of different agents between the measures' design and execution phases. This divergence is evident in the clusters generated from their similarity, in which we can distinguish three groups of agents with high, moderate and low similarity, where low similarity highlights the importance of agents who diverge from the majority, thus reducing equity in the plan's development.

The consensus vulnerability analysis underscored the complexity of stakeholder preferences, revealing that periods of action A and B were the most favourable, with equal Positive Flow and no Negative Flow. This suggests that these periods of action were perceived by stakeholders as offering balanced benefits across different evaluation criteria. Conversely, period of action C faced significant Negative Flow, indicating substantial concerns or drawbacks as perceived by the stakeholders.

The equity analysis provided deeper insights into how different stakeholder groups perceived the renovation periods of action. The dendrogram showed high similarity in preferences among most groups, particularly favouring period of action B, which was generally identified as preferable. This alignment suggests a broad consensus that could facilitate smoother implementation of renovation initiatives. However, the analysis also highlighted divergent preferences from groups like G8 (ADEP) and G11 (San Telmo Taxi Cooperative), indicating unique concerns that may require targeted attention to ensure inclusive and equitable decision-making.

The findings underscore the importance of adopting integrated assessment methods in policy and planning for urban renewal projects. Policymakers and planners should incorporate both MCDM and participatory approaches to ensure that diverse stakeholder perspectives are considered, leading to more legitimate and widely accepted decisions. Engaging stakeholders throughout the process not only enhances the legitimacy of the projects but also increases the likelihood of outcomes' successful and sustainable implementation.

7. Conclusions

The integrated assessment of the renovation of mature touristic destinations using MCDM and participatory approaches has demonstrated the effectiveness of this framework in incorporating diverse stakeholder perspectives. This approach has identified the major impacts of the renovation process of Puerto de la Cruz, highlighting the value of combining quantitative and qualitative data in the decision-making process.

The findings highlight that one of the main challenges in executing public policies is aligning expectations with results within an acceptable time frame as well as addressing the difficulties in the implementation phase, which can lead to divergences in the consensus among the involved stakeholders. In this sense, consensus among stakeholders has become a primary resource for all public policy, as it provides democratic legitimacy for public intervention processes (Knoepfel *et al.*, 2007). The MCA revealed significant insights into the performance of various renovation periods of action: period of action C (2020–2022) emerged as the best-performing option overall, reflecting the highest degree of preference and the least non-preference among stakeholders. This period of action's success can be attributed to its balanced approach across economic, social and environmental dimensions. Notably, specific criteria such as employment, urban renewal and quality of life were pivotal in its high ranking.

Regardless of the level of consensus during the planning phase and the definition of appropriate procedures and objectives, maintaining consensus during the implementation and management phase is essential for the operability and optimization of the results. In this sense, various studies have revealed the existence of different problems and obstacles in the implementation of public policies (Younis, 1990; Johnsen, 1999; Fletcher, 2000).

One of the most important challenges is defining robust governance structures that maintain the process's operability. These structures can be weakened by the segmentation and disaggregation of the involved agents once initial consensus is reached in the policy design phase. Key findings include:

1. Effectiveness of MCDM methods: The use of NAIADDE allowed for a comprehensive evaluation that integrated both qualitative and quantitative criteria, facilitating a balanced assessment of renovation periods of action;
2. Stakeholder engagement: Participatory approaches were critical in capturing diverse stakeholder perspectives, ensuring that the renovation strategies were inclusive and addressed the concerns of various groups;
3. Preference for recent strategies: The recent strategies (period of action C) were generally preferred, indicating successful integration of sustainability and economic development practices in the latest renovation efforts;
4. Need for targeted interventions: Although there was broad consensus among most stakeholders, specific groups with divergent preferences highlighted the need for targeted interventions to address unique concerns and achieve broader acceptance.

Policymakers should consider adopting integrated assessment frameworks to guide the renovation of touristic destinations. This approach ensures a comprehensive evaluation of various criteria and stakeholder preferences, thereby promoting sustainable tourism development. The alignment of stakeholder preferences around environmentally sustainable and infrastructure-focused periods of action suggests that these should be key priorities in future urban renewal projects.

One of the key strengths of this study is the effective integration of quantitative and qualitative data, which provided a holistic assessment of the renovation periods of action. The participatory approach fostered greater acceptance and support among stakeholders, thereby enhancing the implemented analysis. However, the study's scope was limited to a single destination, which may limit the generalizability of the findings to other contexts. Future research should apply this integrated framework to various types of touristic destinations to validate its broader applicability. Another limitation is that no in-depth analysis was conducted of the reasons for the failure of plans approved and implemented prior to the period analysed. This would have allowed for strengthening the discussion and interpretation of the results.

Likewise, the research covers two gaps in the scientific literature. Although there is a large amount of literature that studies tourist destinations using multi-criteria analysis methodologies, it has focused on the competitiveness of tourist destinations (Carayannis *et al.*, 2018; Ramos *et al.*, 2024), on the definition and prioritization of tourism development strategies (Kisi, 2019; Cvetkovic *et al.*, 2023), on the impact of tourism development on the sustainability of the territory (Wang *et al.*, 2016; Işık and Demir, 2017; Araya *et al.*, 2023), or on the limits to growth (Navarro *et al.*, 2012), among other topics. However, there is no literature that analyses the renewal of tourist destinations from a multi-criteria perspective, so this research represents an interesting contribution that covers this deficiency. On the other hand, there is little literature that applies multi-criteria analysis methodologies in mature tourist destinations, with some exceptions (Navarro *et al.*, 2012; García and Bakhat, 2021), which implies deepening the analyses on this type of tourist destinations.

Researchers should employ rigorous training and preparation, develop clear interview guides, and adopt reflective practices to ensure the reliability and validity of their findings. Research robustness can also be enhanced by combining in-depth interviews with other qualitative methods, such as focus groups or participant observation (Flick, 2014). It is also important to acknowledge some limitations of surveys. The quality of the data they collect depends on the respondents' willingness and ability to provide accurate and thoughtful answers. Response biases, such as social desirability bias or non-response bias, can affect the validity of research findings based on survey data (Groves *et al.*, 2009). Despite these challenges, careful survey design and implementation can mitigate many of these issues, ensuring the collection of reliable and meaningful data. Surveys' ability to engage diverse populations, provide a platform for community voices, and capture detailed qualitative data makes them indispensable in socio-environmental research. By leveraging the strengths of surveys, researchers can gain a deeper understanding of the social dimensions of environmental challenges, ultimately contributing to more effective and inclusive policy-making.

The consensus analysis illustrates that technical quality alone is not enough: even well-designed plans can falter if implementation alienates key stakeholders. Maintaining consensus requires: (1) Flexible, polycentric governance, allowing for ongoing negotiation and adjustment; (2) Transparent communication about timelines, delays, and expected disruptions; (3) Early warning systems (e.g., feedback tools) to detect emerging dissatisfaction.

Ultimately, the study demonstrates that integrated assessment frameworks should not only rank options but also map out the social terrain of conflict and cooperation. By identifying where and why

divergence occurs, planners and decision-makers can pre-empt resistance and design more resilient, legitimate renovation strategies.

The integration of MCDM and participatory approaches represents a significant advancement in the field of tourism renovation: By fostering stakeholder engagement and combining diverse data sources, this framework enhances the decision-making process, ultimately contributing to the sustainable revitalization of mature touristic destinations. Researchers and practitioners should continue to develop and refine these integrated methods to address the evolving challenges and opportunities in sustainable tourism development. By employing rigorous methods and ensuring comprehensive stakeholder engagement, future studies can build on the findings of this research to further enhance the effectiveness and inclusivity of urban renewal projects in touristic destinations. This approach not only benefits the immediate stakeholders but also contributes to the broader goal of sustainable and responsible tourism development.

In conclusion, this study demonstrates that combining MCDM methods with participatory approaches can effectively navigate the complexities of renovating mature touristic destinations, thus ensuring sustainable development that aligns with the needs and preferences of diverse stakeholders. Future research could further refine these methods and explore their application in other contexts to validate and enhance their utility in urban and regional planning. Future studies should also explore the integration of additional MCDM methods and participatory techniques to further refine and enhance decision-making processes. Comparative studies across different destinations can provide valuable insights into the adaptability and effectiveness of the integrated approach. Finally, addressing the concerns of stakeholder groups with divergent preferences (such as G8 and G11 in this study) can aid in developing more inclusive and equitable renovation strategies.

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