ISSN: 2658-8455
Volume 5, Issue 4 (2024), pp. 223-239.

IJAFAME
International Journal of Accounting, Finance, Auditing, Management & Economics

Towards sustainable sports tourism: Case of the Atlas and Valleys tourist territory

Vers un tourisme sportif durable : Cas du territoire touristique Atlas et Vallées

Amina AZMI, *(Professor –Researcher)*
Prospective Research in Finance and Management Laboratory (LRPFG)
ENCG, Hassan II University - Casablanca, Morocco

Moulay Youssef EL ALAOUI ISMAILI, *(Professor –Researcher)*
Management, Information and Governance Research Laboratory
Centre d'Orientation et de Planification de l'Education - COPE - Rabat, Morocco

Correspondence address :	Ecole Nationale de Commerce et de Gestion. Casablanca Université Hassan 2 de Casablanca, Maroc Adresse : 2725 Rte des Chaux et Ciments, Casablanca 20250
Disclosure Statement :	Authors are not aware of any findings that might be perceived as affecting the objectivity of this study and they are responsible for any plagiarism in this paper.
Conflict of Interest :	The authors report no conflicts of interest.
Cite this article :	AZMI, A., & EL ALAOUI ISMAILI, M. Y. (2024). Towards sustainable sports tourism: Case of the Atlas and Valleys tourist territory. International Journal of Accounting, Finance, Auditing, Management and Economics, 5(4), 223-239. https://doi.org/10.5281/zenodo.10939320
License	**This is an open access article under the CC BY-NC-ND license**

Received: February 27, 2024 *Accepted: April 09, 2024*

Towards sustainable sports tourism: Case of the Atlas and Valleys tourist territory

Abstract

Rural populations, often poor and isolated, are highly dependent on their survival of the ecosystems in which they live. Thus, in order to meet the complex challenge of simultaneously combating poverty and degradation of nature, it is essential to find the appropriate institutional arrangements to make the use of resources more sustainable.

Under the impetus of institutions, entrepreneurs and civil societies, many developing countries embrace the new sustainable development paradigm and, in this context, sport tourism, considered as solidary and responsible, but at the same time one of the components of the tourism sector, the world's largest growing sector, and seen as a new way of sustainable use of ecosystems.

For the Atlas and Valleys destination, it is legitimate to consider the existence of an optimum to reconcile the tree key metaphors of sustainable sports tourism: valorization of environmental conservation, equitable contribution to Economic development and taking into account and responding to the needs of host communities.

This work is looking to Implement the various of sustainable tourism optimum indicators: environmental, human and economic, specific to the Atlas and Valleys destination, and propose calculation methods to operationalize these indicators through an empirical study of this destination. That will make sustainable sport tourism research strongly permeated by the knowledge economy and highly useful for sustainable development, which will undoubtedly facilitate the task of decision makers and guide their actions in the right direction.

Keywords: Sport tourism, Optimum, Sustainable development, Shared wealth.
JEL classification : L83, Z20
Item Type: Empirical research

ISSN: 2658-8455
Volume 5, Issue 4 (2024), pp. 223-239.

IJAFAME
International Journal of Accounting, Finance, Auditing, Management & Economics

1. Introduction

The harmonious development of territories relies on the consideration of social, economic, and environmental dimensions, as well as the involvement of the population in decisions shaping its future. Since the Rio Conference in 1992, sustainable development has emerged as a model that respects these principles of balance, meets the fundamental needs of populations, and fosters solidarity among territories. The Johannesburg Summit in 2002 emphasized new proposals to ensure that the commitments made in Rio are respected and translated into all public policies. Consequently, our country has defined a national strategy for sustainable development and established an interministerial structure to drive this approach forward.

The development of outdoor physical and sports activities places them at the forefront of sustainable development concerns. Practiced by a significant portion of the global population, these activities are both an essential component of public policies for territorial planning and development, and an opportunity to bridge urban and rural logics. A true phenomenon of contemporary societies, these sports and leisure activities invent new ways of experiencing natural, rural, forested, mountainous, or coastal sites. The forms of this growing visitation exhibit contradictory aspects, such as a fierce pursuit of autonomy versus the need for security, the demand for quality natural environments versus the intensity of visitation, and even the exercise of individual freedom versus respect for others' property.

Field professions, whether rural, pastoral, or forestry, are adapting to this new social demand and offering tourist products where nature sports and recreational activities sometimes play a predominant role.

This work presents the results of a study conducted in central Morocco concerning the application of the concept of sustainable tourism optimum in implementing a strategy to promote sports tourism ensuring the sustainability of tourist developments in the Atlas and Valleys destination, qualified as both attractive and vulnerable.

With several tourist assets, including its landscape, climate, biodiversity, culture, and the authenticity of its population, the Atlas and Valleys destination has embarked on the development of its tourism sector within the framework of the "Tourism 2020" vision presented by the SMIT (Moroccan Society of Tourist Engineering) in 2011, thus reinforcing the strategy of advanced regionalization advocated by Morocco (Article 1 of the 2011 constitution).

There are several approaches to sustainable tourism, to which all stakeholders in territorial development have committed, including the state, regions, local authorities, and professionals. Leroux (2008) and Leroux and Pupion (2006) distinguish three main components of sustainable tourism: the preservation of the natural environment, equitable contribution to economic development, and satisfaction of the needs of the host population.

This article draws inspiration from the work proposed by Lozato-Giotart (2003) on the concept of Sustainable Sports Tourism optimum. Indeed, "tourism was always considered an inexact science, as it has hardly integrated scientific parameters during its development." Aware of the need for applied tourism engineering, Lozato-Giotart proposes the use of a kind of "toolbox," both scientific and pragmatic, useful for finding balanced solutions, particularly among the three aforementioned meta-principles.

The results of this study seek to highlight the way in which the notion of sustainable sports tourism is understood by those involved in this activity, since each actor gives more importance to a metaprinciple according to their own interests with regard to this new form of alternative tourism. The DPSIR model allowed us to get closer to the optimal situation allowing each sustainable sports tourism project implemented in Atlas and Valleys tourist territory to reconcile the economic objective of this activity, with the social, and environmental objectives. This study will serve as a road map allowing, firstly, future researchers to generalize it by seeking the optimum for sustainable sports tourism projects or those of sustainable tourism implemented in

other tourist territories in Morocco, and then to decision-makers to put in place action plans concerning the development of this activity in a sustainable spirit.

1. Literature review

This part will be devoted to the presentation of sustainable sports tourism, as well as the context chosen for this study.

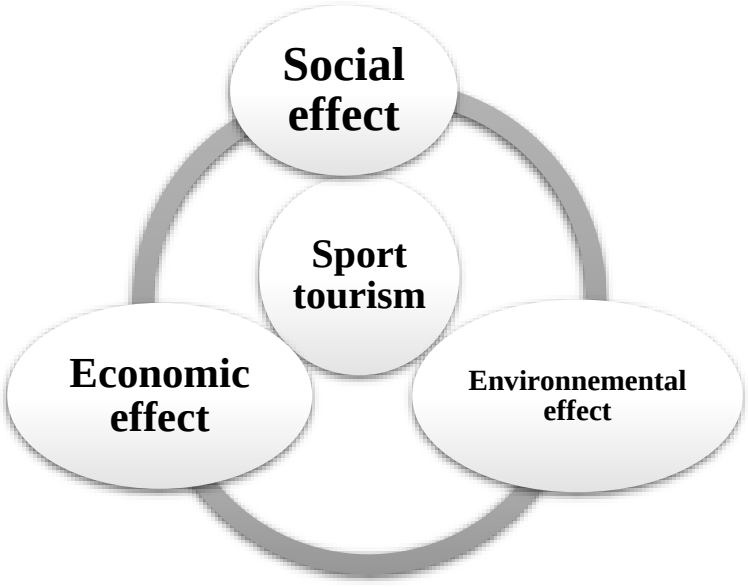
2.1. Sport, Tourism, and Sustainable Development

Over the past two decades, sports tourism has experienced significant growth and diversification. It is now sought after by many people worldwide, either on an occasional or regular basis, individually or in groups. This surge greatly contributes to the attractiveness and development of territories and the creation of jobs.

The main objective of sports tourism remains to best combine tourist, educational, and leisure approaches, taking into account concerns related to territories as well as the role of local populations in shaping the offer. Numerous studies have been conducted on both customer expectations and the professions and jobs involved. A new comprehensive approach focused on the destination is necessary with the aim of involving local authorities and the sports movement more actively.

It is therefore important to quantify and qualify the offer of nature-based sports activities and its economic and social impact on territories, notably by measuring direct and indirect economic benefits. These include the consumption of sports services from both commercial and non-commercial sector structures, consumption of tourism services (such as dining, accommodation, transportation) by practitioners and their companions, the impact on traditional economic activity (food and non-food retail), as well as the consequences in terms of employment, professionalization, multiple job holding, etc.

Figure 1: The impact of sports tourism on sustainability



Source: Realized by ourselves

The impact of sports tourism on sustainability is multifaceted and can be both positive and negative, depending on various factors such as planning, management, and implementation.

ISSN: 2658-8455
Volume 5, Issue 4 (2024), pp. 223-239.

IJAFAME
International Journal of Accounting, Finance, Auditing, Management & Economics

The Atlas and Valleys destination holds strategic significance, not so much for its relatively modest demographic and economic weight, but for its increasingly assertive dual role. Firstly, it plays a vital role in the organization of the national territory, secondly.

2.2. Presentation of the atlas and valleys tourist territory

The "Atlas and Valleys" tourist area is located in the center of the country. It is bordered to the north by the Morocco Mediterranean territory, to the southwest by the Souss Sahara Atlantic territory, to the west by the Marrakech Atlantic territory, to the northwest by the Central Atlantic territory, and to the east and southeast by Algeria. It covers an area of approximately 162,035 km², which represents 22.8% of the national territory. This territory consists, as already mentioned, of nine tourist destinations, namely: Midelt, Errachidia, Ouarzazate, Tinghir, Zagora, Figuig, Béni Mellal, Azilal, and Fquih Ben Saleh.
It boasts unique neighboring spaces characterized by geological and paleo-anthropological curiosities, watercourses, high-altitude valleys, and preserved traditions. These factors establish it as the flagship emerging destination for rural tourism and sustainable development in the Mediterranean region.

2.2.1. Territory Objectives within the Framework of the 2020 Vision

An additional lodging capacity of 10,600 beds is to be developed to accommodate the 1.8 million tourist arrivals expected by Morocco. It is noteworthy that, for the Atlas and Valleys tourist destination, domestic tourism remains the primary source market throughout the year. (Out of a total of 162,774 registered tourists in 2014, domestic tourists represent 69%, or 112,182 tourists).

2.2.2. Target Audience

The target consists of three segments: adventurous conformists, adults seeking new destinations and cultures, luxury backpackers - experienced travelers highly focused on discovery and exploration, preferring to visit emerging countries, and seniors in search of adventure aiming to "make up for lost time" by discovering new countries.

2.2.3. Product Positioning

The Atlas and Valleys destination is positioned as green, with green resort projects, integrated tourist destinations in natural settings fully respecting their immediate environment. These destinations are located near bodies of water and offer structured accommodation, services, and leisure activities, including hiking, excursions, climbing, horseback riding, and other fishing and water sports activities. The natural and cultural heritage is also highlighted, notably through the reconversion of certain dwellings in Ouzoud and Tadla (areas located at the heart of the Atlas and Valleys tourist destination) into high-standard authentic accommodations. Additionally, emphasis is placed on the experience of staying with locals by developing a network of authentic and ecological tourist offerings. Animation is also present with the creation of theme parks such as the Dino Park in the municipality of Sidi Boulkhlef in Azilal, developed around the concept of dinosaurs and notably featuring species discovered in Morocco.

2.3.Towards an Optimum of Sustainable Tourism Applicable to Sports Tourism at the Atlas and Valleys Destination

According to Lozato-Giotart (2003), the success of a tourist destination can lead to its demise. Indeed, the presence of a large number of tourists in a geographic area harms nature and negatively impacts the daily lives of the host population. Therefore, Lozato-Giotart conceived

the concept of the sustainable sports tourism optimum in 2003, which represents the point of balance allowing for optimal tourism development.
The sustainable sports tourism optimum signifies the barycenter or point of equilibrium enabling the integration of the three components: economic, social, and environmental, into tourism development strategies. This tourism development will affect the tourist offering of the Atlas and Valleys destination to adapt it to the expectations of adventurous tourists while ensuring the sustainability of the sector.

The application of the optimum concept to sustainable sports tourism involves combining the various aforementioned aspects and principles. This equilibrium can be expressed through the following function:

OPT = f (E, S, V)

Where:

OPT: Sustainable sports tourism optimum;
E: Economic component;
S: Social component;
V: Environmental component.

The determination of this optimum is contingent upon defining relevant indicators for each of the selected components. This will involve studying the impact of sports tourism on the environment, ecosystem, total population (purchasing power, satisfaction of needs, education, etc.), and local economy (infrastructure, investment, etc.).

3. Methodological Concerns

To conduct this research effectively, it seemed appropriate, in a first phase, to employ a qualitative approach to better assess the conception of sustainable development as expressed by experts in the Atlas and Valleys destination. Data were collected through semi-structured interviews (conducted in French, Arabic, and Berber) with key officials in public administrations of the said destination (prefecture, municipality, tourism delegation, youth and sports delegation, national water and electricity office, etc.), professionals in the tourism sector (guesthouse owners, restaurant managers, tourist guides, etc.), local government officials (statistical service, etc.), association leaders (ASIDD association, AHANSAL association, etc.), and educators (polydisciplinary faculty, Sultan Moulay Slimane University, etc.).
These interviews were partially translated and transcribed into Word format for subsequent analysis using textual statistics through the software "INVIVO," tailored to this type of approach. In a second phase, based on the expected results of textual analysis, a second survey was conducted to identify appropriate measurement indicators for each component, to be used in measure the impact of sports tourism on the three principles of sustainable development, namely the economy, society and the environment, and in determining the desired optimum. To do this, we opted for the DPSIR model: **Driving Force, Pressure, State, Impact, Response.**
To describe all these complex interactions, the D-P-S-I-R model (Driving forces - Pressures - State - Impacts - Responses) is a tool developed for decision-makers and particularly effective in this regard.
It is structured according to the five DPSIR elements mentioned above, all connected by causality links: a driving force, meaning a human activity, causes pressure on the environment, which results in a change in the general state of the environment that may have an impact on heritage, humans, etc. Depending on the severity, society will react and elicit a response. This fifth element, the "responses," encompasses all the measures and policy instruments implemented by civil society to ensure the protection of individuals in terms of air quality,

ISSN: 2658-8455
Volume 5, Issue 4 (2024), pp. 223-239.

IJAFAME
International Journal of Accounting, Finance, Auditing, Management & Economics

integrated with other policies. They address the other four elements: preventive measures directed towards driving forces, corrective measures towards Pressures and the State, and palliative measures towards the State and the Impact.

Table 1 : The interviewees

Coded	Professional statuts	Years of expérience	Duration of the interview
MM1	Tourism delegate for Province, Zagora and Tinghir	26 Years	25 mn
ZB	Delegate of the Ministry of National Education, Preschool and Sport Province Ouarzazate, Zagora and Tinghir.	18 Years	25 mn
MT	Former Director of (CPT) Ouarzazate and tour operator	09 Years	25 mn
MM2	Tour operator à Ouarzazate.	11 Years	20 mn
YH	Owner of the ecolodge on the island of Ouarzazate	08 Years	20 mn
HK	Director of Institute of Hotel and Tourism Technology of Ouarzazate.	14 Years	25 mn
AF	Director of the International Higher Institute of Tourism of Tangier (ISITT)	15 Years	30 mn
MM3	Secretary general of the Moroccan association of tourism experts and scientists.	19 Years	20 mn
AM	Teacher-researcher at the Salé national sports center.	18 Years	20 mn
HA	Senior consultant in sustainable development and tourism.	12 Years	20 mn
KH	Responsible for supporting tourism businesses within the Ministry of Tourism.	11 Years	20 mn
GA	Environmental File Manager, Ministry of Tourism.	16 Years	20 mn
KM	Director of the specialized institute of hotel and tourism technology in Mohammedia.	10 Years	20 mn
HB	Owner of Riad Bouchedor in Ouarzazate.	07 Years	20 mn
HM2	Tourist guides Ouarzazate.	12 Years	20 mn
MH	Teacher researcher, specialist in sports tourism and tourism geography.	24 Years	20 mn

Source: Realized by ourselves

We want to measure the degree of necessity of the indicators for the project. Therefore, the analysis grid was presented in the form of an interview guide, accompanied by the indicator grid established from the collection of indicators already used by global organizations

specialized in the evaluation of sport and tourism projects. The interview guide consists of 31 open-ended questions distributed as follows:

Table 2: Structures of the questions forming the interview guide

Contents	Number of questions
General questions	6 questions
Questions about growth assessment	6 questions
Questions about environmental sustainability assessment:	5 questions
Questions about social equity assessment	8 questions
Questions about ethics and architecture assessment	5 questions
Question about expert identity	1 Question

Source: Realized by ourselves

The application of the optimum concept to sustainable sports tourism involves combining the various aforementioned aspects and principles. This equilibrium can be expressed through the following function:

OPT = f (E, S, V)

Where:

OPT: Sustainable sports tourism optimum;
E: Economic component
S: Social component
V: Environmental component

4. Research Findings

Initially, the study focused on the tourist destination of the Atlas and Valleys before expanding to cover the rest of the national territory.

4.1.Exploratory Study of the Atlas and Valleys Destination

The working method involves inputting the full text (corpus) into the software and measuring the degree of repetition of certain predefined keywords programmed a priori. These keywords refer to the three principles of sustainable sports tourism optimum mentioned earlier. This approach facilitates the detection of indicators through which the interviewed experts conceive sustainable development. Several other software programs are adapted to this type of approach, including the Hierarchical Descendant Classification (CDH) method and Correspondence Factor Analysis (AFC).

The results distinguish the following three classes:

The first class deals with the environment of the Atlas and Valleys tourist destination: The sports tourist consumes and produces. They consume space through the facilities they use, water for their vital and sanitary needs as well as for infrastructure maintenance, and energy for their activity and comfort. They produce waste and multiple pollutions and nuisances through their nutritional and material needs necessary for their leisure activities. The impact of sports tourists on the environment is thus measurable and quantifiable. The practice of sports activities, like any human activity, leaves an ecological footprint; a footprint that depends on numerous parameters such as the nature, needs, and scope of the sport. Significant phrases were extracted for maintenance, such as: (public and private actors must ensure the protection of the environment, especially fauna, biodiversity... combat pollution... preserve water... use

ISSN: 2658-8455
Volume 5, Issue 4 (2024), pp. 223-239.

IJAFAME
International Journal of Accounting, Finance, Auditing, Management & Economics

renewable energy...). This has led to the identification of key terms including pollution, biodiversity, birds, water, and fauna.

Class -1- Environmental Component	
Key Terms	**Frequency**
Environment	73
Pollution	48
Waste	66
Water	120
Birds	32
Biodiversity	33
Organic	17
Renewable energy	41
Total	**430**

Source: Realized by ourselves

The second class deals with the economic environment, namely the state of demand and its impact on the local economy of the Atlas and Valleys destination. Indeed, a sports enthusiast tourist is always willing to spend more during their trip than they do in their daily life; therefore, the host locality must provide them with the necessary infrastructure, equipment, materials, etc. It remains to measure the multiplier effects generated by investment expenditures on local economic growth. Keywords extracted include crafts, dependency, household income...

Class -2- Economy Component	
Key Terms	**Frequency**
Income	76
Investment	83
Innovation	20
Craftsmanship	93
Commerce	68
Dependency	23
Total	**363**

Source: Realized by ourselves

The third class pertains to the social aspect, which is the correlation between sports tourism and the improvement of living conditions for the population of the Atlas and Valleys destination. In other words, it involves determining the degree of contribution of adventure tourists, both quantitatively and qualitatively, to the development of the host society, particularly in terms of poverty alleviation, education promotion, and training. Keywords extracted include poverty, discrimination, school dropout...

Class -3- Social Component	
Key Terms	**Frequency**
Poverty	103
Distribution	53
Discrimination	74
Rural exodus	57
Delinquency	30
School dropout	63
Total	**380**

Source: Realized by ourselves

The data analysis above has shown that the population of the Atlas and Valleys destination is aware of the concept of sustainable development, albeit with some variation in the importance attributed to each component. Building on these results and through semi-structured interviews with other stakeholders (experts) in the tourism sector and within the youth and sports delegation, several measurement indicators for the three components of sustainable sports tourism have been identified.

The data processing above has demonstrated that the population of the tourist destination of Atlas and Valleys tourist territory is aware of the importance of sustainable sports tourism despite some differences in the importance attributed to each component. In the following table, we attempted to assign a coefficient (from 1 to 3), in ascending order compatible with the importance attributed by the surveyed tourism and sports experts, to each meta-principle of sustainable sports tourism. The importance attributed by the experts to each meta-principle reflects the frequency level of its components in the conducted interviews.

Table 3: Coefficients for each meta-principle

Meta-principle	**Frequencies**	**Coefficient**
Environmental Component	430	3
Social Component	380	2
Economic Component	363	1

Source: Realized by ourselves

Based on these results and through semi-directive interviews with other stakeholders (experts) in the tourism sector, several indicators for measuring the five components of Sustainable Sports Tourism have been identified.

4.2. Measurement Indicators for the Optimum of Sustainable Sports Tourism

A review of sustainable sports tourism indicators used worldwide was conducted to select those most suitable for the destination chosen in our study. Indeed, from the literature review, we were able to identify a range of 119 indicators already used in the evaluation of sustainable sports tourism projects.

Adapting them to the destination of Atlas and Valleys tourist territory required the use of the Pareto 20/80 method, which involves indicator filtering to prioritize the most important topics. The uniqueness of this method could be advantageous for our study as it is a process that seems suitable for familiarizing decision-makers with sustainable sports tourism assessment.

It should be noted that, for our article, data collection is conducted based on interview guides provided to various stakeholders of the tourist destination of Atlas and Valleys tourist territory. These guides are analyzed according to the Pareto principle, which is a general method for separating any aggregate into two parts: vital problems and more secondary problems. According to this method, an indicator is only approved if it is chosen by 80% or more of the surveyed stakeholders. In any case, the application of the Pareto principle helps identify the properties of strategic problems and separate them. As an illustration, the diagram below presents the result of selecting indicators for measuring the meta-principle of social component (Fig. 2).

This diagram reveals that, among the 10 equity measurement indicators used, only 4 indicators exceed the 80% threshold. This means that only these 4 indicators are most suitable for evaluating equity at the level of sustainable sports tourism projects implemented in the destination of Atlas and Valleys tourist territory.

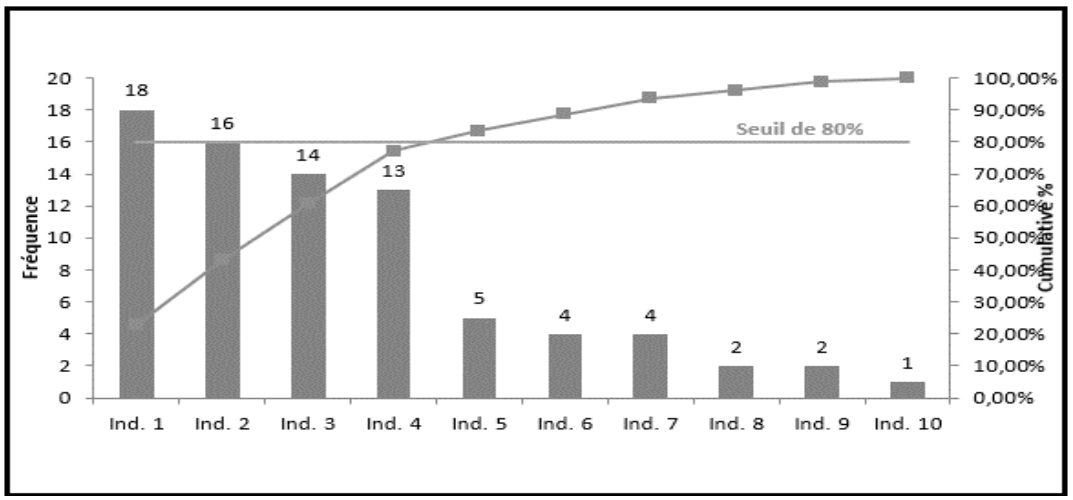
The indicators identified from the literature were proposed to a sample of 16 experts in sustainable sports tourism in Morocco to select those most suitable for the destination of Atlas and Valleys tourist territory. The results of this study led to the selection of 41 indicators (Appendix 1), closely related to the dimensions identified in the exploratory study conducted

ISSN: 2658-8455
Volume 5, Issue 4 (2024), pp. 223-239.

IJAFAME
International Journal of Accounting, Finance, Auditing, Management & Economics

during the first phase of this research and distributed across the five meta-principles of sustainable sports tourism. Among these 41 indicators, 14 indicators grouped into 6 dimensions are used to measure the capacity of sustainable sports tourism projects to ensure sustainable growth, improving both the profitability of stakeholders, the satisfaction of demand, and the improvement of project governance. 12 indicators grouped into 4 dimensions are used to measure the effort made by sustainable sports tourism projects in satisfying social equity and improving the living conditions of hosts. 15 indicators grouped into 5 dimensions are used to evaluate the degree of compliance of Sustainable Sports Tourism projects with the sustainability of the environment and natural resources.

Figure 2: Equity Measurement Indicators within the Same Generation



Source: Realized by ourselves

4.2.1. Economic Indicators

Several indicators were identified at this level, including:

- Proportion of the active population employed in the agricultural sector
- Proportion of tourism activity in the overall activity
- Proportion of sustainable sports tourism in overall tourism
- Share of sustainable sports tourism activities in household income...

These indicators were processed as follows:

Table 3: Economic Indicators

Themes	Driving Force	Pressure	State	Impact	Response
Economic Effects	* Rate of workforce population employed in the tourism sector	* Direction of the population towards the agricultural sector	* Low created wealth; * Subsistence agriculture.	* Rural exodus; * Immigration; * Abandonment of agricultural land; * Loss of purchasing power for farmers	* Revitalization, diversification, and development of sustainable agriculture and livestock; * Development of trades such as horse breeding; * Supplying tourist sites; * Direct sale of local products to tourists.

Source: Realized by ourselves

4.2.2. Social Indicators

- Percentage of female workforce participation

- Ratio of locally created jobs to expatriate jobs
- Percentage of illiterate and unemployed women
- Rate of personnel undergoing training...

These indicators were processed as follows:

Table 5: Social Indicators

Themes	Driving Force.	Pressure	State	Impact	Response
Social Effect	* Rate of female workforce participation.	* Illiteracy; * Domestic work;	* Financial dependency of women.	* Vulnerability of women.	* Various forms of support for the development of women's activities (crafts, cooperatives, etc.) * Campaigns against illiteracy * Access of women to sports activities.
	Ratio of local jobs created to expatriate jobs.	* Significant number of management and middle management positions held by expatriates.	* Emergence and proliferation of unskilled jobs (drivers, cooks, inexperienced guides, etc.) * Unstable working conditions	* Unequal distribution of economic benefits * Seasonal work precariousness and increased unemployment;	* Obligation to reserve at least 80% of available positions for locals * Identifying and locating vulnerable populations * Strengthening professional skills (education and training, sports training, international partnerships, creation of adapted educational materials)

Source: Realized by ourselves

4.2.3. Environmental Indicators

- State of natural spaces
- State of natural resources
- Rate of water consumption by sports tourism
- Percentage of land degraded by human sports activities in the environments...

These indicators were processed as follows:

Table 6: Environmental Indicators

Themes	Driving Force.	Pressure	State	Impact	Response
Environmental Effect	State of natural spaces	* Various uncontrolled discharges (wastewater, waste, etc.)	* Pollution of natural environments	* Disappearance of biodiversity * Contamination of groundwater	* Controlled development of natural space for hiking; * Valorization of biodiversity * Regulation of pollutant discharges
	State of natural resources	* Inconsiderate management of natural resources;	* Waste of non-renewable resources (land, water, etc.)	* Low dam filling rates; * Overexploitation of groundwater	* Groundwater management for oasis irrigation;

ISSN: 2658-8455
Volume 5, Issue 4 (2024), pp. 223-239.

IJAFAME
International Journal of Accounting, Finance, Auditing, Management & Economics

		* Non-sustainable farming techniques;		* Soil sterilization	* Reappropriation of old irrigation techniques; * Avoiding motorized sports in rivers; * Introduction of sustainable hydraulic structures (drip irrigation, etc.) * Drainage of irrigation water.

Source: Realized by ourselves

4.3. Determination of the Optimum for Sustainable Sports Tourism

The aim is to determine an optimum through a synthetic index using a weighting system. Indeed, the weighting of each dimension concerning each component of the sustainable sports tourism optimum is presented by a coefficient respecting the ascending order which measures the degree of importance attributed by the destination experts to said component, and to be determined according to the frequency of its use in the interviews with stakeholders. On the other hand, determining the weighting coefficient of each component of the sustainable sports tourism optimum according to the total frequency of use of its dimensions in the interviews is carried out using the totals from the tables of the first survey. The sustainable sports tourism optimum does not mean, in any case, equal satisfaction of all stakeholders. However, it is a point where it is impossible to increase the satisfaction of one stakeholder without decreasing that of at least another. This is why evaluating the importance of each meta-principle of the sustainable sports tourism optimum and that of each dimension composing the meta-principle is necessary. The concern about the scarcity of sufficient financial resources to guarantee a positive impact of sustainable sports tourism activity at the Atlas and Valleys tourist destination puts decision-makers in a choice of the priority component allowing to optimize the satisfaction of the stakeholders of said activity. Resorting to an evaluation of the degree of importance of each meta-principle of the sustainable sports tourism optimum, using the weighting method, remains, among other things, one of the solutions adapted to the specificities of the destination under study.

Based on the results derived from the DPSIR model, we observe that the most satisfying interactions for sustainable sports tourism projects in Atlas and Valleys tourist territory are those where tourists take part. This can be explained by the stakeholders' willingness to promote the establishment of ethical rules to ensure the success of the interaction between the local population and visitors, thus maintaining an exchange between them in total respect of mutual convictions. Cultural riches constitute a competitive advantage for Atlas and Valleys tourist territory, and their preservation is the responsibility of all stakeholders. However, while tourists may integrate the sustainability of local heritage into the success criteria of their sustainable sports tourism experience, this is not necessarily the case for hosts and stakeholders. Firstly, due to a lack of financial resources dedicated to covering conservation expenses, and secondly, due to the absence of the notion of common good in the local culture. The preference for the present prevails over the pursuit of the future. Nevertheless, stakeholders' awareness and individual initiatives from hosts regarding preservation efforts pave the way towards a favorable future, where the sustainability of heritage will constitute the major challenge to overcome.

The satisfaction of the local population with sustainable sports tourism activity in Atlas and Valleys tourist territory leaves much to be desired. While heritage plays the role of savior, providing locals with goods and services capable of generating stable income, the contributions of tourists, and to a lesser extent, stakeholders, remain distant from their expectations. This is

due, among other reasons, first, to informal activities and employment, and secondly, to the marginalization of the local community from any consultation regarding the development of sustainable sports tourism activity in this destination. The goal of sustainable sports tourism projects to achieve equity remains utopian at this embryonic stage of sustainable sports tourism in Atlas and Valleys tourist territory. In conclusion, sustainable sports tourism projects implemented in the destination of Atlas and Valleys tourist territory are far from reaching the optimal situation, allowing every stakeholder in the activity to find their own satisfaction without compromising the efforts of the other party to be satisfied. While sustainable sports tourism in Atlas and Valleys tourist territory is, by the conviction of all stakeholders, the quintessential activity of the future, mutual satisfaction of all stakeholders in this industry remains elusive. Sustainable sports tourism activity in this destination is certainly still in its embryonic state, but the intentions of stakeholders promise the development of this type of alternative sport tourism, in total respect of the principles of sport tourism sustainability, namely: growth, equity and sustainability, Achieving the optimum will only be a matter of time if commendable efforts are made by all stakeholders.

5. Conclusion

It is possible to reconcile the economic development of sports tourism with the respect for the parameters of the optimum for sustainable sports tourism and sustainable development. Thus, the development of the Atlas and Valleys tourist destination will be part of a territorial development vision allowing the population of this locality to benefit from the gains provided by its tourism sector through a fair distribution of wealth, to convey a better understanding of the destination, and to enable sports and discovery enthusiasts to view its natural environment from a different perspective.

This study has identified a set of indicators on the components of the optimum for sustainable sports tourism and on the means to operationalize it. To achieve this, we conducted semi-structured interviews analyzed using NVIVO software. The second step aimed, on the one hand, to select the most suitable Sustainable Sports Tourism sustainability measurement indicators for Sustainable Sports Tourism projects in Atlas and Valleys tourist destination. To do this, we used a collection of indicators used globally and conducted a selection of factors using the Pareto 20/80 method, involving 16 tourism and sport experts. On the other hand, we evaluated the capacity of sustainable sports tourism projects to achieve an optimal situation by analyzing interactions among stakeholders of this activity through the DPSIR model.

It should be noted that the different indicators are not fixed; they can be modified and calibrated according to environmental changes and simulations can be performed to test their validity.

References

(1). Bachman, K.F. & Morais, D.B. (2001). Methodological Approaches Used in the Literature. *The Encyclopedia of Ecotourism*. Oxon, UK, New York, NY: CABI Pub.

(2). Baholet, S. (2008). Tourisme durable. Paris : *Direction du tourisme.*

(3). Behnassi, M. (2008). Tourisme durable : fondements, indicateurs et apport au développement des pays du sud. *Revue de Droit et de Sciences Sociales*, Université Ibn Zohr, no1.

(4). Blamey, R.K. (1997). The Search for an Operational Definition. *Journal of Sustainable Tourism*, vol. 5.

(5). Breton, J.M. (2010). Sport, tourisme, environnement et développement local durable (activités récréatives et sportives et protection de l'environnement : le cas du parc

ISSN: 2658-8455
Volume 5, Issue 4 (2024), pp. 223-239.

IJAFAME
International Journal of Accounting, Finance, Auditing, Management & Economics

national de la Guadeloupe. *Revue juridique de l'environnement*, volume 2, page 219 à 230.

(6). Caire, G. & Roulet-Caire, M. (2001). Le tourisme peut-il être un élément de développement durable ?. *Les enjeux du développement durable*, Orcades,

(7). Leroux, E. & Pupion, P-C (2014). Management du tourisme et des loisirs. *Éditions Vuibert*, Paris, 304 pages.

(8). Lozato-Giotart, J-P. (2006). Le Chemin vers l'écotourisme : Impacts et enjeux environnementaux du tourisme d'aujourd'hui. *Editions Delachaux et Niestlé*, Paris, 192 pages.

(9). Nascimento, I., Jolia-Ferrier, L. & boutaud, A. (2008). Un indice pour mesurer la qualité de vie et le bien- être des populations**,** pp.151-168. In : LAZZERI Yvette (S/Dir), Développement durable entreprises et territoires : Vers un renouveau des pratiques et des outils, Éditions l'Harmattan, Paris. 384 pages.

(10). Rivard, S. (2004). Vers une nouvelle Politique touristique du Québec, document de réflexion sur le développement durable du tourisme au Québec, *Forum de l'industrie touristique*, Québec : Tourisme Québec.

(11). Ryan, C. (2002). Equity, management, power sharing and sustainability — issues of the 'new tourism**.** *Tourism Management*, vol. 23, no 1.

Appendix

The final grid of ecotourism sustainability measurement indicators applicable to projects implemented at the destination Atlas and Valleys tourist territory

Table of social components (12 indicators)		
Dimensions	**Variables**	**Indicators**
Fair exchanges	Cost sharing	Infrastructure development stimulated by tourism also benefiting the local poor (directly or through support for other sectors): amount of investments, extension of new infrastructure
	Income generation	Annual profit of ecotourism companies
		Number of ecotourism businesses in the community and percentage of local owners
		Revenus écotouristiques nets revenant à la communauté ;
	Visitor/visited relationships	Percentage of those who believe that they or their family benefit from tourism
Accessibility	Physical access	Access of premises to key sites (percentage of site freely accessible to the public)
		Number of access roads in good condition for tourist use (trails, motorized roads, landing strips, etc.)
	Information	Percentage of visitors receiving information on tourism sustainability practices provided before their visit to the destination
	Job opportunities	Ratio of men / women directly employed by ecotourism activity
		Percentage of indigenous people employed directly by ecotourism companies
Long-term development plan	Strategic planning	Number of agencies integrating tourism sustainability principles into their strategic planning processes
Participation of local communities	Participation in development and management	Number of public/community meetings held with stakeholders, including local periphery communities

Table of economic components (14 indicators)		
Dimensions	**Variables**	**Indicators**
Living conditions	Infrastructure and services	Tourist services available on site (classified by type: accommodation and catering, transport, information and orientation, business, conferences and meetings, etc.)
	Health	Frequency of waterborne illnesses: number/percentage of visitors reporting a waterborne illness during their stay
	Security	Travelers' opinion on the safety of the destination (percentage of those who believe it is dangerous)
Satisfaction	Satisfaction of locals	Level of local satisfaction with ecotourism
	Tourist satisfaction	Percentage of returning visitors
Benefits	Revenue / Profitability	Revenue generated by ecotourism as a percentage of total revenue generated in the community
	Jobs	Number and percentage of jobs in the ecotourism industry that are permanent (compared to temporary jobs)
	Seasonality in tourism	Occupancy rate of approved (official) accommodation per month (peak period compared to low season) and in relation to the total number of occupants during the peak quarter or month
Development in harmony with resource limits	Operations / Efficient operation	Number (%) of tourists satisfied with environmental and cultural experiences
	Development control	Ratio of ecotourists to local population (average and peak period/days)
Responsible marketing	Marketing for sustainable tourism	Percentage of establishments and operators marketing sustainable, sensitive or ecological products or experiences
	Image protection	Percentage of ecotourists who confirm that the reality corresponds to that which was announced
Integrated management	Sustainable development policies	Existence of a multi-actor tourism plan
	Cooperation	Percentage of tourism businesses that have integrated their goals and objectives into the destination tourism strategy

Table of environmental components (15 indicators)		
Dimensions	**Variables**	**Indicators**
Nature-based tourism	Ecosystem health	Reproductive success rate for selected species
Cultural diversity	Built heritage	General state of monumental, traditional and contemporary heritage
	Activity	Number or percentage of residents who maintain the region's clothing, customs, language, music, cuisine, religion and cultural practices (e.g. change in the number of local residents participating in traditional events)

ISSN: 2658-8455
Volume 5, Issue 4 (2024), pp. 223-239.

IJAFAME
International Journal of Accounting, Finance, Auditing, Management & Economics

Impact management	Water	Water use: (total volume consumed and liters per tourist per day)
	Air and noise	Noise pollution due to engines: visitors perceive annoying engine noises (cars, launches, motorcycles, generators, boats, etc.) in natural areas
	Fauna and flora	Species loss due to tourism souvenirs (percentage of native species used as tourism souvenirs)
	Ground	Percentage of area in eroded condition (may be classified as site disturbance due to compaction from tourism activity, stripping and erosion from other uses such as clearcutting, road construction)
	Landscape	Panoramic evaluation by tourists (perception, questionnaire)
Conservation of natural and cultural resources	Creation of protected areas/zones	Existence of protected area(s) at the destination
	Charge capacity	Number of tourists per square meter of the site (e.g. raw natural area, attractions), per square kilometer of the destination
	Preservation of local culture	Percentage of change in traditional activities and customs (e.g. land use, language, ceremonies, religion, clothing, food, etc.)
Sustainable environmental practices	Waste and sewage treatment	Percentage of tourism (or accommodation) establishments on treatment system(s)
	Energy management	Percentage of energy consumption from renewable resources (destinations, establishments)
	Recycling	Volume of recycled waste (m3) Total volume of waste (m3) (specify by different types)
	Public transport	Percentage of travelers using alternative means of transport (bicycles, walking, other low-energy options)