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Territorial Tourism Resilience in the Post-Earthquake High Atlas: A Conceptual Framework and Territorial Tourism Resilience Index (TTRI), Illustrated with the Cases of Imlil, Aremd, Talat n'Yaaqoub, Amizmiz, and Imi n'Tala, Morocco

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Territorial Tourism Resilience in the Post-Earthquake High Atlas: A Conceptual Framework and Territorial Tourism Resilience Index (TTRI), Illustrated with the Cases of Imlil, Aremd, Talat n'Yaaqoub, Amizmiz, and Imi n'Tala, Morocco

Abstract :

On 8 September 2023, a magnitude-6.8 earthquake struck Morocco's Al Haouz province, killing nearly 3,000 people and displacing roughly 500,000 residents. The disaster fell disproportionately on High Atlas communities whose rural economies depend on trekking and mountain tourism, yet post-disaster tourism research has generally evaluated sectoral recovery in isolation from the territorial systems, physical, institutional, social, and economic, that determine whether a place actually recovers. This paper develops a Territorial Tourism Resilience Index (TTRI): a six-dimension framework, Physical Territory, Tourism System, Community Capacity, Governance, Economic Performance, and Environmental Resilience, for assessing resilience at the territorial rather than the sectoral scale. Each dimension is operationalised into eighteen field-ready indicators, illustrated using verifiable secondary data across five High Atlas villages that shared a single shock but diverged sharply in outcome. The comparison shows that physical accessibility and governance coordination, more than tourism intensity alone, explain this divergence, yielding three distinct recovery profiles. These findings inform five territorial-planning recommendations covering road investment, governance coordination, and indicator-based regional planning. Converting the TTRI into a validated, scored index requires the fieldwork specified in Section 4.4.

Keywords: Territorial resilience, tourism resilience, post-disaster recovery, applied geography, regional development, High Atlas, Morocco, composite index.
JEL Classification: Z32; Q54; R11
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1. Introduction

Mountain destinations occupy an uneasy position in disaster-recovery research. They are rural and often under-resourced, yet highly exposed to global tourism markets whose recovery expectations move on a different timeline than physical reconstruction. The 2023 Al Haouz earthquake in Morocco's High Atlas is a case in point. Trekking around Jbel Toubkal, North Africa's highest peak, generates a substantial share of household income in the Ait Mizane valley and surrounding communes. Yet the earthquake's epicentre fell within a few kilometres of two very different places. One had little tourism infrastructure (Talat n'Yaaqoub); the other, Imlil, was one of the country's most tourism-saturated mountain villages. This proximity of sharply different profiles within one affected region makes the High Atlas an unusually clear setting for a question that post-disaster tourism studies rarely ask directly. Does tourism recovery indicate territorial recovery, or can the two diverge?

This paper argues that the two can diverge, and proposes a framework, the Territorial Tourism Resilience Index (TTRI), designed to make that divergence visible and measurable. Recent conceptual work has proposed multidimensional destination-resilience frameworks linking sustainability, resilience, and threat exposure (Tamanine & Houssas, 2023). These frameworks remain analytical rather than operational: they identify relevant dimensions without translating them into field-ready, scorable indicators. The TTRI differs by operationalising six dimensions into eighteen field-ready indicators (Appendix A) that a village-level assessment can use directly. Tourism performance becomes one signal among several, rather than a proxy for the territory's overall health.

The remainder of the paper is organised as follows. Section 2 reviews four literatures, territorial resilience, tourism resilience, applied geography, and regional/territorial development, and identifies the integrative gap the TTRI addresses. Section 3 presents the six-dimension framework, its provisional weighting, and the conceptual model linking shock to long-term territorial development. Section 4 sets out the mixed-methods research design, distinguishing data already available from the primary fieldwork still required. Section 5 introduces the study area and the five case villages. Section 6 compares their documented post-earthquake trajectories. Section 7 discusses why resilience outcomes diverge across otherwise similar villages. Section 8 translates the analysis into territorial-planning recommendations. Section 9 states the paper's limitations and the fieldwork agenda needed to move from framework to validated index. Section 10 concludes.

This applied dimension matters for the institutions actually running Morocco's post-earthquake recovery: the Agence pour le Développement du Haut Atlas, which manages reconstruction, and the ONMT, which tracks tourism performance. Both currently report physical reconstruction and tourism arrivals separately, with no integrated view of which places are recovering as territories rather than only as destinations. Once validated, the TTRI is designed to close that planning gap by giving these institutions one comparable index for sequencing investment across villages, the practical application developed in Section 8.

A note on positioning: this article is conceptual and methodological in the sense used across the destination-resilience literature reviewed below. It proposes and operationalises a framework, and illustrates its discriminating power with real, current secondary evidence, rather than reporting completed primary fieldwork. Numeric TTRI scores are not assigned to the five villages in this paper: Section 4 and Appendix A specify exactly what data collection would be required to do so responsibly, and Section 9 treats this explicitly as the paper's central limitation rather than an incidental one.

2. Literature Review

The framework draws on four bodies of literature that intersect surprisingly rarely in published work: territorial resilience, tourism resilience, applied geography, and regional/territorial development.

2.1 Territorial resilience

Resilience thinking entered human geography and regional science from social-ecological systems research, where it was defined as a system's capacity to absorb disturbance and reorganize while retaining essentially the same function, structure, and identity (Folke, 2006; Walker, Holling, Carpenter, & Kinzig, 2004). Adger (2000) extended the concept to social systems explicitly, arguing that social resilience, the ability of communities to withstand external shocks to their social infrastructure, is closely coupled to, but not reducible from, ecological resilience. Applied to regions and territories, resilience has come to describe three related but distinct capacities: the ability to resist a shock, the ability to recover a prior growth path, and the ability to adapt or transform toward a new development trajectory (Martin & Sunley, 2015; Simmie & Martin, 2010). Pike, Dawley, and Tomaney (2010) and Christopherson, Michie, and Tyler (2010) argue that regional resilience cannot be assessed through a single economic indicator, since a region's capacity to reorganize depends on institutional thickness, labour-market flexibility, and governance capacity as much as on sectoral composition. Davoudi (2012) and MacKinnon and Derickson (2013), meanwhile, caution that resilience can be used uncritically as a policy buzzword that implicitly asks vulnerable places to absorb shocks the state should instead be mitigating. This caution matters upstream as well as downstream. If Community Capacity indicators (Section 3, Table 1) were read as measuring how well a village compensates for weak state provision, the index would quietly reward the state's absence rather than flag it. Section 3.1 therefore treats Community Capacity as one input to be read alongside Governance, not as a substitute for it, and Section 8 carries the same caution into the recommendations, which are framed as public-investment priorities rather than expectations of local self-reliance.

2.2 Tourism resilience

Tourism-resilience research has grown rapidly since the early 2010s and accelerated further after COVID-19. A bibliometric review of Web of Science literature from 2000–2021 identifies five recurring themes: the concept and connotation of tourism destination resilience, its drivers, sustainable-management frameworks, stakeholder perceptions of resilience, and the resilience of tourism-dependent communities specifically (Wang, Yang, Chen, & Han, 2022). The same review flags persistent gaps: the absence of a consensus theoretical framework, limited destination-level assessment tools, and calls to connect resilience thinking to regional development rather than treating it as a purely sectoral concern (Wang et al., 2022), precisely the gap this paper addresses. Community-level case studies reinforce the point: Ruiz-Ballesteros (2011) found, in an Ecuadorian case, that tourism activities can be a decisive influence on community resilience, while cautioning that sustainable outcomes depend on resilient communities rather than the reverse. Biophysical work has linked destination resilience directly to elevation and terrain variables in protected-area settings: Arrowsmith and Inbakaran (2002) found that environmental resiliency in Victoria's Grampians National Park increased systematically with elevation. Qualitative studies of tour-operator and reef-tourism resilience show that perception and coping strategy matter as much as objective damage: Kutzner (2019) found that birdwatching tour operators' coping strategies shaped

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social-ecological resilience as much as the environmental changes themselves, and Biggs (2011) found that human capital, more than exposure alone, determined how Great Barrier Reef tourism enterprises withstood shocks. More recent conceptual work has proposed explicit multidimensional destination-resilience frameworks linking sustainability, resilience, and threat exposure (Tamanine & Houssas, 2023) and reaffirmed, through updated bibliometric analysis, the continuing lack of a widely adopted assessment instrument (Mzali & Belmourd, 2025). The TTRI responds directly to this instrument gap.

2.3 Applied geography

Applied geography supplies the spatial methodology used in Section 6 and specified further in Section 4: accessibility modelling, elevation and hazard-exposure mapping, and the spatial distribution of tourism infrastructure, cooperatives, and NGO activity. Cova and Church (1997) developed GIS-based accessibility modelling to identify communities facing transport-network constraints during hazard response, an approach this paper adapts in Section 6 to explain why road access shapes village-level recovery. Cutter, Boruff, and Shirley (2003) showed that vulnerability to environmental hazards is itself spatially patterned, unevenly distributed even across otherwise similar places, the same logic that motivates comparing five villages that shared a single shock. Weichselgartner and Kelman (2015) argue more broadly that resilience is inherently a geographic question of scale and place, resilience of what, to what, at what scale, which is the spatial perspective the TTRI operationalises at the village level. Together, this literature underlines that resilience outcomes are rarely uniform across a region: they vary systematically with a location's position in the transport network, its elevation, and its proximity to hazard sources. This is the pattern the present paper documents empirically in Section 6, where a single shock (the earthquake) produces markedly different trajectories across villages a few kilometres apart, correlated closely with each village's position on the region's single arterial road.

2.4 Regional and territorial development

Finally, regional-development literature supplies the framework's normative horizon. Pike, Dawley, and Tomaney (2010) and Simmie and Martin (2010) return here for a different purpose than in Section 2.1: there, their work evidenced the multi-capacity nature of regional resilience itself; here, it anchors the normative claim that resilience should feed forward into long-term planning rather than simply be measured after the fact. Resilience is treated in this literature not as a return to a pre-shock baseline but as an input into longer-term territorial planning, investment in connectivity, economic diversification, and governance coordination that leave a region better positioned for the next shock, not merely repaired from the last one. This is the logic embedded in the conceptual model presented in Section 3.2 and in the planning recommendations of Section 8, both of which treat recovery capacity as a stage on the way to long-term territorial development rather than an end state in itself.

2.5 The research gap

Across these four literatures, one gap recurs: *existing studies evaluate tourism recovery but rarely assess resilience at the territorial scale by integrating geographic, social, institutional, and economic dimensions within a single, comparable index.* Post-disaster tourism studies typically report sector-specific metrics, occupancy, arrivals, operator survival; territorial-resilience studies typically omit tourism as a distinct subsystem, or fold it into a generic 'economy' dimension without capturing its particular exposure to demand-side shocks (cancelled bookings, reputational effects)

that have no equivalent in agriculture or manufacturing. The TTRI is built explicitly to close that gap, and Section 6 shows why the closure matters empirically: a tourism-only recovery metric would rank the five case villages very differently, and less informatively, than the six-dimension index does.

3. Conceptual Framework and the Territorial Tourism Resilience Index (TTRI)

Consistent with the gap identified in Section 2.5, the framework was developed prior to, and independently of, data collection, around six measurable pillars. Table 1 presents each dimension, a provisional weighting scheme, the rationale for that weighting, and illustrative indicators; the full operationalised indicator set, with units and planned data sources, appears in Appendix A.

Table 1. Dimensions, weights, and rationale for the Territorial Tourism Resilience Index (TTRI).

Dimension	Weight	Rationale	Illustrative indicators
Physical Territory	20%	Determines baseline accessibility for both aid delivery and tourist flows; the strongest predictor of recovery speed in the case narratives	Road accessibility/travel time to Marrakech; elevation; landslide and rockfall exposure; quality of transport and utility infrastructure
Tourism System	20%	Captures the sector this study is concerned with, without letting it dominate the score	Accommodation capacity; tourist arrivals/overnights; number of registered guides and tour operators; diversification of tourism products
Community Capacity	15%	Reflects endogenous adaptive capacity independent of external aid	Number and turnover of women's cooperatives; local associations; entrepreneurship rate; vocational training; human capital
Governance	15%	Captures institutional coordination, shown to be decisive where tourism capital is absent	NGO presence and coordination; state reconstruction/recovery programmes; public-private partnerships; land-tenure and permitting capacity
Economic Performance	20%	The outcome variable most directly tied to household welfare	Share of household income from tourism; tourism employment; business reopening rate; local value retention
Environmental Resilience	10%	Lower weight reflects a longer time horizon than the other five dimensions	Water-resource security; protected-landscape status; ecosystem/agroecosystem condition; exposure to climate hazards

Source: Authors' own elaboration

Two design choices merit explanation. First, no single dimension exceeds 20% of the total score, including the Tourism System dimension itself: the index is deliberately structured so a village cannot appear resilient on tourism performance alone while scoring poorly on governance or physical accessibility. Second, Environmental Resilience is weighted lowest (10%) not because it matters least in absolute terms, but because its effects operate on a longer time horizon than the other five dimensions and are less likely to explain short-to-medium-term divergence between villages hit by the same acute shock, the phenomenon this paper is primarily built to explain. Both choices are testable, and Section 9 identifies the expert-elicitation exercise needed to test them.

These weights also depart deliberately from two influential precedents in the disaster-resilience literature. The Baseline Resilience Indicators for Communities (BRIC) framework aggregates five sub-indices, social, economic, institutional, infrastructure, and community capital, using equal,

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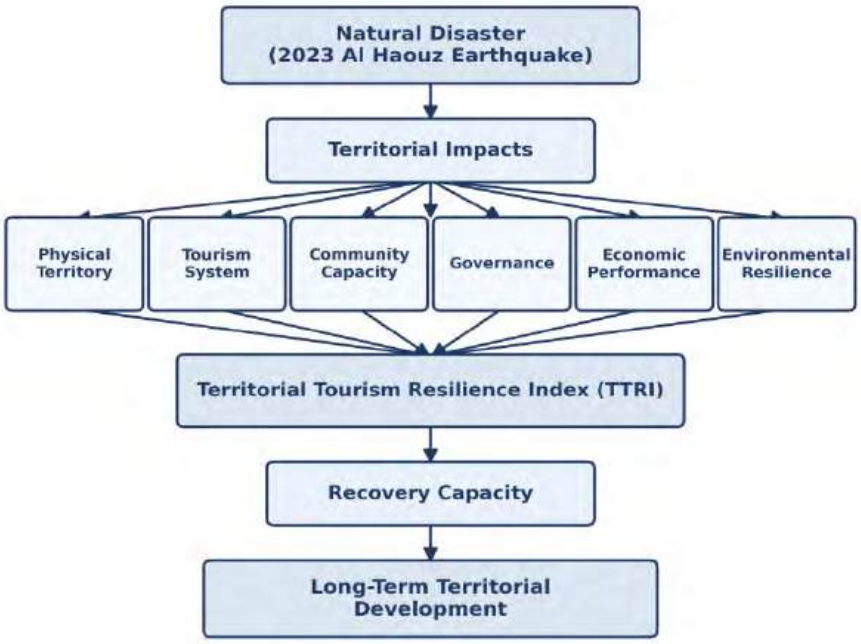
implicit weighting (Cutter, Burton, & Emrich, 2010), on the assumption that no single capacity should be presumed more decisive than another absent case-specific evidence. UNDRR's Disaster Resilience Scorecard for Cities avoids explicit weighting altogether, scoring each of its ten essentials independently rather than combining them into one index (UNDRR, 2017). The TTRI instead assigns differentiated weights because the case narratives in Section 6 show physical accessibility and governance coordination doing more explanatory work than the other four dimensions; equal weighting, applied to this case, would understate exactly the divergence the index is designed to detect. This is a testable choice, not an assumption borrowed uncritically from precedent, and the expert-panel procedure in Section 4.4 is designed to confirm or revise it.

A qualitative sensitivity check reinforces this reasoning. The three recovery profiles identified in Section 7 do not rest on a single dimension: Profile A (Imlil, Aremd) scores consistently high on both Physical Territory and Tourism System, the two most heavily weighted dimensions; Profile B (Talat n'Yaaqoub, Imi n'Tala) scores consistently low on those same two dimensions but relatively higher on Governance and Community Capacity; and Profile C (Amizmiz) sits between the two on most dimensions rather than at either extreme on any single one. Because each profile reflects a consistent pattern across several dimensions rather than a single high-weighted indicator, plausible redistributions of the weights in Table 1, for example, exchanging five percentage points between Governance and Physical Territory, would be unlikely to move a village from one profile to another. This is a qualitative argument, not a formal sensitivity analysis; the expert-panel and Principal Component Analysis procedures in Section 4.4 are the mechanism for testing it numerically once the index is scored.

Figure 1 summarises the causal logic linking the six dimensions to long-term territorial outcomes, following the general pattern established in the regional-resilience literature reviewed in Section 2.4: a shock generates territorial impacts, which the six dimensions jointly determine the region's capacity to absorb and reorganise from (recovery capacity), which in turn conditions the region's longer-run development trajectory.

Figure 1. Conceptual model: from shock to long-term territorial development, mediated by the six TTRI dimensions



Source: Authors' own elaboration.

4. Methodology

4.1 Research design

The study adopts a sequential, mixed-methods design typical of index-construction research in regional science: (i) framework development from the literature (Sections 2–3, complete); (ii) secondary-data compilation to establish a documented baseline for each case village (Section 4.2, complete, reported in Section 6); (iii) primary fieldwork to populate and validate the index (Section 4.3, planned); and (iv) expert-panel weighting to test the provisional weights in Table 1 against field-elicited judgement (Section 4.4, planned).

4.2 Case selection

Five villages within the Al Haouz High Atlas were selected purposively rather than randomly, on the criterion that they share a single, dateable shock (the 8 September 2023 earthquake) while occupying contrasting positions on accessibility, tourism intensity, and governance exposure, approximating, as closely as an observational post-disaster design allows, a natural experiment in territorial tourism resilience. This is a small-N, most-different-systems comparative design (Section 6), suited to identifying which dimensions drive divergence rather than to statistical generalisation; Section 9 discusses the resulting scope limitations. This design approximates a natural experiment but does not achieve one: the five villages differ not only in the earthquake's physical impact but also in pre-existing tourism capital, local governance capacity, and pre-quake poverty levels, differences documented in Section 6 rather than assigned by the shock itself. Amizmiz is the clearest case, entering the earthquake with structural poverty already among the highest in the province (Section 6), which complicates any reading of its subsequent trajectory as a pure effect of the disaster. The design's inferential ambition is accordingly limited to describing documented divergence across cases whose baseline differences are made explicit, not to

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estimating a causal effect of the earthquake net of those differences; Section 9 returns to this as a scope limitation rather than a design flaw to be corrected after the fact.

4.3 Secondary data (compiled for this article)

Secondary sources used to construct the case profiles in Section 6 include Moroccan government reconstruction reporting (High Atlas Development Agency, Ministry of National Territory Planning), Ministry of Tourism / ONMT statistical releases, NGO field reporting (High Atlas Foundation, Global Diversity Foundation, GlobalGiving-listed projects), tour-operator foundation updates (Intrepid Foundation, Epic Travel), and contemporaneous international and Moroccan press coverage (Morocco World News, Yabiladi, ReliefWeb situation reports). All figures cited in Section 6 are dated and sourced in the References; because reconstruction figures were still moving at the time of writing (Section 6 and Table 3), they should be re-verified against the latest High Atlas Development Agency releases before any subsequent submission.

4.4 Primary data collection (planned)

The following instruments are required to convert Table 1 and Appendix A into scored, comparable TTRI values and are not yet fielded:

- Structured household and enterprise interviews (target: 20-30 per village) covering income composition, business reopening status, and reconstruction experience, sampled to include cooperative members, guides, muleteers, and accommodation owners alongside non-tourism households. This target is set above, not at, the range where qualitative research typically reaches saturation: Guest, Bunce, and Johnson (2006) found thematic (code) saturation within the first twelve interviews for a relatively homogeneous group, while Hennink, Kaiser, and Marconi (2017) found that deeper meaning saturation required sixteen to twenty-four. Twenty to thirty per village provides headroom above that threshold for the five distinct household and enterprise subgroups sampled within each village (cooperative members, guides, muleteers, accommodation owners, and non-tourism households), each of which needs to reach saturation individually rather than only in aggregate. Should household data later be pooled across villages for quantitative treatment, a separate power calculation, not the saturation logic used here, would be required and should be specified at that stage, since the two rest on different statistical logics and are not interchangeable.
- Semi-structured key-informant interviews with commune officials, NGO field staff, and cooperative leaders, focused on governance coordination and perceived barriers to recovery.
- Focus groups (2-3 per village) on community cohesion, trust in institutions, and perceived fairness of aid distribution, themes that documented protests over uneven delivery (Section 6) suggest are salient but are not observable from secondary sources alone.
- An expert panel (target: 10-15 specialists in tourism geography, disaster recovery, and regional planning in Morocco) providing pairwise comparisons to test the provisional TTRI weights in Table 1 using the Analytic Hierarchy Process, with Principal Component Analysis run on the resulting indicator set as a robustness check. This target is not undifferentiated: to support the content validity of the AHP weights the panel is designed to elicit, it should draw roughly equally from three constituencies rather than being dominated by any one, indicatively four to five academic researchers in tourism geography, disaster recovery, or regional planning; four to five institutional practitioners

from bodies such as the Agence pour le Développement du Haut Atlas and the ONMT, whose operational mandate the recommendations in Section 8 are addressed to; and two to five representatives of the affected communes or local cooperatives, whose lived exposure to the trade-offs between the six dimensions the other two constituencies lack. A panel weighted too heavily toward any one constituency would risk encoding that group's institutional priorities into the TTRI's weights rather than triangulating across perspectives.

- A GIS layer combining OpenStreetMap road-network data, a digital elevation model, and geolocated NGO project and cooperative sites, to formalise the spatial patterns described qualitatively in Section 7.

Table 2 sets out an indicative timeline for the fieldwork described above, sequencing the five instruments rather than treating them as simultaneous. A full costed budget is outside the scope of a conceptual and methodological paper, but the main resource requirements are a Tashelhit/Arabic-speaking enumerator team, translation and interpretation support, transport across five villages connected by a single arterial road (Section 2.3), and modest participant incentives for the household and enterprise interviews.

Because AHP encodes normative expert judgement about which dimensions should matter, while PCA describes the statistical structure the observed indicators happen to exhibit, the two methods are not expected to agree by construction, and no simple average of their outputs would be meaningful. The reconciliation protocol is therefore procedural rather than mathematical. AHP weights, elicited directly from the expert panel, serve as the TTRI's primary weighting scheme, since the index is meant to reflect deliberate planning priorities rather than to be purely data-driven. PCA is used diagnostically: it flags any dimension whose loading pattern diverges sharply from its AHP weight, a rank-order difference the analysis team pre-registers as material before fieldwork begins. Where such a divergence appears, it prompts a second, focused round of expert discussion on that specific dimension, rather than an automatic revision of the weight, since a statistical pattern in secondary data is not on its own sufficient reason to override deliberate judgement about what should count. Specifying this protocol now, ahead of fieldwork, is intended to prevent it from being adjusted after the fact to fit whichever method produces a preferred ranking.

Table 2. Indicative fieldwork timeline for converting the TTRI from framework to validated index.

Phase	Activities	Indicative timing
1	Secondary-data compilation and GIS layer (Section 4.3)	Complete
2	Ethics committee approval; commune-level authorisation in each village (Section 4.4)	Months 1-2
3	Expert panel: AHP pairwise comparisons and PCA robustness check (Section 4.4)	Months 2-3
4	Household/enterprise interviews, key-informant interviews, and focus groups, fielded village by village	Months 3-7
5	Data cleaning, weight reconciliation (Section 4.4 protocol), and index scoring	Months 7-9
6	Validation workshop with the Agence pour le Développement du Haut Atlas and ONMT	Months 9-10

Source: Authors' own elaboration.

Ethical procedures for this fieldwork should include informed consent in Tashelhit and Arabic, anonymisation of household-level income data, and particular care in interviewing residents of villages still navigating housing reconstruction and, in some documented cases, unresolved inheritance disputes over damaged property (Section 6). This fieldwork would require prior

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approval from the ethics committee of the researchers' host institution (ENCG Fès, Université Sidi Mohamed Ben Abdellah) and, given the post-disaster and cross-border-language context, coordination with commune-level authorities in each of the five villages before any household or enterprise interviews are conducted, consistent with standard institutional review requirements for research involving populations in situations of post-disaster vulnerability.

5. Study Area: The 2023 Al Haouz Earthquake and the High Atlas

At 23:11 local time on 8 September 2023, a moment-magnitude-6.8 earthquake struck at a depth of approximately 19 km, with an epicentre roughly 70 km southwest of Marrakech near the town of Ighil and the Oukaïmeden ski area, in Al Haouz Province (USGS, 2023). The earthquake killed approximately 2,960 people and injured a further 5,674, with Al Haouz province recording the largest share of fatalities (1,684), followed by Taroudant (980) and Chichaoua (202) (ReliefWeb, 2023). Total losses were equivalent to roughly 8% of national GDP, and internal displacement reached an estimated 500,000 people (ReliefWeb, 2023). Damage extended to more than 50,000 homes partially or fully destroyed (Center for Disaster Philanthropy, 2024); the Moroccan government subsequently committed MAD 120 billion (approximately US$12 billion) to a five-year reconstruction, rehousing, and socio-economic development programme covering the affected provinces (Malay Mail, 2023).

The affected zone overlaps substantially with Morocco's principal mountain-trekking region, centred on Jbel Toubkal (4,167 m), North Africa's highest peak, and the villages along the Ait Mizane and neighbouring valleys that serve as trailheads, guide bases, and overnight stops for domestic and international trekkers. This overlap between seismic exposure and tourism dependence is the empirical condition that motivates the present framework: national tourism recovery, Morocco recorded 17.4 million arrivals in 2024 and 19.8 million in 2025 (Trading Economics, 2026, citing Ministry of Tourism data), alongside a national reconstruction-completion rate exceeding 90% in Al Haouz province by the earthquake's second anniversary (allAfrica / Maroc.ma, 2025), does not, by itself, establish that any specific earthquake-affected village has recovered territorially, a distinction Section 6 examines directly.

6. Comparative Village Profiles

The five case-study villages selected for this comparison; Imlil, Aremd, Talat n'Yaaqoub, Amizmiz, and Imi n'Tala, were chosen to represent a spectrum of pre-earthquake tourism development, from Morocco's most established trekking hub to villages with almost no formal tourism footprint. Table 3 compares these villages across four dimensions: their physical position relative to Marrakech and the earthquake epicentre, the severity of earthquake impact they experienced, their tourism profile prior to the disaster, and the recovery drivers observed in secondary sources since. This comparison is intended to surface patterns in how pre-existing tourism infrastructure, physical exposure, and proximity to the epicentre interacted to shape differentiated recovery trajectories across the High Atlas.

Table 3. Comparative profile of the five case-study villages, compiled from secondary sources.

Village	Physical position	Earthquake impact	Tourism profile	Observed recovery drivers
Imlil	End of the tarmac road up the Ait Mizane valley,	Structural cracking and localised damage but no	Morocco's principal mountain-trekking hub;	Pre-existing tourism-funded housing stock; rapid

	~65 km from Marrakech; gateway to Toubkal National Park	building collapse; the village was reachable within days	concentration of guesthouses, mule/guide associations, and the Kasbah du Toubkal eco-lodge	resumption of trekking operators (Intrepid returned 1 December 2023); strong external brand recognition
Aremd (Aroumd)	30-45 minutes on foot above Imlil, in the upper Ait Mizane valley	Amazigh stone construction more vulnerable than Imlil's newer tourism-built housing; historically also flood-exposed	Secondary overnight stop on the Imlil-Toubkal circuit; guesthouse-based community tourism	Spill-over demand from Imlil and guesthouse diversification, offset by higher physical exposure than the valley-mouth village
Talat n'Yaaqoub	Rural commune in Al Haouz, ~2 km from the USGS-located epicentre and ~31 km south of Amizmiz	Among the communes closest to the epicentre; severe structural damage reported in surrounding douars	Limited formal tourism infrastructure; agro-pastoral economy with incidental trekking traffic	Recovery driven mainly by the state reconstruction programme and NGO projects rather than tourism revenue
Amizmiz	Provincial town ~90 km south of Marrakech; historic gateway to High Atlas trekking routes	Town centre heavily damaged; Al Haouz province ranks among Morocco's fifteen poorest provinces even before the quake (HCP, 2024)	Trailhead and support-services town for mountain treks; craft workshops and a boutique-hotel sector	Tent-camp humanitarian response combined with gradual reopening of craft and hospitality businesses; reliance on external NGO support
Imi n'Tala	Remote douar in the Al Haouz High Atlas	Cited in international reporting among earthquake-hit villages still under tents in the weeks after the disaster	Minimal tourism footprint; subsistence agriculture and livestock predominate	Recovery dependent almost entirely on the state's MAD 120 billion reconstruction programme (Malay Mail, 2023) and NGO water/agriculture projects

Source: Authors' own elaboration

The comparison suggests that pre-earthquake tourism development functioned as a significant, if uneven, resilience asset. Imlil's rapid recovery evidenced by Intrepid's return to operations within two and a half months of the disaster appears linked to its pre-existing tourism-funded housing stock and strong international brand recognition, both of which cushioned the shock despite the village's continued exposure to seismic risk. Aremd, immediately upstream of Imlil, illustrates how proximity to an established tourism hub does not guarantee equivalent resilience: its more vulnerable Amazigh stone construction and dependence on Imlil's spill-over demand left it more exposed than the valley-mouth village it feeds into. By contrast, Talat n'Yaaqoub, Amizmiz, and Imi n'Tala; villages with limited or minimal formal tourism economies, show a markedly different recovery pattern, one driven almost entirely by state reconstruction funding and NGO intervention rather than by any tourism-linked resource base. This divide indicates that proximity to the epicentre alone does not determine recovery trajectory; rather, the presence or absence of a functioning tourism economy prior to the earthquake appears to condition which recovery pathway market-driven or aid-dependent a village falls into.

To ensure methodological transparency, Table 3a maps each of the six TTRI dimensions defined in Table 1 to its corresponding set of operational indicators detailed in Table 4, confirming that all eighteen indicators are accounted for without omission or overlap. Table 4 then specifies, for each indicator, its unit of measurement and intended data source for field validation.

Table 3a. Correspondence between TTRI dimensions (Table 1) and operational indicators (Table 4).

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Dimension	Weight (Table 1)	Indicators listed (Table 4)	Count
Physical Territory	20%	Road travel time; elevation; landslide/rockfall exposure; infrastructure quality	4
Tourism System	20%	Registered accommodations; arrivals/overnights; registered guides/operators; product diversification	4
Community Capacity	15%	Active women's cooperatives; local associations; vocational training	3
Governance	15%	NGOs active in village; state reconstruction completion; public-private partnership presence	3
Economic Performance	20%	Household income share from tourism; business reopening rate	2
Environmental Resilience	10%	Water-resource security; protected-landscape status	2

Source: Authors' own elaboration, derived from Table 1 and Table 4.

Table 4. Proposed operational indicators, units, and data sources for field validation of the TTRI.

Dimension	Indicator	Unit/scale	Planned data source
Physical Territory	Road travel time to Marrakech	minutes	OpenStreetMap routing
Physical Territory	Elevation	metres a.s.l.	SRTM/DEM
Physical Territory	Landslide/rockfall exposure	0-5 ordinal	DEM slope analysis + field observation
Physical Territory	Infrastructure quality index	0-5 expert score	Field observation + expert panel
Tourism System	Registered accommodations	count per village	Municipal/ONMT registry
Tourism System	Tourist arrivals/overnights	count, annual	ONMT provincial data; operator records
Tourism System	Registered guides and operators	count	Ministry of Tourism/professional associations
Tourism System	Tourism-product diversification	count of distinct products	Field survey
Community Capacity	Active women's cooperatives	count, and % operational post-earthquake	ODCO registry; cooperative interviews
Community Capacity	Local associations	count	Field survey/commune records
Community Capacity	Vocational training participation	% of working-age residents, past 24 months	Field survey
Governance	NGOs active in village	count	Global Diversity Foundation ARC network; field survey
Governance	State reconstruction completion	% of eligible homes rebuilt	High Atlas Development Agency reporting
Governance	Public-private partnership presence	binary + description	Field interviews with commune officials
Economic Performance	Household income share from tourism	%	Household survey
Economic Performance	Business reopening rate	% of pre-quake businesses operating	Field survey
Environmental Resilience	Water-resource security	0-5 ordinal	Field observation; hydrological station data
Environmental Resilience	Protected-landscape status	binary + designation	Toubkal National Park records

Source: Author's own contribution.

Notably, Economic Performance carries the second-highest dimension weight (20%) but is operationalised through only two indicators, compared to four each for Physical Territory and Tourism System. This reflects the practical difficulty of capturing household-level economic

outcomes through secondary data alone, and signals that the economic dimension will rely more heavily on primary household survey data during field validation than the other dimensions.

7. Discussion:

Why Do Resilience Outcomes Diverge?

Rather than ranking the five villages, Table 3a is more useful for explaining divergence in the terms the literature review in Section 2 anticipates. Three provisional profiles emerge from the documented evidence.

7.1 Profile A: High Accessibility and Pre-Existing Tourism Capital, but Concentrated Exposure (Imlil, Aremd)

Imlil's comparatively rapid recovery, reachable within days, structurally sound tourism-built housing, and international operators resuming trips within three months, illustrates how pre-existing tourism investment functions as a resilience asset in a physical sense (better-built housing stock) as much as an economic one, consistent with Ruiz-Ballesteros's (2011) finding that tourism activity can be a decisive influence on community resilience. Aremd shares this advantage only partially: it depends on Imlil's road access but has more vulnerable Amazigh-style construction and a thinner base of independent tourism capital, illustrating that physical proximity to a resilient node does not automatically transfer that node's resilience, a spatial-diffusion question squarely within the applied-geography literature reviewed in Section 2.3.

7.2 Profile B: Governance- and NGO-Mediated Recovery in the Absence of a Strong Tourism Base (Talat n'Yaaqoub, Imi n'Tala)

Villages nearest the epicentre and furthest from established trekking circuits show a recovery trajectory driven almost entirely by the state's housing and infrastructure programme and by NGO water, agriculture, and cooperative-support projects, rather than by tourism revenue. Here, Governance and Community Capacity, not the Tourism System dimension, are the binding constraints on recovery pace, precisely the pattern the six-dimension structure is designed to detect and that a tourism-only metric would miss entirely.

7.3 Profile C: Intermediate Case, a Town-Scale Hub with Weak Diversification (Amizmiz)

Amizmiz combines meaningful tourism function (trailhead status, craft workshops, a boutique-hotel sector) with pre-existing structural poverty, Al Haouz ranks among Morocco's fifteen poorest provinces, and heavy damage to the town centre. Its recovery draws on both humanitarian response (tent camps, NGO support) and a slower reopening of tourism-adjacent livelihoods, positioning it between Profiles A and B rather than cleanly in either, and illustrating the Martin and Sunley (2015) point that regional resilience is rarely a single trajectory but a bundle of partially independent capacities. This matters for the theoretical framing in Section 2.1 specifically, not only descriptively. The classic tripartite reading of regional resilience distinguishes resistance, recovery, and adaptation as sequential or alternative trajectories a region follows after a shock (Martin & Sunley, 2015; Simmie & Martin, 2010). Amizmiz does not fit neatly into any one of the three: its humanitarian and housing trajectory looks like slow, state- and NGO-mediated recovery, while its craft and hospitality sector is simultaneously attempting something closer to adaptation, diversifying beyond a pre-quake tourism offer that was already thin relative to Imlil's. Rather than choosing one label, Amizmiz suggests that resistance, recovery, and adaptation can operate

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concurrently within the same place across different dimensions, which is precisely why a single-trajectory reading of regional resilience understates what the six-dimension structure is built to capture. This is not a wholesale challenge to Martin and Sunley's typology, but it does suggest the typology describes a territory's dominant trajectory rather than a territory's only trajectory, a distinction the TTRI's multidimensional structure is designed to preserve rather than collapse.

The discriminating power claimed above is not merely asserted. Table 5 illustrates it with a partial, two-indicator score built from the secondary evidence already reported in Table 3a: tourism-system strength (accommodation base, guide/operator presence, formal tourism infrastructure) and governance/NGO coordination intensity (reliance on state reconstruction programmes and NGO project activity), each coded on the simple three-point ordinal scale Low (1) / Medium (2) / High (3) that the documented qualitative evidence supports, not a precise measurement. A tourism-only metric ranks Imlil uniquely highest; adding the Governance dimension collapses that unique ranking, exactly the effect the six-dimension structure is designed to produce.

Table 5. Illustrative partial score: tourism-only ranking versus a two-indicator (tourism + governance) score.

Village	Tourism System (1–3)	Governance/NGO intensity (1–3)	Partial score (sum)
Imlil	3 (High)	1 (Low)	4
Aremd	2 (Medium)	1 (Low)	3
Talat n'Yaaqoub	1 (Low)	3 (High)	4
Amizmiz	2 (Medium)	2 (Medium)	4
Imi n'Tala	1 (Low)	3 (High)	4

Source: Authors' ordinal coding of the qualitative evidence reported in Table 3; illustrative only, not field-measured data.

On tourism strength alone, Imlil (3) stands apart from every other village. Once governance and NGO coordination intensity are added, Imlil ties with Talat n'Yaaqoub, Amizmiz, and Imi n'Tala at a combined score of 4, each reaching that score through a different route, pre-existing tourism capital in Imlil's case, state- and NGO-driven coordination in the other three. This is exactly the pattern Section 7 argues for in words: a tourism-only ranking and a multidimensional one tell materially different stories about which villages are managing recovery well. The full six-dimension, eighteen-indicator version of this exercise, using field-collected rather than ordinally-coded secondary data, is the empirical task specified in Section 4.4.

This reframing, asking why outcomes differ rather than which village is 'best', is where the six-dimension structure earns its keep. A single tourism-recovery metric, such as guesthouse reopening rate, would rank Imlil highest and stop there, obscuring the governance- and infrastructure-driven story that explains why Talat n'Yaaqoub and Imi n'Tala look so different despite sharing the same shock, the same province, and broadly comparable national-level reconstruction financing.

The typology is also worth stress-testing against cases it does not include. The five sampled villages were chosen precisely because they occupy contrasting positions on accessibility, tourism intensity, and governance exposure (Section 4.2), but other High Atlas villages affected by the same earthquake could plausibly combine strong Community Capacity with weak Governance, a configuration none of Profiles A, B, or C represents, since in this sample high community cohesion and effective external coordination tend to co-occur rather than substitute for one another. A village with active, well-organised cooperatives but little state or NGO presence, isolated communities that self-organised extensively but received comparatively little institutional follow-through were documented anecdotally elsewhere in the earthquake response, would test whether strong Community Capacity can compensate for weak Governance or whether the two dimensions are more nearly complementary than substitutable. The three-profile typology proposed here should

accordingly be read as what this particular five-village, most-different-systems sample supports, not as an exhaustive classification of High Atlas recovery patterns; extending it to the fuller set of affected villages is part of the fieldwork agenda in Section 9, not a claim already established by the cases in Section 6.

8. Territorial Planning Recommendations

Consistent with the regional-development literature reviewed in Section 2.4, and mindful of Davoudi's (2012) and MacKinnon and Derickson's (2013) caution against resilience framing that shifts responsibility onto vulnerable communities, the following recommendations are framed as public and institutional investment priorities: The five recommendations below are not of equal weight: Section 7 identifies physical accessibility and governance coordination, not tourism-sector interventions, as the two dimensions doing the most explanatory work in observed divergence, so those two are ranked first and treated as the priority levers, with the remaining three positioned as complementary rather than primary.

One caveat applies specifically to the road-connectivity recommendation. The MAD 891 million figure is a province-wide allocation (allAfrica / Maroc.ma, 2025); publicly available reporting does not disaggregate it by commune, so it is not currently possible to verify what share, if any, is already directed toward Talat n'Yaaqoub or other low-connectivity communes as opposed to higher-traffic routes serving Imlil and other tourism-visible destinations. The recommendation is accordingly to first audit the existing allocation's commune-level distribution, a precondition the re-sequencing argument depends on, before any re-sequencing decision is made, rather than to assume re-sequencing is what current spending already lacks.

Table 6. Territorial-planning recommendations, ranked by priority, with responsible actor, monitoring indicator, and timeframe.

Priority	Recommendation	Responsible actor	Monitoring indicator	Timeframe
1	Audit and, where warranted, re-sequence road-rehabilitation spending toward the least-connected communes (e.g., Talat n'Yaaqoub) rather than the most tourism-visible routes.	Ministry of Equipment and Water; Agence pour le Développement du Haut Atlas	Commune-level disaggregation of the MAD 891M allocation published and verified	Audit within 6 months; re-sequencing decision within 12 months
2	Formalise coordination between the state reconstruction programme, active NGOs, and municipal recovery plans to close duplication and coverage gaps.	Agence pour le Développement du Haut Atlas, convening state, NGO, and commune actors	Year-on-year reduction in documented delivery-related protests/complaints (Section 6)	First coordination review within 12 months; annual thereafter
3	Support tourism-product diversification (agritourism, cultural-heritage circuits, cooperative-based experiences) in villages such as Amizmiz and Talat n'Yaaqoub.	ONMT; local communes and cooperatives	Number of registered non-trekking tourism products per village	2–3 years
4	Extend the existing 193-cooperative national support programme (7news Morocco, 2026) to douars, such as Imi n'Tala, that fall outside current tourism-sector aid.	ODCO (Office du Développement de la Coopération); national cooperative programme	Number of newly enrolled douars/cooperatives outside the tourism sector	2 years

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5	Integrate TTRI-type multidimensional indicators into regional planning documents so housing-completion rates are read alongside governance and community-capacity indicators.	Agence pour le Développement du Haut Atlas (multi-year programme)	Next multi-year programme revision reports indicators beyond housing completion	Next programme revision cycle

Source: Authors' own elaboration, consistent with the priority levers identified in Section 7.

9. Limitations and Future Research Agenda

Three limitations should guide the next stage of this research programme. First, and most consequentially, no numeric TTRI scores are assigned in this paper: Community Capacity, Governance, and parts of the Tourism System dimension require field-collected or precisely geolocated data not available online, and assigning scores from secondary reporting alone would overstate the precision of a framework paper. Second, reconstruction statistics are reported at the province level (Al Haouz, Chichaoua, Taroudant) in most government sources; disaggregating them to the five named villages will require either targeted data requests to the High Atlas Development Agency or field verification, and Table 3 should be read as a qualitative, sourced baseline rather than as village-level statistics. Third, the weighting scheme in Table 1 is a literature-informed starting hypothesis, not a validated result; the Analytic Hierarchy Process and Principal Component Analysis procedures specified in Section 4.4 are the intended mechanism for testing and, if warranted, revising it. This limitation bears most directly on the validity of the three profiles proposed in Section 7, since the qualitative Governance and Community Capacity judgements that separate Profile B from Profile A rest on secondary narrative evidence rather than the scored, comparable data the TTRI is designed to eventually produce. The second and third limitations matter more for the index's future precision and provenance than for the profile groupings themselves: Section 3's qualitative sensitivity check suggests the three profiles are reasonably robust to plausible reweighting, and the province-level reporting problem affects how confidently individual village statistics can be cited, not whether the underlying pattern of divergence exists. Fieldwork resources should accordingly be prioritised toward the first limitation before the second and third.

Beyond addressing these limitations, three extensions would strengthen the research programme: applying the TTRI, once validated, to a larger sample of Al Haouz villages to test whether the three profiles identified in Section 7 generalise beyond the five cases examined here; a longitudinal re-application of the index at annual intervals to track whether governance-mediated villages (Profile B) eventually converge with tourism-capital villages (Profile A), which the current cross-sectional design cannot establish; and a comparative application of the TTRI framework to other tourism-dependent mountain regions affected by disaster (e.g., post-earthquake Nepal, post-wildfire Mediterranean destinations) to assess whether the six-dimension structure, and the relative importance of its weights, travels beyond the Moroccan case. Direct transferability of Table 1's weights to these contexts should not be assumed. Nepal's post-earthquake trekking regions operate under a markedly different land-tenure and community-forestry governance structure than Morocco's commune system, which could shift where Governance and Community Capacity effectively sit relative to each other; Mediterranean post-wildfire destinations are typically far more tourism-dependent in GDP terms than the High Atlas case villages, which could warrant a higher Tourism System weight than the 20% used here. A comparative application would accordingly

need to re-run the AHP elicitation with local experts in each new context, treating Table 1's weights as a starting hypothesis specific to the Moroccan case rather than a portable default.

10. Conclusion

This paper has argued that tourism recovery and territorial recovery are conceptually and empirically distinct, and has proposed the Territorial Tourism Resilience Index as an instrument capable of holding that distinction open rather than collapsing it. Applied illustratively to five High Atlas villages sharing the 2023 Al Haouz earthquake as a common shock, the framework surfaces a pattern a tourism-only metric would miss: physical accessibility and governance coordination, not tourism intensity alone, appear to be the strongest determinants of divergence between otherwise comparably affected places. Converting that illustrative pattern into a validated, scored index is the explicit task of the fieldwork specified in Section 4.4 and Appendix A. In the meantime, the territorial planning recommendations in Section 8, road investment, tourism diversification, governance coordination, cooperative support, and the integration of multidimensional resilience indicators into regional planning, follow directly from the framework and do not require the fieldwork to be complete to be actionable. In doing so, it responds directly to the gap identified in Section 2.5: the absence, in the post-disaster tourism literature, of an assessment instrument that integrates geographic, social, institutional, and economic dimensions within a single, comparable index, rather than the sector-specific or single-dimension metrics that currently dominate.

For the institutions these recommendations are addressed to, principally the Agence pour le Développement du Haut Atlas and the ONMT, the practical payoff does not wait for the Section 4.4 fieldwork to conclude. Even in its current, unscored form, the TTRI offers a way of reading recovery multidimensionally: a village reporting a high housing-completion percentage but weak governance coordination, or strong tourist arrivals but thin community capacity, is not yet fully recovered as a territory by the framework's own logic. Adopting that reading now, ahead of formal validation, would already change how the reconstruction programme represents its own progress, moving beyond the single housing-completion metric highlighted in Section 8 toward the multidimensional account this paper argues territorial recovery actually requires.

References

(1). 7news Morocco. (2026). Morocco to help 193 cooperatives recover after Al Haouz earthquake.

(2). Adger, W. N. (2000). Social and ecological resilience: Are they related? Progress in Human Geography, 24(3), 347–364. https://doi.org/10.1191/030913200701540465

(3). allAfrica / Maroc.ma. (2025, September 9). Al Haouz earthquake: Reconstruction in full swing across all affected provinces.

(4). Arrowsmith, C., & Inbakaran, R. (2002). Estimating environmental resiliency for the Grampians National Park, Victoria, Australia: A quantitative approach. Tourism Management, 23(3), 295–309. https://doi.org/10.1016/S0261-5177(01)00088-7

(5). Barlaman Today. (2025, September 8–11). Al Haouz 'rebuild' nears end, as legal disputes slow final phase for some; Akhannouch 'satisfied' with progress in Al Haouz earthquake recovery amid affected-families outrage; Al Haouz earthquake survivors 'happy with new homes,' says Morocco's head of government.

ISSN: 2658-8455
Volume 7, Issue 10 (2026), pp. 520-540.

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

(6). Biggs, D. (2011). Understanding resilience in a vulnerable industry: The case of reef tourism in Australia. Ecology and Society, 16(1), 30. https://doi.org/10.5751/ES-03948-160130
(7). Britannica. (n.d.). Morocco earthquake of 2023: At a glance.
(8). Béné, C., Godfrey Wood, R., Newsham, A., & Davies, M. (2012). Resilience: New utopia or new tyranny? Reflection about the potentials and limits of the concept of resilience in relation to vulnerability reduction programmes (IDS Working Paper 405). Institute of Development Studies.
(9). Center for Disaster Philanthropy. (2024, March 15). 2023 Morocco earthquake.
(10). Christopherson, S., Michie, J., & Tyler, P. (2010). Regional resilience: Theoretical and empirical perspectives. Cambridge Journal of Regions, Economy and Society, 3(1), 3–10. https://doi.org/10.1093/cjres/rsq004
(11). Cova, T. J., & Church, R. L. (1997). Modelling community evacuation vulnerability using GIS. International Journal of Geographical Information Science, 11(8), 763–784. https://doi.org/10.1080/136588197242077
(12). Cutter, S. L., Boruff, B. J., & Shirley, W. L. (2003). Social vulnerability to environmental hazards. Social Science Quarterly, 84(2), 242–261. https://doi.org/10.1111/1540-6237.8402002
(13). Cutter, S. L., Burton, C. G., & Emrich, C. T. (2010). Disaster resilience indicators for benchmarking baseline conditions. Journal of Homeland Security and Emergency Management, 7(1), Article 51. https://doi.org/10.2202/1547-7355.1732
(14). Davoudi, S. (2012). Resilience: A bridging concept or a dead end? Planning Theory & Practice, 13(2), 299–333. https://doi.org/10.1080/14649357.2012.677124
(15). Folke, C. (2006). Resilience: The emergence of a perspective for social–ecological systems analyses. Global Environmental Change, 16(3), 253–267. https://doi.org/10.1016/j.gloenvcha.2006.04.002
(16). Global Diversity Foundation. (2024). High Atlas earthquake recovery (High Atlas Cultural Landscapes Programme / ARC network).
(17). GlobalGiving. (n.d.). Strengthen long term Al-Haouz earthquake recovery.
(18). Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. Field Methods, 18(1), 59–82. https://doi.org/10.1177/1525822X05279903
(19). Haut-Commissariat au Plan (HCP). (2024). Recensement général de la population et de l'habitat (RGPH) 2024: Population légale du Royaume du Maroc répartie par régions, provinces, préfectures et communes.
(20). Hennink, M. M., Kaiser, B. N., & Marconi, V. C. (2017). Code saturation versus meaning saturation: How many interviews are enough? Qualitative Health Research, 27(4), 591–608. https://doi.org/10.1177/1049732316665344
(21). High Atlas Foundation. (n.d.). Earthquake recovery; Navigating recovery eight months after the earthquake.
(22). Kasbah du Toubkal. (2023). Earthquake response.
(23). Kutzner, D. (2019). Environmental change, resilience, and adaptation in nature-based tourism: Conceptualizing the social-ecological resilience of birdwatching tour operations. Journal of Sustainable Tourism, 27(8), 1142–1166. https://doi.org/10.1080/09669582.2019.1601730

(24). MacKinnon, D., & Derickson, K. D. (2013). From resilience to resourcefulness: A critique of resilience policy and activism. Progress in Human Geography, 37(2), 253–270. https://doi.org/10.1177/0309132512454775
(25). Malay Mail. (2023, September 21). Morocco sets aside nearly US$12b for quake recovery.
(26). Martin, R., & Sunley, P. (2015). On the notion of regional economic resilience: Conceptualization and explanation. Journal of Economic Geography, 15(1), 1–42. https://doi.org/10.1093/jeg/lbu015
(27). Morocco World News. (2024, December). Moroccan tourism sets new record with nearly 16 million visitors in 2024.
(28). Morocco World News. (2025, January). 17.4 million visitors: Morocco's tourism growth surpasses 2026 target.
(29). Morocco World News. (2025, July). Post-earthquake reconstruction: Over 46,000 families restore homes in Al Haouz.
(30). Morocco World News. (2025, November). Marrakech reconstruction program nears completion after Al Haouz earthquake.
(31). Morocco World News. (2025, November). Morocco rebuilds over 53,000 homes after Al Haouz earthquake.
(32). Morocco World News. (2025, September). Al Haouz earthquake survivors protest delays and exclusions.
(33). Much Better Adventures. (2025). The Moroccan Kasbah pioneering community tourism in Imlil.
(34). Much Better Adventures. (2026). 'Tourism provides a livelihood': Building back in Morocco after the earthquake.
(35). Mzali, Z., & Belmourd, L. (2025). Understanding tourist destination resilience: A bibliometric literature review using VOSviewer. African Journal of Hospitality, Tourism and Leisure. https://doi.org/10.46222/ajhtl.19770720.591
(36). Pike, A., Dawley, S., & Tomaney, J. (2010). Resilience, adaptation and adaptability. Cambridge Journal of Regions, Economy and Society, 3(1), 59–70. https://doi.org/10.1093/cjres/rsq001
(37). Regenerative Travel. (2026). Kasbah du Toubkal: How a pioneering Atlas Mountains hotel rose stronger after the earthquake.
(38). ReliefWeb. (2023, September 26). Morocco earthquake September 2023 situation report 4.
(39). Ruiz-Ballesteros, E. (2011). Social-ecological resilience and community-based tourism: An approach from Agua Blanca, Ecuador. Tourism Management, 32(3), 655–666. https://doi.org/10.1016/j.tourman.2010.05.021
(40). Simmie, J., & Martin, R. (2010). The economic resilience of regions: Towards an evolutionary approach. Cambridge Journal of Regions, Economy and Society, 3(1), 27–43. https://doi.org/10.1093/cjres/rsp029
(41). Skift. (2024, March 1). Morocco's resilience: Intrepid Travel helps tourism rebound after earthquake.
(42). Tamanine, R., & Houssas, M. (2023). Fostering destination resilience: A conceptual framework linking sustainable tourism and tourism threats. Revue Internationale du Marketing et Études de Cas (RIMEC), 10. https://doi.org/10.59285/rimec.390
(43). Trading Economics. (2026). Morocco tourist arrivals [Data set, Ministry of Tourism].
(44). TravelMole. (2025, July 17). Morocco's tourism to soar further to historic highs in 2025.

ISSN: 2658-8455
Volume 7, Issue 10 (2026), pp. 520-540.

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

(45). United Nations Office for Disaster Risk Reduction (UNDRR). (2017). Disaster resilience scorecard for cities.
(46). United States Geological Survey (USGS). (2023). M 6.8 – Al Haouz, Morocco [Earthquake event page]. National Earthquake Information Center.
(47). Walker, B., Holling, C. S., Carpenter, S. R., & Kinzig, A. (2004). Resilience, adaptability and transformability in social–ecological systems. Ecology and Society, 9(2), Article 5. http://www.ecologyandsociety.org/vol9/iss2/art5/
(48). Wang, T., Yang, Z., Chen, X., & Han, F. (2022). Bibliometric analysis and literature review of tourism destination resilience research. International Journal of Environmental Research and Public Health, 19(9), 5562.
(49). Weichselgartner, J., & Kelman, I. (2015). Geographies of resilience: Challenges and opportunities of a descriptive concept. Progress in Human Geography, 39(3), 249–267. https://doi.org/10.1177/0309132513518834
(50). Yabiladi. (2024, September 4). Rural tourism in Morocco's Al Haouz still hampered one year after earthquake.
(51). Yabiladi. (2025, September 7). Post-quake reconstruction in Al Haouz nears completion with 24,000 homes rebuilt.