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ARMENIA

RECOMMENDATIONS FOR ECOTOURISM DEVELOPMENT PLANNING IN THE TUMANYAN COMMUNITY



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Recommendations for Ecotourism Development Planning in the Tumanyan Community, Armenia

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Acronyms

AMD	Armenian Dram
CBD	Convention on Biological Diversity
EU4Environment	European Union Programme for Environment
GIS	Geographical Information Systems
NGO	Non-governmental Organization
NTFPs	Non-Timber Forest Products
PA	Protected Area
PPP	Public-Private Partnership
UNESCO	United Nations Educational, Scientific and Cultural Organization
ToR	Terms of Reference

1. Introduction

This Ecotourism Management Plan provides a structured framework for assessing and guiding ecotourism development at the community level. It is based on a standardized ecotourism assessment tool that evaluates ecological conditions, socio-economic context, tourism assets, and associated environmental and operational risks. The plan is developed as part of a broader effort under the EU4Environment programme, implemented with methodological alignment to World Bank approaches and within the framework of the OIKO initiative. The overall activity focuses on supporting selected communities in identifying realistic and environmentally responsible ecotourism opportunities, while ensuring that development remains compatible with local ecological and socio-economic conditions.

Within this context, the project includes the application of a unified assessment tool across target communities, stakeholder consultations to capture local perspectives and priorities, and the preparation of site-specific management plans. These plans are intended to translate assessment results into practical guidance, including zoning considerations, identification of suitable ecotourism products, infrastructure needs, governance arrangements, and basic management measures.

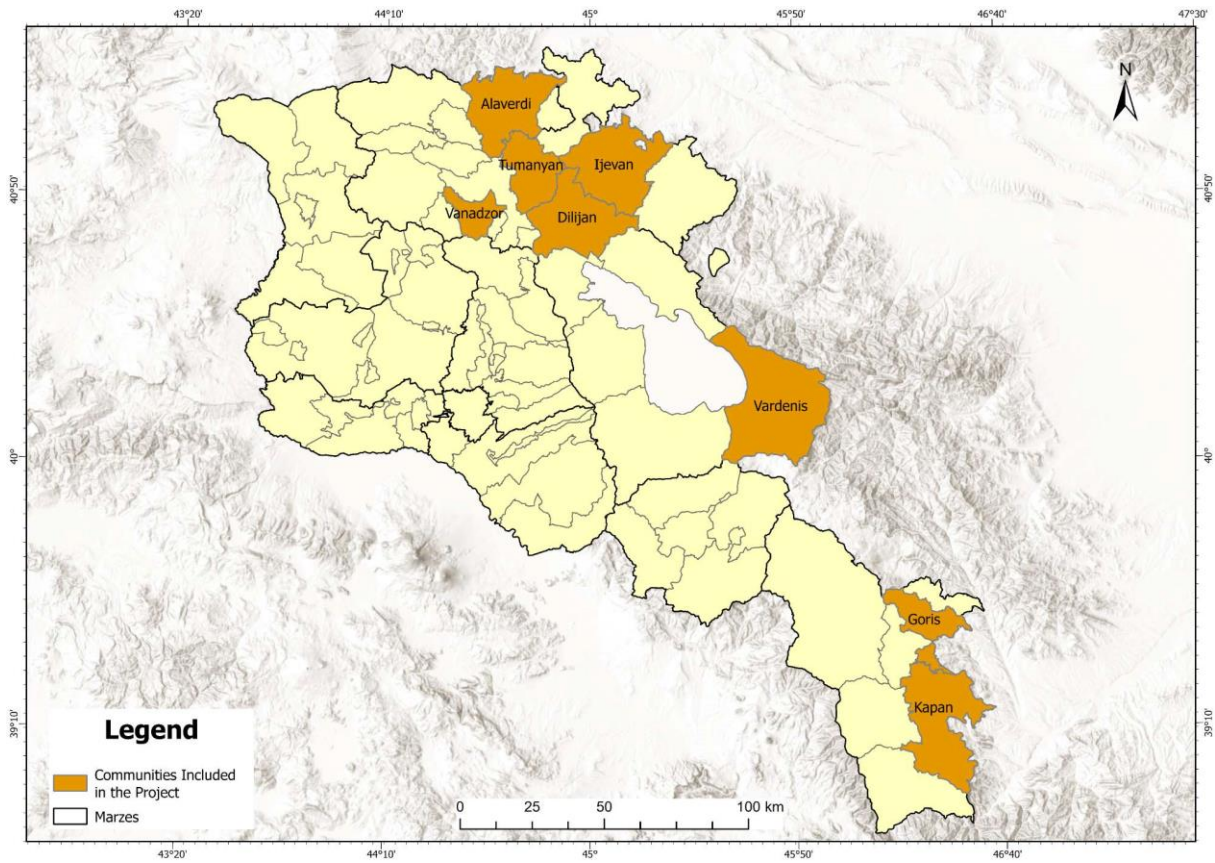
The purpose of this plan is to support decision-making on whether and how ecotourism can be developed in a controlled and sustainable manner. It ensures that tourism activities are aligned with conservation requirements, particularly in areas with sensitive ecosystems or species of concern, while also identifying opportunities for local economic engagement. The approach follows sustainable development principles by promoting low-impact tourism, supporting local livelihoods, and encouraging the use of natural and cultural assets without compromising their integrity. It also aims to strengthen coordination between local authorities, communities, and other stakeholders involved in tourism and environmental management.

The map illustrates the spatial distribution of the eight communities included in the project in Armenia: Alaverdi, Tumanyan, Vanadzor, Dilijan, Ijevan, Vardenis, Goris, and Kapan. Together, these locations create a broad territorial coverage across the northern, eastern, and southern parts of the country and reflect different ecological, landscape, and accessibility conditions relevant to ecotourism planning. The map helps situate the project within the national context and illustrates that the selected communities represent different types of mountain, forest, and protected area settings where ecotourism opportunities and management needs may vary.

The present document was developed with financial support from the European Union under the European Union for Environment (EU4Environment) program.¹

¹ Since 2018, the “European Union for Environment” (EU4Environment) Action has helped the Eastern Partnership countries preserve their natural capital and enhance people’s environmental well-being, by supporting environment-related action, demonstrating and unlocking opportunities for greener growth, and establishing mechanisms to better manage environmental risks and impacts. The program was funded by the European Union and principally implemented over 2019–24 by the Organisation for Economic Co-operation and Development (OECD), the United Nations Economic Commission for Europe (UNECE), the United Nations Environment Programme (UNEP), the United Nations Industrial Development Organization (UNIDO), and the World Bank. Over 2025–26, the World Bank will finalize the implementation of the program’s Result 4 area.

Figure 1. Eight pilot communities



Source: REC Caucasus.

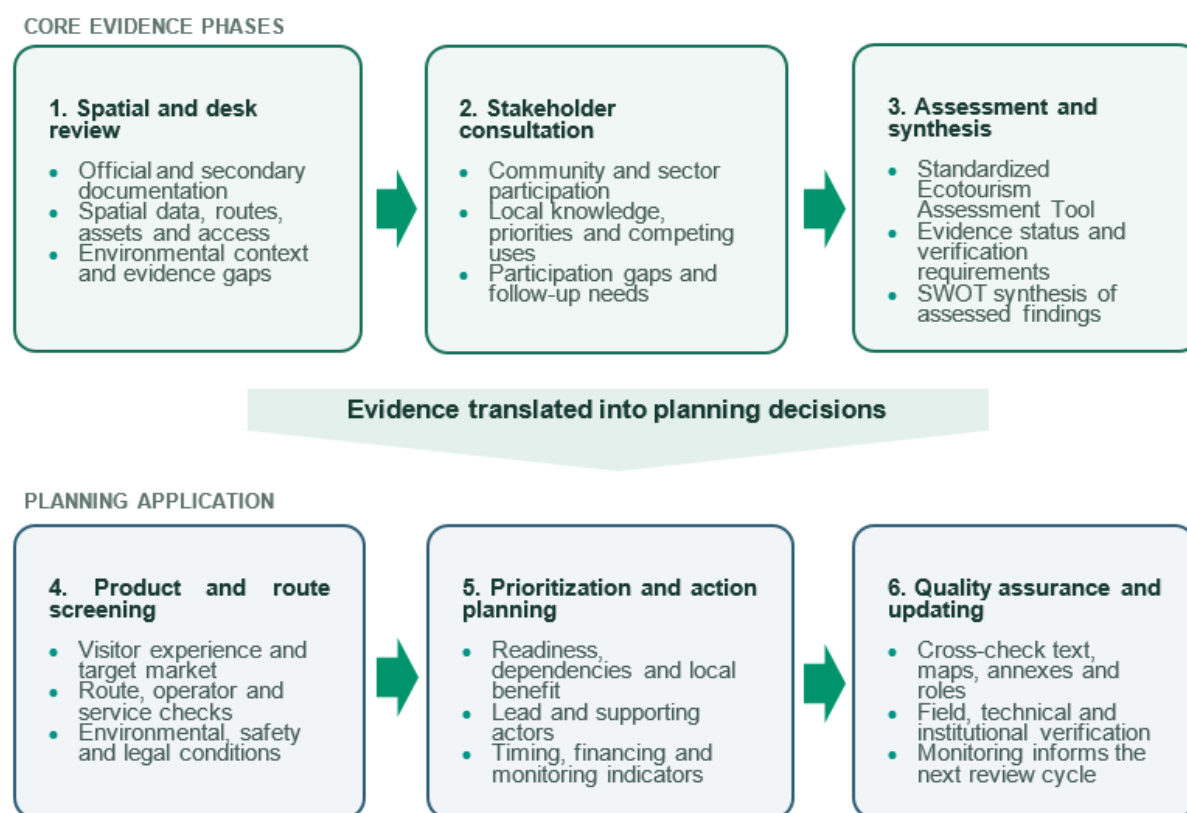
2. Methodological Approach

The Ecotourism Management Plan was developed through three complementary methodological phases: (i) spatial analysis and desk-based review; (ii) stakeholder consultation and participatory validation; and (iii) development and application of the Ecotourism Assessment Tool, followed by synthesis through SWOT analysis. Thus, these phases provide the evidence base for the Plan while distinguishing between information supported by available documentation and stakeholder inputs and aspects that still require field, technical or institutional verification.

The three phases form a connected and iterative process and thus possess an application logic and repeatability. Desk and spatial analysis establish the initial evidence base and identify gaps; consultation tests, corrects and supplements that evidence; and the Assessment Tool organizes the combined findings into a consistent community assessment. SWOT analysis then summarizes the assessed situation, while management recommendations translate the findings into actions, conditions and responsibilities. The same sequence should be followed when a Plan is prepared, reviewed or updated so that new evidence can be incorporated without changing the common analytical structure.

Additionally, these three phases are complemented with a follow up phases related to the planning application: (iv) product and route development, (v) prioritization and action planning and (vi) quality assurance and updating. The methodology sequence and its application to plan preparation, review and updating are summarized in Figure below.

Figure 2. Ecotourism development planning methodology



Source: Authors' elaboration.

Phase 1 – Spatial analysis and desk-based review

The first phase consisted of the review and consolidation of available project documentation, official and secondary sources, existing tourism and territorial information, and project-supplied GIS and spatial data. The spatial analysis was used to examine the community context, natural and cultural assets, settlement and accessibility patterns, protected area and Emerald Network context, and the spatial relationship between potential tourism areas and environmentally sensitive features. The analysis provided the initial basis for screening ecotourism opportunities and constraints and for identifying information gaps requiring subsequent verification. Importantly, the GIS layers and maps used in the Plan provide a planning and screening context; they do not in themselves confirm land tenure, legal access, ecological condition, route readiness or the suitability of individual sites for tourism development. This distinction is already reflected elsewhere in the Plan, including the requirement to confirm candidate Emerald boundaries and route relationships before zoning or promotion.

Evidence classification and treatment:

Information used in the assessment is classified according to its source and level of confirmation. The principal categories are: information confirmed through official documentation; information supported by project or technical sources; stakeholder-reported information; findings derived from spatial analysis; experience transferred from another community; planning proposals; and matters requiring field, legal, ecological, commercial or institutional verification. A statement is not treated as confirmed merely because it appears in more than one secondary source. Where sources agree, the finding may be used with greater confidence; where they differ, the inconsistency is retained as an evidence gap and addressed through a verification requirement rather than resolved by assumption.

Minimum spatial review and data handling:

For each community, the spatial review should consider community and settlement boundaries; forests; protected areas and candidate Emerald Network areas; recorded tourism routes; natural and cultural attractions; roads and transport access; settlements and service locations; environmentally sensitive features; known hazards; and links with neighbouring communities. Route records from official and user-generated spatial data should be screened for duplicate or alternative alignments and, where possible, checked for start and end points, distance, elevation, surface condition, land and management status, seasonal accessibility and connection to visitor services. Every map should identify its purpose, source and limitations. Spatial proximity does not by itself establish legal access, ownership, environmental suitability, visitor readiness or management responsibility.

Phase 2 – Stakeholder consultation and participatory validation

Stakeholder engagement was undertaken through two principal consultation and capacity-building stages. The first took place in March 2026, when representatives of the target communities participated in introductory stakeholder engagement activities. This phase introduced the project and ecotourism planning approach, applied a structured 28-question consultation instrument, and used participatory discussion and group work to identify local opportunities, constraints, existing initiatives and priorities. The second stage took place in July 2026 and shifted from initial identification of issues towards capacity building, review and validation of the emerging EMP proposals. The July process enabled stakeholders to review proposed measures, question assumptions and discuss implementation requirements, including responsibilities, financing, maintenance, visitor management and monitoring.

The stakeholder evidence and its documentation status are summarized in Annex 2 – Stakeholders and Consultation Status, which also distinguishes confirmed community-level participation from stakeholder roles and responsibilities that still require actor-specific confirmation.

Minimum stakeholder-engagement standard:

Application or updating of the template should seek input, as relevant to the community context, from the community administration; forest and protected-area managers; tourism businesses, guides and transport providers; accommodation and food providers; cultural and heritage managers; local producers and community groups; environmental organizations; technical specialists; and groups whose views may otherwise be underrepresented. The purpose is not only to collect proposals, but also to identify existing practices, competing resource uses, management constraints, business capacity, maintenance needs, environmental concerns and the actors able to implement or verify proposed measures. Participation should be recorded by date, format, represented institution or stakeholder category and the subject of the input provided.

Consultation evidence, participation gaps and differing views:

Community-level participation is distinguished from confirmation by a particular institution, business or responsible authority. If a relevant actor did not participate, or if the available participant record does not establish the actor's identity, the gap is retained and a follow-up requirement is assigned. Stakeholder views are treated as local knowledge and planning input, not as substitutes for legal, technical or environmental approval. Where participants express different priorities or interpretations, the Plan should record the issue and identify the decision-maker or verification process needed to resolve it.

Phase 3 – Assessment and Synthesis

A standardized Ecotourism Assessment Tool was developed and applied to structure the assessment of each pilot community. The tool covers screening and eligibility; ecological and conservation characteristics; socio-economic and community context; tourism assets and baseline use; suitability and zoning; potential ecotourism products; infrastructure and services; governance; visitor management; benefit sharing; environmental and social safeguards; climate resilience; monitoring; investment and implementation considerations. The completed community assessment is provided in Annex 1 – Ecotourism Assessment Tool and forms the analytical basis for the management recommendations presented throughout the Plan. The findings were subsequently consolidated through a SWOT analysis, presented in Annex 3, which distinguishes verified or desk-supported strengths and weaknesses from indicative opportunities and potential risks/threats. The SWOT therefore serves as a synthesis of the preceding assessment rather than as a separate feasibility study.

The Tool is applied as an evidence and decision record. For each relevant topic, the assessment should identify the available evidence, current condition, evidence status, principal gap, proposed management response, further verification needed and the institution or actor expected to confirm or implement the response. Conclusions should be traceable to the corresponding assessment fields, consultation evidence or spatial finding. A numerical score should be used only where an agreed scoring method, evidence basis and interpretation have been applied consistently; otherwise, findings should remain qualitative and conditional.

The attractions needs to meet specific requirement in order to become an ecotourism product. The identification of an attraction does not by itself establish an ecotourism product. A proposed product

should have a sufficiently defined visitor experience; a usable and legally accessible route or site; an identifiable visitor segment; a capable operator or service provider; available or realistically achievable guiding, transport, food, accommodation or information services; acceptable environmental and social conditions; defined safety and maintenance responsibilities; and a reasonable mechanism for local economic benefit. Product proposals that do not yet meet these conditions should be presented as conditional opportunities, together with the checks, partnerships and service-development actions required before launch or promotion.

Phase 4 - Product route and screening

Where a route, attraction cluster or visitor itinerary extends beyond one community, it should be assessed as a shared product rather than assigned entirely to the community in which the analysis began. The Plan should identify the participating communities and site managers, route and visitor handovers, operator roles, maintenance responsibilities, information and booking arrangements, emergency coordination and the intended distribution of accommodation, meals, guiding, transport and product sales. Cross-community proposals remain indicative until these responsibilities and benefit-sharing arrangements are agreed.

Phase 5 - Prioritization and action planning

Recommendations are prioritized according to their evidence base, implementation readiness, environmental and social conditions, institutional ownership, dependency on other actions and likely contribution to visitor experience and local benefit. Actions may be grouped as immediate organizational or low-cost measures; measures requiring field or technical verification; pilot products suitable for testing; infrastructure requiring feasibility, design and environmental assessment; and longer-term measures dependent on financing, permits or institutional agreements. Each priority action should identify an indicative lead, supporting actors, sequence, timeframe, verification requirement and monitoring indicator. The absence of a confirmed owner or maintenance arrangement is treated as an implementation gap rather than left implicit.

Phase 6 - Quality assurance and updating

Before completion, the Plan should be checked for consistency between the main text, assessment annexes, stakeholder record, maps, SWOT analysis, product proposals, action plan and monitoring framework. Names, boundaries, route references, responsibilities and evidence status should be used consistently throughout. The Plan should be updated when field verification changes route information, protected-area or Emerald data are revised, responsible actors are confirmed, visitor and provider data become available, infrastructure is implemented, or monitoring identifies environmental, safety, service or management issues. Updates should record the source, date and consequence of the new information.

Methodological Limitations

Methodological scope and limitations:

The preparation of this Plan did not include a feasibility study, detailed technical design or systematic field/site verification of the proposed routes, tourism sites or investments. Consequently, identification of a potential route, attraction, tourism product, visitor facility or investment in the Plan should not be interpreted as confirmation of its technical feasibility, environmental compatibility, legal availability,

safety, commercial viability or implementation readiness. The assessment deliberately identifies these evidence gaps and converts them into requirements for subsequent implementation. The Plan itself already reflects this principle by requiring route/GIS validation, specialist ecological screening and route-specific technical design before particular investments proceed.

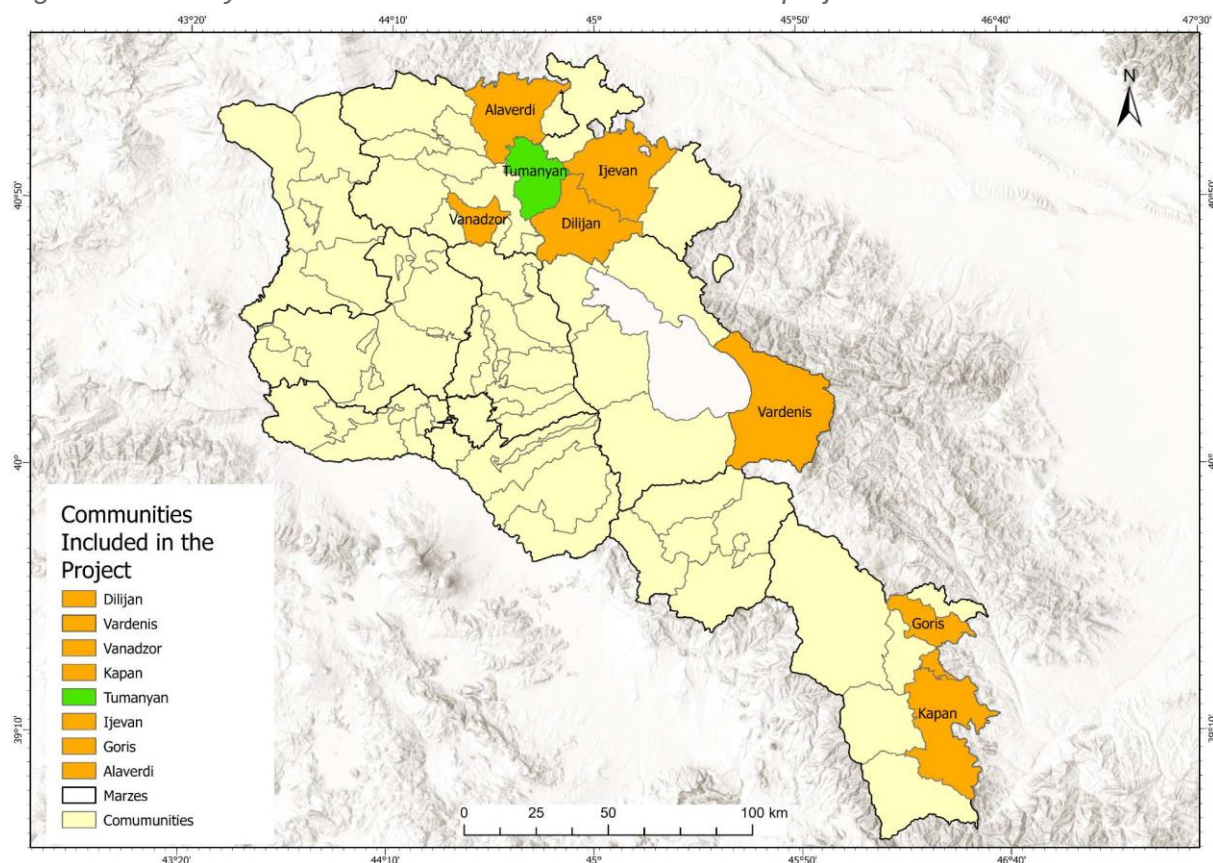
Additional evidence limitations:

Community-level tourism statistics, visitor profiles, household information and provider records may be incomplete or unavailable, and consultation participation may differ between communities and stakeholder groups. Consultation findings are therefore not treated as statistically representative survey results unless a representative sampling method is applied. Spatial data may vary in date, scale, accuracy and completeness, while route and site conditions may change seasonally or after the assessment period. These limitations should be stated wherever they materially affect a conclusion, target, product proposal or investment recommendation.

3. Site Profile

The community of Tumanyan is located in Lori marz in northern Armenia and represents one of the project's northern pilot communities. Its geographic setting is defined by the Debed valley landscape, where settlements, forested slopes, river corridors, and transport connections come together within a narrow mountain territory.

Figure 3. Tumanyan and other communities included in the project



Source: REC Caucasus.

3.1 Location and Context

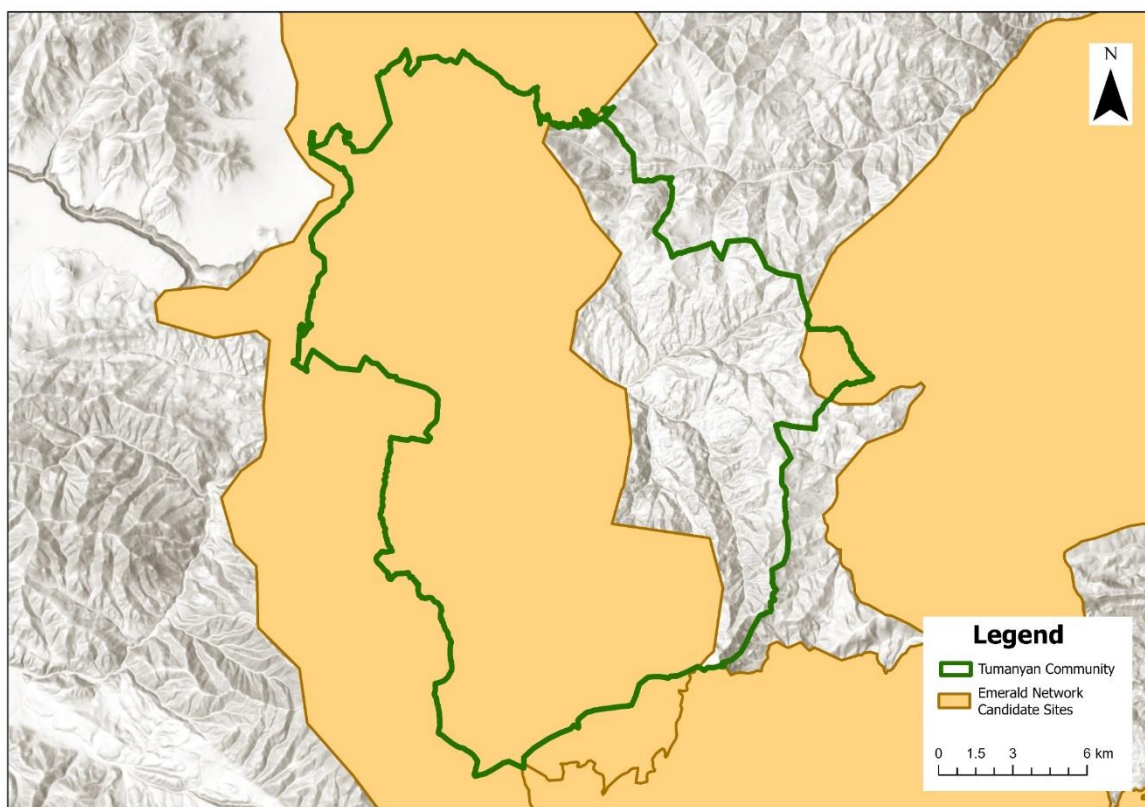
Tumanyan is located in Lori marz, in the central section of the Debed Gorge, and should be understood as a **canyon-river community rather than a conventional stand-alone town destination**. The community includes the town of Tumanyan together with surrounding settlements such as Dsegh, Marts, Karinj, Lorut, Shamut, Atan, Ahnidzor, Chkalov, and Qobayr. As of 1 January 2025, Tumanyan community had a permanent population of 5.7 thousand, including 1.4 thousand urban residents in the town of Tumanyan and 4.3 thousand rural residents in the surrounding settlements. This confirms that the site has a small population base and a strongly rural character, even though its tourism image is shaped by the dramatic landscape of the Debed Gorge and nearby cultural monuments. Its location gives the community a distinctive planning profile. Tumanyan lies on the Debed corridor about 148 km from Yerevan and 42 km from Vanadzor, which means it is not remote in absolute terms, but accessibility within the wider tourism landscape is still uneven because of canyon topography and route limitations. The area is not itself classified as a protected area, but it is closely connected to the broader Debed Gorge ecological system and lies near the “Debedi gorge” Emerald context noted in the site assessment. In practice, this means that Tumanyan combines moderate physical accessibility

with a landscape that is visually strong, culturally rich, and environmentally sensitive. It is therefore better suited to selective, route-based ecotourism than to broad tourism expansion.

3.2 Ecological Characteristics

Tumanyan’s ecological identity is formed by canyon cliffs and rocky slopes, the Debed River and riparian corridor, forest patches and forest edges, meadows and microhabitats. The assessment associates the community with the candidate ‘Debedi gorge’ Emerald site (AM0000023). This is a conservation-planning context, not a substitute for mapped legal zoning: the exact overlap, qualifying habitats/species and activity conditions must be confirmed through the current official Emerald dataset and route-level GIS review before products are approved.

Figure 4. Tumanyan Community and Emerald Network candidate-site context



Note: the map provides broad context only. It does not show approved routes, forest-management boundaries, sensitive habitats, unstable slopes, legal roads, heritage protection areas or visitor services. Those layers require joint GIS and field validation.

Source: Project GIS layers, 2026.

The assessment specifically lists Caucasian red deer as a species of concern. Other wildlife references in the draft should be treated as unverified until a science-reviewed field and data check confirms occurrence, habitat use and whether visitor interpretation is appropriate. No species should be promoted as a likely or guaranteed sighting, and sensitive locations should not be disclosed through tourism materials.

The wider Lori ecological setting also supports this interpretation. Lori marz is one of Armenia’s most forest- and canyon-rich regions and contains a mixed economy and landscape where agriculture, forests, settlements, and natural corridors are closely interlinked. In this context, Tumanyan’s ecological value lies less in formal protected-area status and more in its position within a connected gorge

ecosystem with high landscape integrity and species presence. This is why the site is suitable for controlled ecotourism, but not for unstructured visitor growth.

3.3 Socio-Economic Context

Tumanyan's specific local-economic opportunity is not generic destination growth. It is to turn Debed-corridor movement into locally delivered guiding, transport, meals, accommodation, interpretation and traceable product sales. Dsegh's literary identity, Kobayr's canyon heritage setting, village-based services and forest-related products create a combination that differs from Vanadzor's city-based outdoor offer and Alaverdi's industrial-monastic gateway. The scale must remain small until actual demand, provider capacity and local spending are measured.

Regional statistics also show that Lori has a meaningful but still limited tourism-service economy. In 2024, the volume of services in Lori reached 42.7 billion AMD, accommodation and food service activities reached 3.74 billion AMD, and the number of incoming tourists staying in hotel facilities in Lori was 3,475. These figures do not describe Tumanyan alone, but they do show that the marz already has an active tourism and hospitality base within which a place like Tumanyan can position itself selectively. Average monthly nominal wages in Lori reached 163,321 AMD in 2024, which provides additional context for local service and livelihood conditions. The community's cultural profile further strengthens its socio-economic relevance for ecotourism. Kobayr Monastery, the proximity of Haghpats and Odzun, and the importance of Dsegh as the birthplace of Hovhannes Tumanyan give the area a cultural weight that goes beyond its small population size. This is important because it means that Tumanyan's ecotourism potential does not rely only on natural scenery. It rests on a combination of landscape, heritage, and local identity, which can support small-scale tourism services, local guiding, food provision, and culturally linked experiences if they are developed carefully.

4. Stakeholder Insights and Local Priorities

The March 2026 meeting summary records participation by Tumanyan representatives, although the available participant list does not attribute names or organizations. The discussion themes below are therefore used at community level, while transferred findings and implementation proposals are identified separately.

For Tumanyan, the stakeholder discussions are most useful where they help translate a broad ecotourism concept into a realistic package for a small canyon-and-heritage community with limited infrastructure and moderate access. The most relevant message is that Tumanyan should not try to compete as a high-volume destination. Its comparative advantage lies in combining the Debed Gorge landscape, monastery and village heritage, hiking, guided interpretation, and small-scale local products within a more selective and experience-based tourism model. This fits the actual site conditions: low visitor flow, low to medium demand, moderate accessibility, absence of visitor facilities, and a landscape where biodiversity and terrain sensitivity require careful route-based use rather than open expansion. The clearest opportunity for Tumanyan is the development of integrated nature-and-culture experiences. In this community, Debed Gorge is not only a natural attraction but the setting that links Kobayr, nearby Haghpat and Odzun, Dsegh, and the wider identity of the area. This gives Tumanyan an advantage that some other pilot communities do not have: visitors can be drawn not by a single attraction, but by a route logic that combines canyon scenery, heritage, and local stories. The stakeholder process also emphasized the importance of seasonal offers, and this is especially relevant here. Spring and early summer can support hiking and landscape-based visits, while late summer and autumn provide better conditions for food-based and seasonal products linked to honey, herbs, mushrooms, and berries. In Tumanyan, seasonal tourism is not only a diversification tool; it is one of the few realistic ways to extend tourism use without pushing the site toward permanent high-intensity visitation.

A second opportunity lies in community-linked services rather than destination-scale infrastructure. The stakeholder discussions repeatedly stressed the importance of promoting nearby guesthouses, food services, and local providers rather than concentrating tourism functions inside sensitive natural areas. This is directly applicable to Tumanyan, where accommodation is limited and the closest identified guesthouse is in Dsegh. Under these conditions, ecotourism development should rely on strengthening small local service points, guiding, food offers, and stop-based visitor experiences rather than trying to build a more intensive tourism platform from the start. The idea raised during the stakeholder process about creating food points is particularly relevant here. In Tumanyan, small gastronomy stops based on local products could add real value to hiking and cultural routes and help retain visitor spending locally. The inclusion agenda from the stakeholder meeting is also highly relevant. Participants emphasized opportunities for women, youth, and individual entrepreneurs to become involved through guiding, hospitality, handicrafts, food production, and small local businesses. For Tumanyan, this is important because the current service economy is limited and tourism growth, if it happens, is likely to be distributed through small-scale participation rather than large enterprises. This means that the community's ecotourism model should be designed from the beginning around local involvement, especially in services that can realistically be delivered in villages and along route-based stops.

The challenges identified by stakeholders are equally relevant and in some cases even more important for Tumanyan than for larger destinations. The most immediate challenge is weak infrastructure. Stakeholders highlighted the lack of ecotourism-related infrastructure, poor signage, weak mapping and visibility, and insufficient visitor facilities such as public toilets. In Tumanyan, this is

not a minor inconvenience. Because the landscape is dispersed and access is only moderate, missing route information and poor visitor orientation can quickly turn into a safety and management problem. The absence of a visitor center, lack of signage, and weak service organization mean that even a low level of tourism can remain poorly structured. A second challenge is coordination. The stakeholder meeting emphasized the need for cooperation frameworks between communities, local businesses, and relevant institutions, as well as clearer visiting conditions and more coherent rules. This fits Tumanyan particularly well, because the current governance base is weak: the municipality role is present, but community groups, private sector roles, co-management, revenue-sharing, and PPP structures are not. In practice, this means that even if the attraction base is strong, implementation will remain fragile unless a more organized coordination model is established. Tumanyan's tourism challenge is therefore not only promotional, but institutional. Climate and terrain risk were also emphasized in the stakeholder process, and they are especially relevant here. The discussion pointed to the weak coordination of climate risks affecting tourism assets and seasonality. In Tumanyan, this corresponds directly to the high landslide risk and seasonal accessibility issues already reflected in the site conditions. This means that route planning, timing of tourism activity, and selection of visitor areas must be treated more carefully than in flatter or more urban settings. Under Tumanyan conditions, the challenge is not only to attract visitors, but to ensure that routes remain safe, understandable, and manageable across seasons. The resulting local priorities are therefore quite clear. Tumanyan needs better route visibility, stronger integration of nature and heritage attractions into a coherent product, modest local food and service points, improved coordination between local actors, and a tourism model that remains small-scale and seasonally aware. Its opportunity lies in depth of experience rather than volume of visitors; its challenge lies in converting a strong landscape-and-heritage setting into a manageable ecotourism offer without overstressing infrastructure, governance, or environmental tolerance.

The available participant list does not allow actor-level attribution for the competent Tumanyan Forest Economy or forest-management unit, Kobayr heritage and site managers, the Hovhannes Tumanyan House-Museum, COAF, or individual Dsegh and corridor service providers. These actors remain required implementation stakeholders, and their specific roles and commitments must be confirmed and documented during validation.

5. Tourism Baseline

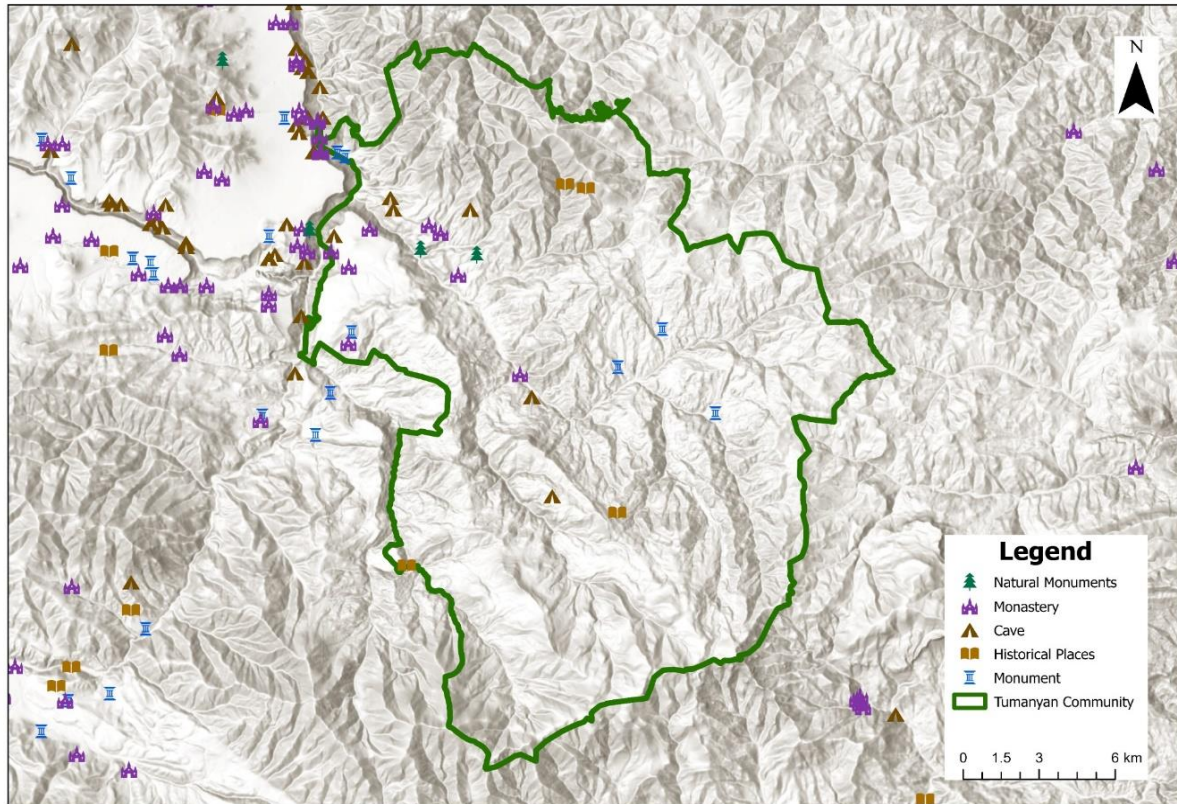
Tumanyan's priority attraction system comprises: Kobayr Monastery and its walking access; Dsegh and the Hovhannes Tumanyan House-Museum; Tsover Lake and field-verified Dsegh walking/cycling/horse-riding connections; selected Debed Gorge viewpoints and river/canyon interpretation points; Tumanyan town and village service nodes; and nearby Haghpat, Odzun and Alaverdi only as linked-route attractions outside the core community product. White-water rafting may be a corridor add-on only where a licensed operator, water conditions, rescue arrangements, access and permits are verified. Exact points, names, status and visitor readiness must be confirmed rather than inferred from map symbols.

Table 1. Priority attractions

Priority attraction / cluster	Visitor role	Evidence and launch conditions
Kobayr Monastery and access walk	Core cliffside heritage-and-canyon walk	Confirm heritage authority/site manager, legal access, path/slope condition, fresco/monument rules, group safety, sanitation and maintenance
Dsegh and Hovhannes Tumanyan House-Museum	Literary, village and educational anchor; meal/product stop	Confirm museum partnership, opening/booking, accessible route, local providers, interpretation and visitor-information function
Tsover Lake and Dsegh nature routes	Short/medium walking, cycling or guided nature experience	Field-validate route, land manager, season, biodiversity, livestock/forest use, emergency access and operator
Debed Gorge viewpoints and river corridor	Scenic, geology, river and habitat interpretation	Select only safe/maintainable stops; map slope/road risk, parking, barriers, litter, riparian sensitivity and closure rules
Local food and forest-related products	Tasting, meal and sales linked to routes	Verify provider, hygiene, origin, legality/sustainable collection, season, quantity, pricing and benefit recording
Haghpat–Odzun–Alaverdi linked route	Regional extension, not a core Tumanyan attraction claim	Agree operators, handovers, stay/meal allocation, route times, site rules and benefit distribution across communities

Source: Authors' elaboration.

Figure 5. Indicative attraction categories in and around Tumanyan Community

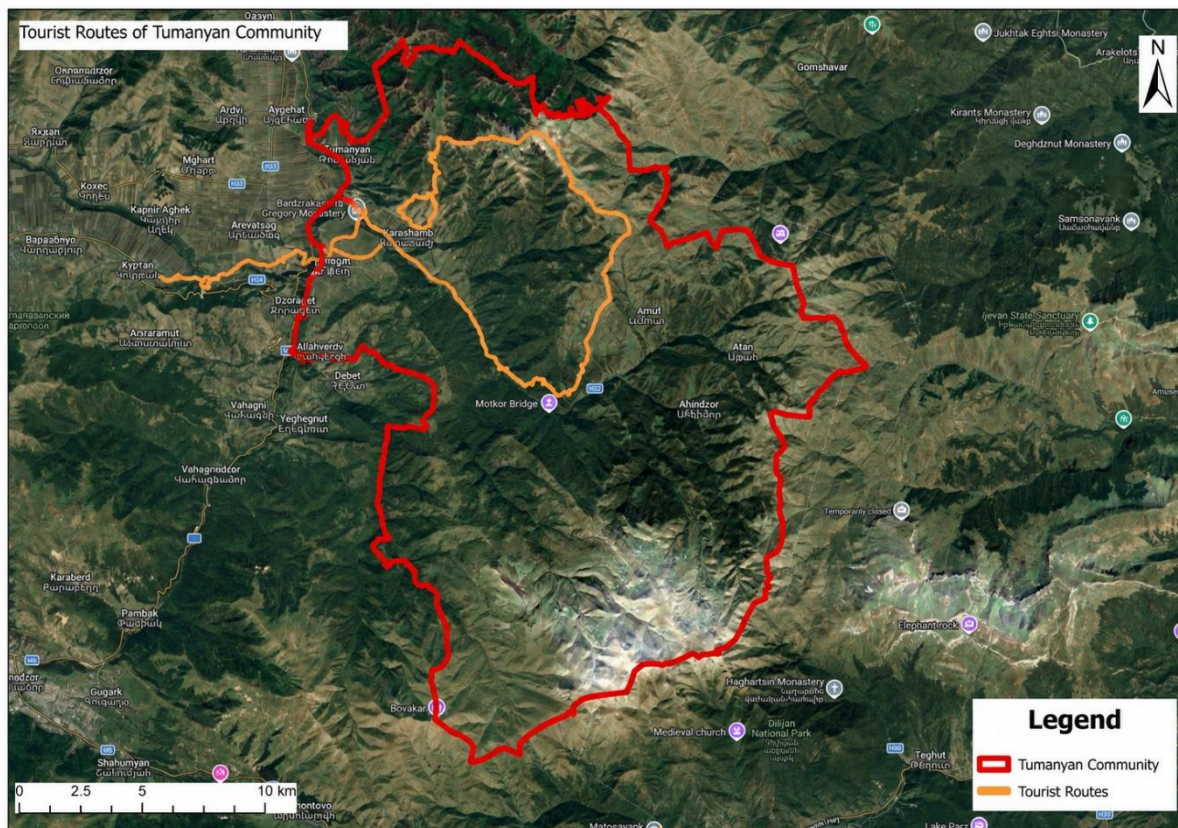


Note: The map does not provide numbered attraction names, approved routes, access status, zoning, hazards or services. The attraction register above must be converted into a numbered, field-verified GIS layer before implementation.

Source: Project GIS layers, 2026.

Analysis of available official and user-generated spatial data identified an interconnected but uneven route system associated with Tumanyan Community and the wider Debed Gorge landscape. The shortest recorded alignments include local Tumanyan and Dsegh routes and access walks to nearby heritage and natural sites. Medium-length alignments connect Tumanyan with Tsater and Odzun, Dsegh with Debed, and the Debed Gorge with Kobayr, Horomayr and Odzun. Longer alignments connect Dsegh with Kurtan and Karindj and extend eastward through the Marts, Lorut and Dzarsar landscape.

Figure 6. Recorded tourist-route alignments in Tumanyan Community and the connected Debed Gorge landscape



Source: Project spatial-data analysis based on available official and user-generated geographic information. The mapped alignments are presented as planning evidence and do not establish official route approval, legal access or current visitor readiness.

The spatial pattern supports three connected route groups. The first comprises short routes around Tumanyan town, Dsegh and nearby cultural and natural features. These are the most suitable candidates for locally managed walking, literary, village and landscape products. The second comprises Debed Gorge heritage routes linking Tumanyan with Kobayr, Horomayr and Odzun. These routes combine canyon scenery, walking access and cultural heritage but cross settlement and management boundaries. The third comprises longer Dsegh–Kurtan, Dsegh–Karindj, Marts–Lorut and Dzarsar alignments that may support specialist walking or wider Lori itineraries only after additional terrain, access and service assessment.

Several spatial records overlap or represent alternative versions of the same corridor. They should therefore be consolidated into unique route records before the number of available routes is reported. Each selected route should receive a route ID and a verified record covering its start and end points, length, gradient, legal and management status, surface condition, hazards, seasonal accessibility, environmental and heritage sensitivity, emergency access, signage and maintenance responsibility.

Routes connecting Tumanyan with Odzun, Alaverdi or other neighbouring communities must be treated as cross-community products. Their operation requires agreed responsibilities, visitor handovers, route information, maintenance arrangements and distribution of local spending. Their presence on the map does not make them the sole responsibility or tourism asset of Tumanyan Community.

Activities

The activity base includes heritage walking, Dsegh cultural visits, short and medium nature routes, cycling, horse riding, local-food stops and corridor-level river/adventure offers. Wildlife should not be marketed as guaranteed encounters. The appropriate tool is a guided biodiversity-interpretation walk on an approved route, using science-reviewed information on cliffs, riparian habitats, forest edges and verified species presence, with no disturbance, feeding, collection, playback or off-route pursuit and with an observation/condition log.

Visitor Flow

‘Low visitor flow’ is an unmeasured planning classification. Lori hotel statistics do not quantify Tumanyan, day visitors, corridor stops or route use and cannot support a market-share estimate. During Year 1, each pilot product should record departures, group size, origin, visitor segment, day/overnight status, stay length, accommodation link, bookings/cancellations, indicative expenditure and local provider payments. These data should be used to decide which products to continue or scale.

Accessibility

‘Moderate accessibility’ means that the M6/Debed corridor and community service base can be reached comparatively easily, while access to individual attractions is uneven and may require walking, a local transfer, seasonal restriction or closure. Each route needs an access sheet covering legal road/path, land and site manager, surface and gradient, slope/rockfall/flood/fire risk, winter/wet-weather status, mobile and emergency access, parking/trailhead, public/transfer options and accessibility for visitors with limited mobility.

6. Suitability Assessment and Zoning

Tumanyan is suitable for ecotourism under a controlled and highly selective model. This conclusion follows directly from the combination of medium to high ecological sensitivity, low to medium tourism demand, and accessibility that is possible but uneven. Unlike Dilijan, where tourism pressure is already high, Tumanyan's challenge is different: the site has strong landscape and heritage value, but its tourism baseline is still limited and its environmental and terrain constraints are more restrictive. In practice, this means that ecotourism can develop, but only through carefully chosen routes and modest visitor functions rather than broad destination expansion. Ecological sensitivity is the main factor shaping the zoning logic. The site is not formally classified in the assessment as a protected area, but it lies within the broader Debed Gorge ecological system and close to the "Debedi gorge" Emerald context. The key habitats identified for the community — canyon slopes, river corridors, and forest patches — already indicate that the landscape is not uniformly suitable for tourism use. The site also includes species of concern such as Syrian brown bear, Caucasian red deer. This supports the rating of medium to high conservation sensitivity and confirms that tourism planning must begin from ecological limits rather than from scenic attractiveness alone. Tourism demand is assessed as low to medium, and this is an important result. It shows that Tumanyan has real tourism potential, but not yet a strong or self-sustaining tourism market. The area benefits from the wider visibility of Debed Gorge, Kobayr, nearby Haghpats and Odzun, and Dsegh, but visitor flow inside the community remains low and there is no evidence of concentrated tourism pressure. This makes Tumanyan different from high-demand destinations: the site does not require restrictive visitor management because of overtourism, but it does require careful planning so that future tourism growth does not outpace local capacity or site tolerance. Under current conditions, demand is strong enough to justify product development, but not strong enough to justify heavy infrastructure or broad zoning for tourism expansion.

Accessibility is best understood as moderate to poor in operational terms. The community is located on an important regional corridor and can be reached without major difficulty, but internal tourism access is much less straightforward. Canyon topography, slope conditions, route fragmentation, and seasonal accessibility issues all reduce the suitability of some parts of the landscape for regular visitor use. This is reinforced by the high landslide risk already identified in the site assessment. As a result, accessibility supports selective route-based tourism, but it does not support dispersed or open visitor movement across the whole tourism space. The zoning outcome is therefore appropriate. The selection of a controlled ecotourism zone is justified because Tumanyan can support hiking, guided visits, wildlife observation in limited form, cultural landscape tourism, and non-timber forest product-related experiences, but only where access is manageable and ecological pressure can be kept low. This zone should cover the main route-based tourism spaces where visitor movement can be organized without opening up the most sensitive or unstable parts of the landscape. In practical terms, this is the core operating zone for Tumanyan's ecotourism model. The sustainable development zone is also justified, but it should be interpreted narrowly. In Tumanyan, this zone does not imply destination-scale tourism construction. It refers to the limited areas where local services, small visitor stops, accommodation in appropriate locations, food points, and basic support functions can be organized without placing tourism infrastructure directly into canyon-edge, river-corridor, or biodiversity-sensitive areas. Given that the closest identified accommodation base is in Dsegh and that the site lacks a visitor center and signage, the sustainable development function is mainly about providing service support in lower-risk locations rather than enabling major expansion.

Operational zoning must map three layers: (1) service and information areas in existing settlements/corridor nodes; (2) controlled-use routes and stops with product-specific season, group, vehicle and guide conditions; and (3) temporary or permanent exclusion/closure areas for sensitive

cliffs/riparian habitat, unstable slopes, active forest work/haulage, fire or severe weather, heritage restrictions and unsuitable off-route vehicle use. The two project maps are inputs; they are not approved zoning maps.

7. Ecotourism Product Development

Tumanyan should use a small integrated product family because its verified visitor market and service capacity are limited. One visitor route can combine a paid guide or transfer, a heritage/nature experience, a meal or tasting and an optional overnight stay. This gives local businesses more points of participation than isolated sightseeing, while allowing common route, safety, environmental and maintenance rules. Additional products should be launched only when a named operator, demand test and site approval exist.

The initial target segments are hypotheses to be tested: domestic and diaspora weekend visitors; small international culture-and-landscape groups; short/medium hiking visitors; literary and educational groups; and guests already staying in Vanadzor, Dsegh, Alaverdi or northern Lori. No defensible segment size or conversion estimate is available. The Year 1 pilot records should compare enquiries, bookings, cancellations, day/overnight conversion, spend and satisfaction by segment before promotion is expanded.

The strongest product line for Tumanyan is hiking linked to heritage and landscape. The route to Kobayr Monastery is the clearest example. It already combines walking access, canyon views, and direct contact with a major cultural site in a dramatic natural setting. This kind of experience is especially suitable for Tumanyan because it does not rely on heavy infrastructure and already fits the actual visitor logic of the area. More broadly, short and medium-length walking routes in the Debed Gorge landscape, with selected viewpoints and interpretation points, should form the core of the ecotourism offer. The product should not try to compete with long-distance trekking destinations. Its value lies in concentrated, high-quality route experiences. Cultural landscape tourism is equally important and should not be treated as separate from nature-based tourism. In Tumanyan, the visitor experience is strongest where canyon scenery, villages, monasteries, and local identity are understood together. Kobayr, the broader visual relationship with Haghpate and Odzun, and the role of Dsegh as the birthplace of Hovhannes Tumanyan allow the site to offer a form of ecotourism that is not limited to biodiversity interpretation alone. This is one of Tumanyan's clearest comparative advantages. The most suitable product form is therefore a combined landscape-and-heritage route rather than isolated attraction visits.

The biodiversity product is a managed interpretation service, not a wildlife-search tour: a field-approved route; trained guide or approved self-guided format; science-reviewed habitat/species content; seasonal and group rules; no guaranteed sightings; no off-route pursuit, feeding, collection or disturbance; visitor and guide observations; and fixed condition points. If a sensitive feature is confirmed, the route is rerouted, seasonally restricted or closed.

Non-timber forest product-related experiences are more relevant than agro-ecotourism in the Tumanyan context. The completed assessment does not identify agro-ecotourism as a suitable product, and the narrative should stay aligned with that. At the same time, the presence of honey, herbs, mushrooms, and berries gives the site a realistic basis for small-scale food and product-linked experiences. In practical terms, this can include local tasting points, simple food stops along visitor routes, tea or preserve-based offerings, and interpretation of forest-related local products as part of the tourism story. This is more realistic for Tumanyan than farm-based tourism or more elaborate rural hospitality models. The seasonal dimension is especially important. Spring and early summer are well suited to Tumanyan because canyon vegetation, river scenery, and walking conditions are generally more attractive, while the landscape has strong visual appeal. Late summer and autumn are also valuable, particularly for food-linked experiences, berries, mushrooms, herbs, and clearer weather conditions for landscape viewing. These seasons also fit well with the community's low-volume, route-

based tourism logic. Winter should not be treated as a primary product season. Under current conditions, moderate accessibility, high landslide risk, and the absence of stronger tourism infrastructure make winter tourism less realistic as a core product direction. A practical optional itinerary for Tumanyan should remain simple and coherent. A one-day route could begin with arrival in the Debed Gorge corridor, continue with a guided walk to Kobayr Monastery, include interpretation on the gorge landscape, habitats, and historical setting, and then move to Dsegh for a cultural stop linked to Hovhannes Tumanyan and a locally based meal or product tasting. A slightly expanded version could add a second short nature route or viewpoint stop. A two-day format is possible only where overnight accommodation in the wider community context, such as Dsegh, can be used. Even then, the product should remain modest and route-based rather than trying to imitate more fully developed destinations. The product direction for Tumanyan should therefore be based on selectivity, interpretation, and corridor logic. The community does not need a wide portfolio of disconnected tourism products. It needs a small but convincing product family built around canyon hiking, monastery access, cultural landscape interpretation, literary identity, and local product stops. This is the form of ecotourism most consistent with the site's actual demand level, ecological sensitivity, moderate accessibility, and limited service base.

The product direction for Tumanyan should therefore be based on selectivity, interpretation and corridor logic. The community does not need a wide portfolio of disconnected tourism products, but a small and coherent product family built around canyon hiking, monastery access, cultural landscape interpretation, literary identity and local product stops. Table 2 translates this product concept into practical ecotourism and service tools, identifying the intended visitor format and market, the local operators and spending channels involved, and the minimum safeguards that must be satisfied before launch. The table should therefore be read as a phased product-development framework rather than as confirmation that all proposed products are already operational.

Table 2. Priority ecotourism product and service tools

Product / service tool	Format and market	Operator and local spending	Launch safeguards
Kobayr Cliffside Heritage Walk	Two- to four-hour guided walk for culture, scenery and small groups	Local guide; licensed transfer; meal/product stop; optional stay	Heritage/site approval; path and slope validation; group rule; interpretation; sanitation; closure and maintenance owner
Dsegh Literature, Lake and Village Day	Full-day or one-night literary, village and nature product	Museum/guide; local meal; product seller; accommodation; optional horse/cycle provider	Museum and route agreements; verified lake/forest access; animal/bike safety; season; local booking/referral
Debed Canyon Viewpoint and River Interpretation	Short scenic/geology/river stops for corridor visitors	Guide/driver; café/meal; local sales; optional rafting referral	Only approved stops; road/slope/parking/riparian screen; licensed rafting and rescue/permit check where used
Seasonal Local Products and Gastronomy Stops	Meal, tasting, demonstration and sales add-on	Household/small business; guide referral; route package	Food hygiene; verified local origin; sustainable/legal collection; season and quantity; transparent price and sales record
Conditional Legal-Road Trailhead Transfer	Scheduled 4x4/minibus on an existing legal road, followed by a guided walk; no recreational off-roading	Licensed transport/driver and guide; meal or stay link	Fixed approved road/stops; Forest Economy/land-manager review; vehicle/insurance/capacity/weather rules; no cross-country or closed-area entry
Vanadzor–Tumanyan–Alaverdi Lori Route	Two-to-three-day city-outdoor, canyon-literary	Joint operators; transport, guides, accommodation,	Verified timings and handovers; differentiated products;

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Product / service tool	Format and market	Operator and local spending	Launch safeguards
	and industrial/monastic sequence	meals and products in each community	booking/cancellation; common visitor rules; benefit and data method

Source: Authors' elaboration.

8. Infrastructure and Service Needs

Tumanyan's first infrastructure need is a verified route-and-service system, not a new large building. For Dsegh village and Dsegh crossroad, the available evidence does not confirm what signs, maps, staffed information, toilets, parking, digital access or booking/referral functions currently exist. A field audit should record each facility, ownership, condition, opening/season, accessibility, maintenance and gap. The preferred first option is a small information and booking function within an existing suitable facility, supported by a corridor sign and digital route status, if safety and road-authority approval allow it.

The first infrastructure gap concerns route organization. In a place such as Tumanyan, where tourism depends on movement through the Debed Gorge landscape and access to sites such as Kobayr, route clarity is essential. The stakeholder process identified missing signage, inaccurate mapping, and weak visibility as major barriers, and these issues are especially serious here because moderate accessibility and canyon terrain leave little margin for confusion. In practical terms, the priority is not large physical infrastructure but a functioning route system: clearly marked trailheads, directional signage, simple interpretation points, and reliable route information in both physical and digital form. Without these elements, even low visitor numbers remain poorly managed.

A second gap concerns basic visitor facilities. The absence of a visitor center should not automatically lead to the recommendation for a new large building. Under Tumanyan conditions, a more realistic first step would be a small visitor-information function integrated into an existing local facility or service point, potentially linked to Dsegh or another active node in the wider community. The stakeholder discussions also highlighted the lack of public toilets at ecotourism sites, and this is directly relevant here. Because Tumanyan relies on stop-based and route-based tourism rather than on a compact urban visitor core, even a small number of poorly serviced visitor points can reduce the quality of the experience and create sanitation problems. Accommodation is another limitation. The site assessment identifies no formal accommodation base inside the immediate tourism development space and notes that the closest option is Tumanyan Guesthouse in Dsegh. This is important because it shapes the realistic tourism model for the site. Tumanyan is not yet in a position to promote longer or more intensive tourism stays without relying on nearby settlements. In practice, this means that ecotourism products should initially be designed either as day visits or as short itineraries supported by accommodation in the wider community context rather than within the core canyon and heritage space itself. The practical focus should therefore be on linking existing accommodation to route-based tourism rather than attempting immediate new construction.

Service infrastructure is also limited. The stakeholder process identified the need for local food points and small gastronomy stops, which is particularly relevant in Tumanyan because visitor movement is dispersed and the tourism experience depends on route-based stops rather than on a concentrated hospitality zone. Under these conditions, small food and rest points using local products would add more practical value than more ambitious facility concepts. They would improve visitor comfort, support local income, and help turn passing visitation into more locally retained spending. Access infrastructure should also be understood realistically. The main roads make the area reachable, but the tourism landscape itself is shaped by canyon topography, walking access, slope conditions, and seasonal limitations. This means that large access expansion is neither necessary nor always desirable. The more appropriate practical focus is selective improvement: safe access to priority routes, better information at entry points, and small-scale safety-related improvements where terrain requires them. In a site with high landslide risk, infrastructure planning must remain modest and avoid pushing tourism into unstable or hard-to-manage spaces.

Given Tumanyan's limited service base, the first infrastructure priority is an effective use of existing spaces and local capacities. The practical need is to establish a reliable information and booking function, improve visitor orientation and route status, and strengthen guide competencies through a distributed training approach. Table 3 translates these needs into a small set of operational tools and identifies the minimum function and decision required before investment or implementation.

Table 3. Dsegh information and guide-training tools

Tool	Minimum function	Decision before investment
Dsegh/crossroad facility audit	Inventory signs, maps, staff, parking, toilets, accessibility, power/data, opening and maintenance	Confirm site ownership, road safety, actual gaps and responsible operator
Information and booking point in existing space	Approved products/routes, live status, maps, visitor code, booking/referral, emergency contacts and provider directory	Select venue through operational and accessibility review; avoid new construction unless use and staffing justify it
Distributed guide-training programme	Canyon/forest ecology, heritage/literary interpretation, first aid, route leadership, visitor conduct, data and referrals	Agree competency standard, trainer, field assessment, refresher and guide register
Possible COAF partnership	Potential venue, youth outreach or training support	Confirm COAF mandate, location/capacity, safeguarding, programme fit, cost and written agreement; no role is assumed

Source: Authors' elaboration.

The most realistic infrastructure agenda for Tumanyan should therefore focus on a limited number of practical improvements:

- Clear trailheads, directional signage, and route markers
- Simple interpretation points at key natural and cultural access locations
- Basic visitor facilities, including toilets, at priority ecotourism stops
- Improved mapping, digital visibility, and route information
- Support to small gastronomy and local product points along visitor routes
- Stronger linkage between existing accommodation in the wider community and the main tourism experiences
- Selective safety-related improvements on routes affected by terrain and seasonal conditions

For Tumanyan, infrastructure planning should remain highly practical. The main need is not a large tourism platform, but a functioning minimum system that makes canyon-and-heritage ecotourism understandable, safe, and locally useful. Because visitor demand is still limited, the priority is to solve the basic gaps that currently prevent the site from operating as a coherent ecotourism destination rather than to invest in broad expansion.

These infrastructure and service needs can be grouped into a limited number of investment-readiness fields that should guide early planning and technical preparation. Table 4 summarizes the principal fields in which investment may be required and identifies the specific object and sequencing condition for each. At this stage, the table does not constitute a costed investment

programme; rather, it establishes which interventions should be prepared first and what conditions must be satisfied before financing or physical works are considered.

Table 4. Primary fields of investment

Priority field	Specific object	Sequence / condition
Spatial and route readiness	Numbered attractions; legal access; approved routes/zones; Emerald, forest, heritage, hazard, service and closure layers	First priority; before promotion or works
Information and booking	Existing-space Dsegh/corridor function, route status, maps, visitor code, booking/referral and provider directory	After facility/operator audit
Trailheads, signs and safety	Only on approved routes; waymarkers, small safety works, emergency/closure information and maintenance plan	After route/hazard and site-manager validation
Minimum visitor facilities	Sanitation, waste/rest function and parking only where use, land, design and maintenance justify them	After demand and site assessment
People and products	Guide training, operator agreements, local food/product readiness and test departures	Year 1 pilot; repeat only after results
Monitoring and maintenance	Counts/logs, route/habitat condition points, incident reporting, inspection and repair/closure budget	Start with pilots; ongoing

Source: Authors' elaboration.

A new guide-training centre is not recommended as an immediate construction project. The practical tool is a distributed programme using existing community or regional venues and field routes. COAF may be approached as a possible venue, youth-outreach or training partner, but only after its mandate, capacity, programme fit, costs and written agreement are confirmed. Certification or recognition should be aligned with the relevant national guide and vocational framework rather than created as an unsupported local certificate.

9. Governance and Institutional Arrangements

Tumanyan requires a municipality-led, land- and site-manager-approved operating model.

Tumanyan Municipality convenes the system and maintains the public attraction and product register; the competent Forest Economy confirms forest land, legal roads and trails, forest work and haulage conflicts, fire and closure conditions and habitat safeguards; heritage and museum managers approve site access and interpretation; a DMO or designated packaging partner handles only approved products; and operators deliver services, brief visitors and submit logs. Community-level participation is recorded, but the available list does not allow confirmation of Forest Economy participation; formal engagement remains a precondition for forest-linked products.

Administration should use a small Tumanyan Ecotourism Co-management Unit chaired by the Municipality. It is a coordination and operating arrangement, not a transfer of statutory authority. Core members are the Municipality and competent Forest Economy; heritage/site managers join for Kobayr, museum and other protected cultural assets; service/route representatives join for delivery. The unit approves the annual open-route and product list, records conditions and closures, assigns maintenance, reviews incidents and monitoring, and publishes visitor information. Each authority retains its legal mandate and may refuse or close an activity within its competence.

Local service actors will also be central, but in Tumanyan their role should be understood in realistic terms. The private sector here is not a large tourism investment base; it is made up of small accommodation providers, food points, guides, and local businesses that can support stop-based and route-based tourism. This is consistent with the broader tourism pattern already visible in the corridor, where the tourism offer is dispersed and tied to village and landscape experiences rather than to major destination infrastructure. In governance terms, these actors should be involved not only as beneficiaries but as practical partners in route maintenance, visitor orientation, timing of services, and local product integration. Under current conditions, small local businesses are more important to Tumanyan's ecotourism future than any large external investor. Coordination is one of the main governance gaps. Tumanyan's attractions are dispersed, the service base is limited, and tourism is closely connected to wider corridor movement through Debed Gorge. This means that fragmented action by individual actors would be especially weak here. A practical coordination mechanism should therefore be established around a small local working group or platform involving Tumanyan Municipality, relevant environmental and heritage bodies where needed, local accommodation and food providers, community representatives from settlements such as Dsegh and Kobayr-linked areas, and any support organizations active in the corridor. The purpose of this mechanism would not be bureaucratic expansion, but practical coordination on route priorities, visitor rules, signage, seasonal conditions, service points, and promotion of official access routes.

Public-private partnership is relevant, but only in a limited and practical sense. In Tumanyan, PPP should not be interpreted as a pathway for large tourism construction. The more realistic form is cooperation between the municipality and small private or community-based actors around route management, signage, minor visitor facilities, local food points, cultural interpretation, and packaging of community-based services. This kind of arrangement is much more consistent with the actual demand level and infrastructure base of the site. The role of corridor-level and destination-promotion initiatives is also relevant here. Platforms such as Visit Debed and tumanyan.town already contribute to the visibility and framing of the area as a place for hiking, remote stays, and canyon-based travel. They are not governance authorities, but they can function as useful enabling actors for promotion, packaging, and visitor communication if they are connected more clearly to local management priorities.

The main governance weakness remains the absence of stronger co-management and benefit-sharing arrangements. In a site such as Tumanyan, this matters because even limited visitor growth can create pressure on routes, heritage access, and landscape quality without automatically generating coordinated local benefit. The practical implication is that governance should evolve gradually from simple municipal coordination toward clearer arrangements on who maintains routes, who provides visitor information, how heritage and environmental restrictions are communicated, and how small local businesses are linked to the ecotourism offer. For Tumanyan, the most effective institutional model is therefore a layered one: the municipality coordinates local planning and service linkage, environmental authorities provide ecological oversight where required, heritage authorities remain relevant for monastery and museum-linked tourism, and small local businesses and corridor-level initiatives support delivery and visibility. Under current conditions, that is the governance structure most consistent with the site's actual scale, sensitivity, and tourism potential.

The governance model described above requires a clear allocation of operational responsibilities if it is to function in practice. Table 5 therefore translates the proposed municipality-led, land- and site-manager-approved model into specific decision and delivery roles for the principal actors involved in Tumanyan's ecotourism system. It also identifies the minimum record or instrument required to document route approval, visitor conditions, maintenance, service delivery, monitoring and follow-up actions.

Table 5. Administration and co-management responsibilities

Actor	Decision / operating role	Required record
Tumanyan Municipality	Chair unit; coordinate public space, services, providers and annual implementation; maintain public register	Annual action plan; attraction/product/provider and maintenance registers
Competent Forest Economy / forest-management unit	Confirm forest land/access, forestry work and haulage compatibility, road condition, fire/closures and ecological concerns	Forest–Tourism Compatibility Register; route/season condition or refusal
Heritage authority, Kobayr/site and museum managers	Approve access, interpretation, visitor rules, works, events and monitoring for cultural assets	Site-use conditions; content approval; condition/incident record
DMO / packaging partner	Package and promote only approved products; booking/referral, market feedback and Lori route coordination	Approved product directory; booking and visitor-data method
Guides, transport, accommodation, food and product providers	Operate services; brief visitors; record bookings/incidents; maintain agreed objects and local-benefit links	Provider agreement; safety/visitor code; service and maintenance logs
COAF/NGO/research/emergency partners	Possible training, inclusion, science, accessibility and emergency support by agreement	Terms of reference; curriculum/review or emergency protocol

Source: Authors' elaboration.

10. Visitor Management System

The immediate visitor-management system is: (1) a numbered attraction and route register; (2) mapped legal access, forest-work, Emerald/habitat, heritage, slope/fire/weather and closure layers; (3) product status showing operator, season, group/vehicle/guide conditions and alternative; (4) information, booking/referral and pre-visit briefing; (5) route/activity visitor codes; (6) signs only after approval; (7) inspections, counts, guide/provider and incident logs; and (8) named maintenance, closure and emergency decision owners.

Community-wide daily quotas should not be invented before a baseline exists. Route- or product-specific group, vehicle, season or guided-use conditions may be set for slope safety, forest work/fire, riparian or cliff sensitivity, heritage requirements, parking or service capacity. A legal-road 4x4/minibus transfer is a transport service to an approved trailhead, not recreational off-roading; cross-country movement and entry into closed, unstable, active-work or sensitive areas are prohibited.

Guided-only access should not be applied across the entire community at this stage. The site does not yet have the tourism volume, service base, or institutional structure to justify such a system everywhere. However, guided access should be encouraged in the more sensitive or more interpretation-dependent parts of the tourism space, particularly where canyon terrain, biodiversity value, or heritage context make unstructured movement less appropriate. In practice, guided visits would be especially useful for Kobayr-linked routes, landscape interpretation, and combined heritage-and-ecology experiences.

Enforcement will initially depend more on route organization and local supervision than on formal control mechanisms. Tumanyan does not yet have the kind of destination structure where visitor management can rely on ticketing, counters, or formal access control. The more realistic approach is to use visible signage, route marking, simple site rules, and local coordination between the municipality, local service actors, and any heritage or environmental institutions involved in route planning. In this kind of setting, weak enforcement is often the result of weak visitor orientation, so the first form of enforcement is clarity. The most realistic visitor management model for Tumanyan is therefore one built around designated routes, seasonal caution, simple but visible visitor rules, and selective use of guided formats. The objective is not to create a restrictive system for a site with low visitor flow, but to ensure that tourism remains understandable, safe, and compatible with canyon ecology, heritage access, and local management capacity as use gradually develops.

11. Local Economy and Benefit Sharing

Tumanyan has a small local economic base, and this directly shapes what benefit sharing from ecotourism can realistically mean. As of 1 January 2025, Tumanyan community had a permanent population of 5.7 thousand, while official statistics recorded 511 officially registered unemployed in Tumanyan at the end of 2024. This confirms that the community is not starting from a strong labour or service base and that ecotourism should be treated as a supplementary source of local income rather than as a stand-alone solution to employment constraints. At the same time, the small scale of the community means that even modest tourism-related income can be locally meaningful if it is retained through local services and products. The wider regional economy supports this interpretation. In 2024, Lori accounted for 8.8% of Armenia's agricultural output, 4.9% of industrial output, and 1.1% of services, and official regional reporting describes agriculture and industry as the leading branches of the marz, while also noting that tourism is developed in Lori. The value of accommodation and food service activities in Lori reached 3,739.9 million AMD in 2024, and the number of incoming tourists staying in hotel facilities was 3,475.² These figures do not describe Tumanyan alone, but they do show that the community sits within a marz that already has a functioning, if still limited, tourism economy. For Tumanyan, this means that the most realistic opportunity is not to create a destination economy from zero, but to capture part of existing corridor-based tourism through better local organization and route-based service delivery.

Jobs created through ecotourism in Tumanyan are therefore likely to remain limited in number, but important in local effect. The most realistic channels are local guiding, small food points, guesthouse stays in the wider community space, heritage interpretation, local transport support, and route-related services such as maintenance or orientation. This fits the current conditions of the site, where visitor flow is low, accommodation is limited, and tourism depends on specific route stops such as Kobayr and Dsegh rather than on a broader destination platform. The community should not expect ecotourism to generate large employment volumes, but it can realistically create supplementary income opportunities linked to short visits, route-based stops, and small local businesses. Local products are a clear economic opportunity, but it is important to distinguish between potential and current practice. The site already has relevant products, including honey, herbs, mushrooms, and berries, and these fit well with the wider forest- and gorge-based identity of the area. However, current conditions do not yet indicate a structured system of local product sales through tourism. In other words, the resource base exists, but the local ecotourism economy has not yet translated it into a stable tourism-facing offer. This is why benefit sharing in Tumanyan should focus not only on attracting visitors, but on creating simple mechanisms through which local products can actually enter the tourism experience, for example through food points, tasting stops, teas, preserves, and small sales connected to hiking and heritage routes.

Inclusion should be treated as a practical economic priority. In Lori, women represented the larger share of officially registered unemployed at the end of 2024, with 3,376 women compared with 2,241 men.³ This suggests that small-scale tourism opportunities need to be designed in ways that are realistically accessible to women as well as to men. In Tumanyan, this is especially relevant because the most suitable tourism roles are not heavy-capital activities, but small service and household-linked functions such as food provision, local product preparation, guiding support, cultural interpretation, and guesthouse-related services. Youth inclusion is also important, particularly in guiding, digital promotion,

² Statistical Committee of the Republic of Armenia

³ Statistical Committee of the Republic of Armenia

route assistance, and heritage or literary interpretation linked to Dsegh and the broader Tumanyan identity. A formal community revenue-sharing mechanism is not yet in place, and this limits the ability to convert tourism use into structured local benefit. Under current conditions, benefit sharing in Tumanyan will depend mainly on direct participation by households and small businesses rather than on a centralized system. This makes early coordination particularly important. If route-based tourism grows, clearer local arrangements will be needed around food points, guide services, route maintenance, and other practical functions so that the community does not simply host visitor movement without retaining value from it. At this stage, the most realistic local economy model for Tumanyan is one in which ecotourism creates small but visible income through local services, local products, and selective inclusion of women and youth in the value chain.

12. Environmental and Climate Considerations

Tumanyan's biodiversity sensitivity is site-specific. Priority features for validation are rocky cliffs and ledges; the Debed River and riparian corridor; older forest patches and forest edges; meadows/microhabitats; and routes where these features coincide with heritage access or unstable slopes. The existing species list is not sufficient for wildlife promotion. Each product needs a science-reviewed field check, mapped sensitive features, a lower-risk alignment and condition points before launch.

Likely tourism-disturbance pathways are: trampling and route widening near slopes or riparian edges; soil/path erosion and shortcuts on Kobayr and viewpoint access; noise, lights or repeated groups near cliff or forest habitat; litter, fire and unmanaged stopping; collection of plants, fungi or other natural material; pursuit or guaranteed marketing of wildlife; vehicle spread beyond legal roads; and poorly located signs, toilets, parking or viewpoints. The response is route approval, no-go/season layers, activity rules, small groups where required, inspection and a repair, reroute or closure trigger.

Community impact risk is assessed as medium, which is also consistent with the local setting. Tumanyan is a small community with limited tourism infrastructure and a narrow service base. This means that even moderate tourism growth can create pressure if it is not linked to local participation and realistic service capacity. The main concern is not current opposition, but the possibility that tourism remains externally oriented, poorly coordinated, or disconnected from local livelihoods such as food provision, guiding, and small product sales. The practical implication is that ecotourism should remain small-scale and should fit around existing community rhythms rather than impose a destination model that the site cannot yet support. Cultural heritage risk is assessed as low, and this should be kept proportionate. Tumanyan does contain heritage-sensitive places, especially Kobayr Monastery, and it sits in a broader cultural corridor that includes Haghpat and Odzun. However, current visitor pressure is still limited, and the tourism baseline does not suggest intense or concentrated use that would already place heavy pressure on heritage assets. The main heritage-related risk is therefore local and practical: unmanaged path erosion, informal access, weak visitor orientation, and lack of basic protective discipline around stops that combine scenery and heritage. In other words, the risk is real, but it remains manageable if route definition and visitor behavior are improved early.

Climate-related risk is more decisive in Tumanyan than in some other pilot communities. Drought risk is medium, fire risk is medium, and landslide risk is high. Of these, landslides are the most important planning factor. Armenia's climate reporting identifies more than 2,500 landslide-prone sites nationwide, and it specifically notes a landslide event in Tumanyan community, Lori marz, where a large section of hillside collapsed and created an emergency situation. This broader climate-hazard evidence strongly supports the high landslide rating already used in the package. In practical terms, slope instability is not a background issue here; it is one of the main reasons why visitor movement must remain route-based and why route validation, seasonal caution, and selective infrastructure placement are essential. Fire and drought should also be treated seriously, but in proportion to the site. Neither is the defining constraint in the same way as landslide exposure, yet both matter because Tumanyan combines forest patches, dry periods, and canyon conditions where response and access can be more difficult than in flatter terrain. Medium drought risk may affect seasonal vegetation, route comfort, and visitor timing, while medium fire risk requires practical controls on visitor behavior during dry periods, especially around smoking, open flame, and unmanaged stop points. These are manageable risks, but only if they are integrated into seasonal visitor management and route use decisions from the beginning.

Environmental management in Tumanyan therefore needs to be preventive, route-specific and closely linked to terrain conditions. The main risks arise where visitor use overlaps with cliffs and unstable slopes, riparian areas, forest patches, meadows and heritage-access routes, particularly where landslide, erosion, fire, collection or off-route movement may occur. Table 6 translates these sensitivities into an operational management tool by linking each feature with the relevant pressure pathway and the control or trigger required to prevent, restrict, reroute or temporarily close visitor use where conditions deteriorate.

Table 6. Biodiversity and terrain sensitivity tool

Feature	Pressure pathway	Control and trigger
Cliffs, rocky slopes and heritage-access paths	Shortcuts, erosion, noise, crowding, rock/slope hazard and intrusive works	Approved path/stop; heritage and hazard review; group/season rule; damage/warning → close, reroute or repair
Debed River and riparian corridor	Bank trampling, litter, informal stopping, noise, wastewater and unsafe river access	Designated low-impact stops; sanitation/waste control; river/operator rules; deterioration → restrict or remove stop
Forest patches, older forest and edges	Off-route movement, wildlife pursuit, collection, fire, vehicle spread and forest-work conflict	Forest-unit validation; no disturbance/collection/fire/off-road use; closure during work, fire danger or sensitive period
Meadows, microhabitats and local-product areas	Trampling, unsustainable or unsafe collection and unverified product origin	Mapped route; legal/sustainable sourcing; provider traceability; supply/habitat concern → suspend collection-linked offer
Unstable canyon/road locations	Landslide, rockfall, damaged surface, blocked emergency access or poorly placed facility	Pre-season and event-triggered inspection; no works on unstable site; warning/damage → immediate closure and technical review

Source: Authors' elaboration.

The most appropriate mitigation approach for Tumanyan is preventive and highly practical:

- Keep visitor use concentrated on designated and validated routes.
- Avoid opening tourism access into unstable slopes, unmarked canyon sections, or sensitive riparian habitats.
- Use simple but visible signage to reduce informal movement and route confusion.
- Apply seasonal caution or temporary restriction where slope safety or weather conditions require it.
- Prohibit uncontrolled camping, off-road movement, and open-fire use in sensitive natural areas.
- Integrate biodiversity and visitor-conduct information into guiding and site interpretation.
- Keep new infrastructure limited to lower-risk and already disturbed locations.

Under Tumanyan conditions, environmental mitigation is not mainly about managing high visitor numbers. It is about ensuring that even low or moderate visitor use does not create disproportionate damage in a landscape where terrain instability, ecological sensitivity, and dispersed heritage access make the site more fragile than it may first appear.

13. Monitoring Framework

The monitoring framework for Tumanyan is intended to support adaptive management by tracking whether ecotourism development remains compatible with environmental and safety conditions, forest and heritage requirements, local economic objectives and visitor expectations. Its main objectives are to establish a consistent visitor, day/overnight and segment baseline; confirm that use remains on approved routes and complies with forest, heritage, seasonal and vehicle conditions; detect habitat, trail, litter, fire and slope problems at an early stage; measure local provider participation and visitor spending; track training, inclusion and visitor experience; and trigger timely adjustments to products, routes, maintenance, closures or promotion where conditions or results deteriorate. Table 7 translates these objectives into an operational monitoring framework by linking each objective to indicators, an initial direction or target, monitoring frequency, responsible actors and the corresponding management response.

Table 7. Biodiversity and terrain sensitivity tool

Objective	Indicator and baseline	Initial direction / target	Frequency and lead	Management response
Visitor and market baseline	Product/route users, segment, origin, bookings, day/overnight, stay length and accommodation link. Baseline: not available	Use one Year 1 method and repeat; improve verified package conversion within site conditions	Monthly in season; annual summary. Municipality + DMO/providers	Adjust product, schedule, information and promotion
Approved use and safety	Open/closed routes, manager conditions, incidents, off-route/unauthorized vehicle use	Zero operation in closed, active-work or prohibited areas; every product reviewed	Pre-season and change-triggered. Land/site managers + Municipality	Close/reroute, notify bookings, correct or suspend operator
Habitat, heritage and route condition	Fixed points for erosion, shortcuts, litter/fire, habitat/heritage condition, signs and slope warnings	No net tourism-related deterioration after baseline	Pre-/post-season and event-triggered. Managers + technical support	Repair, restrict group/season/activity, reroute or close
Local value	Active local providers; guide/meal/stay/product/transport bookings; indicative local spending	Year 1 baseline; increase verified local linkages and payments	Six-monthly/annual. Municipality + providers	Redesign suppliers, price, booking or itinerary
Training and inclusion	Assessed guides/trainees and women/youth among owners, workers and providers	Competency and disaggregated baseline; annual review	Per cohort; annual. Municipality + training partners	Adapt outreach, curriculum, assessment and support
Visitor quality and conduct	Satisfaction, complaints, rule breaches, interpretation accuracy and unresolved defects	Improving satisfaction; no unresolved critical breach	Per product; annual review. Providers + DMO/Municipality	Coaching, correction deadline, content change or suspension

Source: Authors' elaboration.

Tumanyan-specific field focus. The common indicators in Table 7 should be applied at fixed observation points on the approved Kobayr and Dsegh routes, selected Debed Gorge viewpoints and any other promoted trail or stop. Inspections should record erosion and informal shortcuts, litter and fire signs, forest-work conflicts, heritage-access condition, marker and interpretation condition, and visible slope or landslide hazards. Pre-season and post-season checks should be supplemented after severe weather or a reported incident, and route status should be updated before further promotion.

Corridor retention and local value. Tumanyan's distinctive performance question is whether movement through the Debed corridor is converted into paid use of local guiding, legal transport, meals, accommodation, interpretation and traceable local products. Guide, booking, accommodation and provider records should therefore connect day or overnight status, stay length, service use and spending to named routes and products. The review should also record which settlements and providers benefit, including the participation of women- and youth-led services.

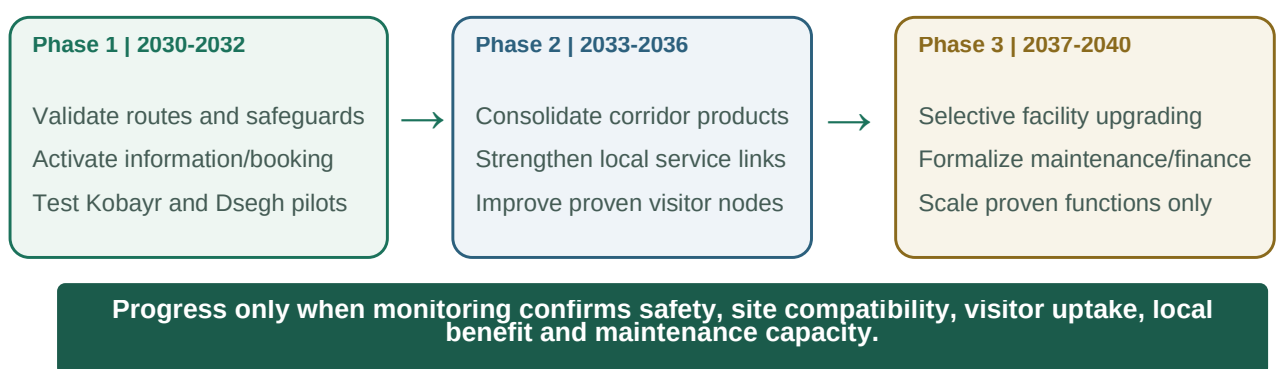
Review and management response. Tumanyan Municipality should review the combined results with the competent Forest Economy, heritage and site managers, Lori DMO, participating providers and other responsible actors before and after the main season and following significant incidents. Each review should record the decision, responsible actor and completion date, including whether a route or product is maintained, repaired, rerouted, restricted to guided use, temporarily closed, redesigned or considered ready for the next implementation phase.

14. Investment and Implementation Plan

Investment must be organized around specific objects, responsible actors, operating costs and maintenance arrangements. The first phase is route, information, people and management readiness; physical works follow only after route/site validation. Precise amounts remain to be determined after field assessment, design, quantities, permissions, procurement method and operating/maintenance plans are confirmed. Regional Lori statistics provide context but do not demonstrate Tumanyan demand or financial viability.

Figure 6 summarizes the common three-phase implementation sequence. The dates indicate planning periods rather than automatic progression; movement to the next phase depends on the monitoring evidence and readiness conditions stated below.

Figure 7. Phased investment and implementation sequence



Source: Authors' elaboration.

Phase 1

For 2030–2032, the priority should be basic operational readiness. This phase should focus on solving the most immediate obstacles that currently prevent Tumanyan from functioning as a coherent ecotourism site. The most important actions should include:

- Validation of the main visitor routes and stop points, especially those linked to Kobayr, Dsegh, and selected Debed Gorge viewpoints
- Installation of clear trailheads, route markers, and directional signage
- Preparation of simple interpretation and visitor information materials for canyon ecology, heritage, and local products
- Creation of basic visitor facilities at priority stops, especially sanitation and rest-point functions where feasible
- Identification and organization of local service providers that can support food points, guiding, and small route-based services
- Establishment of a local coordination mechanism involving the municipality, local businesses, and relevant heritage or environmental actors

These first-phase actions are launch prerequisites rather than stand-alone infrastructure projects. They establish where visitor use is safe and manageable, which routes and services can be promoted, who is responsible for operation and maintenance, and what information is needed before physical investment is finalized. Table 8 translates these priorities into specific investment objects, minimum outputs, responsible actors, indicative timing and the technical information required before costs can be confirmed.

Table 8. Priority investment objects and implementation requirements

Investment object	Minimum output	Lead / partners	Timing	Cost status
Attraction, route and zoning validation	Numbered attraction and route register; legal access; land/manager status; Emerald, forest, heritage, hazard and closure layers	Tumanyan Municipality + Forest Economy + heritage/site managers + GIS/technical support	First priority / 0–6 months	Field survey and technical scope required
Dsegh/corridor information and booking function	Existing-facility audit; approved route/product information; live status; maps; booking/referral; provider directory; emergency contacts	Municipality + designated information/DMO partner	0–9 months	Cost after facility/operator audit
Kobayr and Dsegh priority route packages	Approved route, trailhead, waymarking, interpretation, slope/safety controls, sanitation needs and maintenance responsibility	Municipality + heritage/site managers + Forest Economy + guides/operators	6–18 months	Route design and BoQ required
Minimum visitor facilities	Toilets, waste/rest function and parking only at justified lower-risk nodes with clear maintenance arrangements	Municipality + site/land managers	After route and demand validation	Site design, quantities and O&M plan required
Guide training and provider readiness	Distributed guide-training programme; route/heritage/ecology modules; first aid; provider agreements and guide register	Municipality + competent training partner + possible COAF/NGO partner by agreement	Year 1–2	Curriculum, cohort and venue costing required
Local food and product pilots	Verified local suppliers; hygiene/source checks; prices; tasting/meal formats; sales and benefit records	Providers/producer groups + Municipality/DMO	Year 1 pilot	Supplier and pilot design required
Monitoring, maintenance and closure system	Visitor/product logs; route/habitat condition points; incident reporting; inspection calendar; repair and closure responsibility	Municipality + Forest Economy + heritage/site managers + operators	Start with pilots; ongoing	Equipment and annual maintenance budget to be costed
Vanadzor–Tumanyan–Alaverdi linked-route pilot	Verified itinerary, operator handovers, timings, booking/cancellation system, common visitor rules and local-benefit tracking	DMO/packaging partner + participating communities/providers	After core Tumanyan products are validated	Pilot business case after baseline

Source: Authors' elaboration.

Completion of these initial investment objects provides the operational foundation for later product consolidation and selective scaling. Progression to the subsequent phases should depend on evidence from visitor use, route and environmental condition, provider participation, maintenance performance and local economic benefit.

Phase 2

For 2033–2036, the emphasis should shift toward service improvement and product consolidation. If the first phase succeeds in improving route clarity and local coordination, the next step is to build a stronger local tourism offer around the existing route structure. This phase should include:

- Upgrading the quality of interpretation points and route information
- Improving the presentation and quality of local food and product stops
- Linking local products such as honey, herbs, mushrooms, and berries more clearly to tourism experiences
- Supporting local guides and interpretation providers for heritage-and-landscape routes
- Improving the connection between accommodation in the wider community context and the main visitor routes
- Introducing a regular seasonal review of route condition, visitor presence, and local service use

This is the phase where Tumanyan begins to capture more value from the visitor movement that already passes through the wider Debed corridor. The objective is not to multiply attractions, but to turn existing movement into more locally retained and better structured tourism.

Phase 3

For 2037–2040, the site may support selective strengthening of infrastructure and institutional arrangements, but only if earlier phases show that visitor use is increasing in a manageable way and that local benefit is being retained. This later phase should not be interpreted as automatic expansion. It should depend on actual evidence from monitoring and local participation. Relevant actions may include:

- Improving visitor-information functions within existing buildings or local facilities
- Strengthening small-scale accommodation or food-service quality in already used locations
- Improving route safety or access elements where terrain and use patterns justify it
- Clarifying maintenance and financing responsibilities for signage, route markers, and visitor facilities
- Formalizing local arrangements around guiding, service points, and benefit-sharing where tourism use becomes more regular.

Financing, Costing and Investment Review

Financing should follow the same phased and evidence-based logic as implementation. During the initial phase, public and project-based financing will be particularly important for enabling investments such as route validation and organization, signage and interpretation, visitor information, basic safety and sanitation measures, monitoring, guide and provider capacity building, and local coordination. These functions establish the conditions for ecotourism operation and are unlikely to be financed adequately through private initiative alone in a small community with limited service depth.

Private financing should progressively complement these enabling investments where commercially viable opportunities emerge. In Tumanyan, this is most likely to involve relatively small-scale improvements by households and local businesses, including food and product points, accommodation quality, guiding and transport services, visitor-oriented local products, and other services linked to approved ecotourism routes. This approach is consistent with Tumanyan's small-scale tourism model and avoids relying on major private investment before product demand and operating viability have been demonstrated.

Public-private cooperation may also be appropriate, but it should initially remain practical and proportionate to the scale of the destination. Rather than large infrastructure PPPs, the most realistic arrangements concern shared responsibilities for route maintenance, signage and interpretation, sanitation and visitor facilities, information services, and coordinated delivery of tourism products. More formal partnership mechanisms should only be considered where a clearly defined asset or service, responsible parties, operating model, revenue or contribution mechanism, and maintenance obligations have been established.

Precise capital and operating costs should be determined progressively as individual investment objects reach technical readiness. Each proposed intervention should first have a confirmed location and responsible owner or manager, technical scope, required permissions and safeguards, quantities, implementation and procurement approach, and defined operating and maintenance responsibilities. The investment objects identified in Table 8 therefore provide a framework for technical preparation and sequencing rather than a fixed capital budget.

Investment decisions should also be reviewed against implementation and monitoring results rather than a predetermined long-term growth scenario. Regional Lori tourism statistics provide useful market context but do not measure Tumanyan-specific ecotourism demand, visitor conversion, local spending or financial performance, and the available regional series is not sufficient to support a defensible visitor-growth projection to 2040. No long-range growth forecast is therefore adopted for the Plan. Progression from initial pilots to product consolidation and later infrastructure strengthening should instead depend on observed product and route use, visitor satisfaction, environmental and safety performance, local provider participation and spending, operating and maintenance requirements, and demonstrated capacity to manage additional tourism activity.

The investment programme should consequently be reviewed periodically alongside the Monitoring Framework. Investment objects may be advanced, modified, postponed or removed according to the evidence generated during implementation. This adaptive approach allows Tumanyan to strengthen successful products and services while avoiding premature infrastructure expenditure or expansion into locations where demand, environmental compatibility, safety or long-term maintenance cannot be demonstrated.

15. Final Site Classification and Conclusions

Tumanyan is provisionally classified as suitable for controlled, route-based ecotourism development, with limited service and sustainable-development functions in verified lower-risk and already used locations. This conclusion consolidates the baseline, attraction, zoning, product, infrastructure, governance, environmental, monitoring and investment assessments and replaces the preliminary eligibility judgement previously presented near the beginning of the Plan.

The classification is supported by a clear canyon, heritage and village asset system. The Debed Gorge and River landscape, Kobayr Monastery, Dsegh and the Hovhannes Tumanyan House-Museum, Tsover Lake and field-verified walking, cycling and horse-riding connections can support a coherent family of small guided and self-guided experiences. Tumanyan's market opportunity is to connect these assets with local food, accommodation, legal transfers, interpretation and product sales, while also linking suitable offers to the wider Vanadzor-Tumanyan-Alaverdi corridor.

The classification is conditional rather than unrestricted. Landslide and slope exposure, uneven and seasonal access, forest operations, heritage-management requirements, candidate Emerald-site context and dispersed service capacity require route-level control. No unverified route, unstable slope, active forest-work area, sensitive habitat, restricted heritage location or unmanaged riparian access should be promoted. Legal access, land and site-manager approval, field safety, environmental compatibility, operating responsibility, visitor rules and maintenance arrangements must be confirmed for every product.

The planning conclusion is a managed Debed-corridor model. The immediate priorities are to complete the attraction, route and zoning register, establish visitor and provider baselines, activate a practical Dsegh and corridor information and booking function, assign maintenance and closure duties, prepare local providers and test a limited number of Kobayr, Dsegh, biodiversity-interpretation and local-food products. Product consolidation and later facility upgrading should proceed only where monitoring confirms safe operation, acceptable route and site condition, visitor uptake, local economic benefit and adequate maintenance capacity. The classification supports gradual local service development, but it does not support destination-wide access or infrastructure-led expansion.

Annex 1: Ecotourism Assessment Tool

Annex 1 presents the completed ecotourism assessment for the site, forming the basis for the management plan.

Component	Field / Criteria	Input / Selection	Notes / Logic
Screening & Eligibility	Critical habitat overlap	☒ Yes ☐ No	
	Endangered species presence	☒ Yes ☐ No	Medium importance
	Land ownership unclear	☐ Yes ☒ No	
	Community opposition	☐ Yes ☒ No	
	Climate risks (fire, landslide, drought)	☒ Yes ☐ No	
	Access constraints	☐ Yes ☐ No ☒ Moderate	If multiple critical risks are present, the site requires controlled or restricted ecotourism development, subject to strict management measures.
Site Identification & Planning Context	Site name	Tumanyan Community	
	Marz / Municipality	Lori/Tumanyan	Candidate Emerald context: 'Debedi gorge' (AM0000023); confirm current official boundary, overlap and management implications in GIS.
	Coordinates / GIS reference	Tumanyan (Lori, Armenia) Latitude: 41.9928° N Longitude: 44.2003° E	
	Legal status	☐ Protected Area ☐ Emerald Site ☒ Community Land ☐ Other	No strict PA but high-value ecosystems Closest Emerald site is "Debedi gorge" area (SiteCode: AM0000023)
	Link to existing plans	☐ PA Management Plan ☒ Community Development Plan ☐ Tourism Strategy	
Ecological & Conservation Profile	Ecosystem type	☒ Forest ☐ Grassland ☐ Wetland ☐ Alpine ☒ Mixed	Temperate Broadleaf Forests (Dominant Ecosystem) , Riparian Ecosystems (Debed River System), Meadows and Semi-natural Grasslands, Rocky Slopes and Cliff Ecosystems Forest Edge and Transitional Zones (Ecotones)

Component	Field / Criteria	Input / Selection	Notes / Logic
Socio-Economic & Community Context	Key habitats	Debed Gorge, river corridors, forest patches	The Tumanyan community is located in the central section of the Debed Gorge, one of Armenia's most prominent river canyon systems. The Debed river corridor in the Tumanyan area functions as a key ecological and landscape axis, connecting mountainous plateaus with lowland systems and supporting riparian habitats, transport routes, and settlement patterns. High priority: Old-growth forests Riparian forests and river corridors Medium priority: Forest edges and ecotones Rocky cliffs Supporting habitats: Meadows and grasslands Microhabitats
	Species of concern	Caucasian red deer is listed in the assessment; complete a science-reviewed route/site inventory before any wildlife claims.	Caucasian Red Deer (<i>Cervus elaphus maral</i>),
	Conservation sensitivity	☐ Low ☒ Medium ☒ High	Map cliffs, riparian corridor, forest/edge habitats, microhabitats and seasonal/no-go conditions for each product.
	Population ~	5.7 thousand permanent population (community, 1 January 2025)	
	Main livelihoods	☒ Agriculture ☒ Livestock ☒ Forestry ☒ Tourism ☒ Services ☐ Industry	
Socio-Economic & Community Context	NTFPs present	☒ Honey ☒ Herbs ☒ Mushrooms ☒ Berries ☐ Other	
	Cultural assets	Historical sites, local traditions	Kobayr Monastery (12th-13th centuries), situated on a forested canyon slope, major monuments such as Haghpat Monastery (UNESCO World Heritage- 10th-13th centuries)

Recommendations for Ecotourism Development Planning in the Tumanyan Community, Armenia

Component	Field / Criteria	Input / Selection	Notes / Logic
Tourism Assets & Baseline Use			and Odzun Monastery 5th-7th centuries Akhtala Monastery 10th-13th centuries, Sanahin Monastery (UNESCO World Heritage Site- 10th-13th centuries), Lori Fortress, 10th-11th centuries illustrating the region's role as a historical spiritual and cultural center. Traditions: village of Dsegh , birthplace of the renowned Armenian poet Hovhannes Tumanyan .
	Community willingness	☐ Low ☒ Medium ☐ High	
	Natural attractions	Kobayr; Dsegh/House-Museum; Tsover Lake; selected Debed Gorge viewpoints/river interpretation; verified local service nodes	Debed Gorge, one of Armenia's most striking natural landscapes, characterized by steep canyon slopes, dramatic rock formations, and a deeply incised river valley. Tumanyan offers a diverse mountain-river ecosystem, combining canyon landscapes and viewpoints, forested slopes and biodiversity habitats, its highly suitable for nature-based and eco-tourism activities.
	Cultural attractions	Historical monuments, settlements	Kobayr Monastery (12th-13th centuries), major monuments such as Haghpat Monastery (UNESCO World Heritage) and Odzun Monastery, illustrating the region's role as a historical spiritual and cultural center. The nearby village of Dsegh, birthplace of the renowned Armenian poet Hovhannes Tumanyan.
	Existing activities	☒ Hiking ☐ Biking ☐ Camping ☒ Guided tours ☐ None	
	Visitor flow	☒ Low ☐ Medium ☐ High	Unmeasured planning classification; establish product/route, day/overnight, segment and spending baseline in Year 1.
	Accessibility	☐ Easy ☒ Moderate ☐ Difficult	Corridor access is favorable; each attraction/route requires legal, seasonal, hazard, transport and emergency-access validation.
	Ecological sensitivity	☐ Low ☒ Medium	Requires zoning

Recommendations for Ecotourism Development Planning in the Tumanyan Community, Armenia

Component	Field / Criteria	Input / Selection	Notes / Logic
Suitability Assessment & Zoning		☒ High	
	Accessibility	☐ Good ☒ Moderate ☒ Poor	
	Tourism demand	☒ Low ☒ Medium ☐ High	
	Zone classification	☐ Strict Conservation Zone ☒ Controlled Ecotourism Zone ☒ Sustainable Development Zone	Map settlement/service areas, controlled-use routes/stops and habitat/heritage/hazard/forest-work closure layers.
Ecotourism Product Development	Hiking routes	☒ Yes ☐ No	
	Wildlife observation	☒ Yes ☐ No	Managed habitat interpretation only after science/site-manager validation; no guaranteed wildlife encounters or off-route pursuit.
	Agro-ecotourism	☐ Yes ☒ No	Community participation required
	Cultural landscape tourism	☒ Yes ☐ No	
	NTFP-based experiences	☒ Yes ☐ No	
Infrastructure & Service Planning	Trails	☒ Yes ☐ No	
	Signage	☐ Yes ☒ No	
	Visitor centers	☐ Yes ☒ No	Audit Dsegh village/crossroad facilities; prefer an information/booking function in an existing suitable space before new construction.
	Accommodation	☐ Yes ☒ No	Only in development zones, closest one Tumanyan Guesthouse (Dsegh)
	Protected Area Authority role	☐ Assigned	Competent Forest Economy and heritage/site managers: route/site approval, forest-work/closure conditions and environmental/heritage oversight.
Governance & Institutional Arrangements	Municipality role	☒ Assigned	Tumanyan Municipality: chair co-management unit, maintain registers, coordinate services, works, monitoring and public information.
	Community groups role	☐ Assigned	Community/user groups: provider and route feedback, local services, inclusion, stewardship and benefit channels.
	Private sector role	☐ Assigned	Providers: operate bookable services, follow conditions,

Recommendations for Ecotourism Development Planning in the Tumanyan Community, Armenia

Component	Field / Criteria	Input / Selection	Notes / Logic
			report bookings/incidents and maintain agreed objects.
	NGO role	☒ Assigned	Training/science/inclusion partners, potentially including COAF by agreement; roles must be defined before implementation.
	Co-management agreement	☐ Yes ☒ No	
	Revenue-sharing agreement	☐ Yes ☒ No	
	Public-private partnership	☐ Yes ☒ No	
Visitor Management System	Visitor limits	☐ Yes ☒ No	No community-wide quota before baseline; set route/product group, vehicle, guide or seasonal limits where evidence/manager conditions require.
	Seasonal restrictions	☒ Yes ☐ No	Seasonal route status for slope/rockfall, wet weather, fire, forest work, heritage condition and maintenance.
	Guided-only access	☐ Yes ☒ No	Guided use for specified safety, biodiversity or heritage conditions; approved lower-risk self-guided use may remain possible.
	Zoning enforcement	☐ Yes ☒ No	
	Max visitors per day	N/A	
	Max group size	N/A	
Benefit Sharing & Local Economy	Local employment	☒ Yes ☐ No	Limited
	Local product sales	☐ Yes ☒ No	
	Community revenue share	☐ Yes ☒ No	
	Women / youth inclusion	☒ Yes ☐ No	
Environmental & Social Safeguards	Biodiversity disturbance risk	☒ Low ☒ Medium ☐ High	
	Community impact risk	☐ Low ☒ Medium ☐ High	
	Cultural heritage risk	☒ Low ☐ Medium ☐ High	
Climate Resilience	Drought risk	☐ Low ☒ Medium ☐ High	
	Fire risk	☐ Low	

Recommendations for Ecotourism Development Planning in the Tumanyan Community, Armenia

Component	Field / Criteria	Input / Selection	Notes / Logic
Monitoring Framework	Landslide risk	☒ Medium ☐ High	
		☐ Low ☐ Medium ☒ High	
	Visitor numbers	Baseline: not available / Initial target: Year 1 product, route, segment and day/overnight baseline / Frequency: monthly in season; annual summary	
	Local income	Baseline: not available / Initial target: Year 1 provider, spending, meal/stay/product-sales baseline / Frequency: six-monthly/annual	
Investment & Financial Structuring	Biodiversity condition	Baseline: Year 1 fixed route, habitat and heritage condition points / Direction: no net tourism-related deterioration / Frequency: pre-/post-season	
	Estimated investment	To be determined after route/site/facility audit, design, permissions, quantities and operating/maintenance plans	
	Financing type	☒ Public ☐ PPP ☒ Private	
	Revenue sources	☐ Entry fees ☒ Services ☒ Products	
	Financial viability	☒ Low ☐ Medium ☐ High	
Implementation Plan	Action	Validate attractions/routes/zones ; audit information facilities; establish co-management; train/test providers; launch approved pilots; monitor and maintain	
	Responsible	Tumanyan Municipality with competent Forest Economy, heritage/site managers, DMO/packaging	

Recommendations for Ecotourism Development Planning in the Tumanyan Community, Armenia

Component	Field / Criteria	Input / Selection	Notes / Logic
		partner, providers and technical/training partners	
	Timeline	Year 1 baseline/validation and pilot readiness; Years 1-3 product tests and minimum facilities; later scaling only after evidence and approvals	

Annex 2: Stakeholders and Consultation Status

The March 2026 meeting summary records participation by Tumanyan representatives, while the available participant list does not identify their names or organizations. This annex therefore distinguishes community-level participation from actor-specific confirmation and records the next validation step for each stakeholder category. Before implementation, Goris Municipality should document named focal points, agreement or disagreement, responsibilities and remaining evidence gaps.

Record / source	Finding	Permitted use in this plan
March 2026 workshop participant record	Tumanyan representatives recorded as participating; names and organizations are not attributable from the available list	Use community-level themes without attribution to named actors; confirm responsibilities before implementation
Desk/regional evidence	Tourism-corridor, official protected-area/Emerald, project mapping and secondary tourism material	Use as evidence/context with limits; verify current local conditions

Required Implementation Stakeholders and Status		
Stakeholder	Expected role	Consultation evidence / next action
Tumanyan Municipality	Chair co-management unit; coordinate public/service actions, registers, maintenance and implementation	Community-level participation recorded; confirm the named municipal representative, decision and annual work plan
Competent Tumanyan Forest Economy / forest-management unit	Validate forest routes, legal roads, forest work/haulage, closures, fire and habitat conditions	Actor-specific participation is not attributable from the available list; engage formally before any forest-linked product and confirm official unit title and coverage
Heritage authority and Kobayr/site management	Approve access, interpretation, works, visitor rules and condition monitoring	Actor-specific participation is not attributable from the available list; complete site-level review before product launch
Hovhannes Tumanyan House-Museum / Dsegh cultural actors	Literary/cultural content, opening/booking, educational product and visitor management	Actor-specific participation is not attributable from the available list; agree product and interpretation roles
Lori DMO / Visit Debed or designated packaging partner	Package only approved products; booking/referral, market feedback and cross-community route	Verify organization, mandate and operating/data agreement
Guides, transport, accommodation, food and product providers	Operate bookable services, visitor briefing, logs, local sales and maintenance commitments	Map and consult named providers; verify licence/standards, capacity, season and written commitments
COAF and other training/NGO/research/accessibility/emergency partners	Possible guide training, youth inclusion, science, accessibility and emergency readiness	No role assumed; confirm mandate/capacity and agree written terms where selected
Community/user groups, women and youth	Route and service feedback, inclusion, stewardship and benefit priorities	Community-level participation recorded; document named settlement and group representation, feedback and decisions during validation

Source: Authors' elaboration.

Annex 3: Summary SWOT Analysis for Ecotourism Development in Tumanyan Community

This concise matrix is a planning summary, not a separate full SWOT study. ‘Verified’ denotes information supported by the project materials; ‘Indicative’ denotes a planning conclusion that still requires site, route, market, ecological or operator validation.

STRENGTHS • [Verified] Debed Gorge, Kobayr Monastery and Dsegh create a distinctive canyon–heritage–literary identity. • [Verified] Existing experience types include short hiking, heritage visits, Dsegh cultural visits, Tsover Lake, cycling, horse riding and glamping in the wider community setting. • [Verified] The M6/Debed corridor provides a regional access spine and links Tumanyan with Vanadzor and Alaverdi. • [Verified] Honey, herbs, mushrooms and berries can support traceable local food and product stops where legality, season and supply are confirmed.	WEAKNESSES • [Verified] No reliable community-level visitor, day/overnight, occupancy, expenditure, price or product-sales baseline is available. • [Verified] Project maps do not yet show named attraction points, approved routes, hazards, sensitive habitats, forest-management areas or service locations. • [Verified] Dsegh and Dsegh-crossroad information facilities, route condition and visitor readiness are not documented in the available evidence. • [Verified] Actor-specific participation by the competent Forest Economy and several key site and service managers cannot be attributed from the available participant list.
OPPORTUNITIES • [Indicative] A small family of bookable canyon, Kobayr, Dsegh and local-product experiences can convert corridor travel into meals, guiding and overnight stays. • [Indicative] A shared information and booking function at an existing Dsegh or corridor facility can serve routes without constructing a large visitor centre. • [Indicative] A distributed guide-training programme can use existing venues and may involve COAF or other qualified partners by written agreement. • [Indicative] A Vanadzor–Tumanyan–Alaverdi route can differentiate city-based outdoor recreation, canyon/literary experiences and industrial/monastic heritage.	THREATS • [Verified] High landslide risk, uneven access and severe weather can close routes and make poorly placed infrastructure unsafe. • [Verified/Indicative] Tourism may conflict with forest work, haulage, fire restrictions, livestock movement or heritage requirements unless routes are reviewed with competent managers. • [Verified] Off-route use, litter, fire, noise, informal viewpoints and poorly managed access can affect cliffs, riparian habitats, forest edges and heritage paths. • [Indicative] Promotion before route, operator, information, safety and maintenance validation could create unsafe or disappointing visits and weak local benefit.

Source: Authors' elaboration.