AKRSP

The Aga Khan Rural Support Programme

Assessing Results Indicators of the PATRIP-Funded Portfolio in Chitral

Final Report

Dec 28, 2025

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ASSESSING RESULTS INDICATORS OF THE PATRIP-FUNDED PORTFOLIO IN CHITRAL, PAKISTAN

EVIDENCE ON CONNECTIVITY, SERVICE ACCESS, LIVELIHOOD OUTCOMES, AND SUSTAINABILITY IN BROGHIL AND YARKHUN VALLEYS

Commissioned by: Aga Khan Rural Support Programme (AKRSP)
Under the PATRIP Foundations Funded Project

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December 2025
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Acronym / Abbreviation	Full Form
AKDN	Aga Khan Development Network
AKRSP	Aga Khan Rural Support Programme
AWARD	All-Weather Access Road Development
BoQ	Bill of Quantities
CO	Community Organization
CRC	Community Resource Centre
DBH	Direct Benefit per Household
DBM	Direct Benefit Measurement
DC	Deputy Commissioner
ESMP	Environmental and Social Management Plan
EU	European Union
FGD	Focus Group Discussion
HH	Household
KIIs	Key Informant Interviews
KP	Khyber Pakhtunkhwa
LEVIS	Levies Force (District Security Force)
LSO	Local Support Organization
M&E	Monitoring and Evaluation
MoU	Memorandum of Understanding
NGO	Non-Governmental Organization
O&M	Operation and Maintenance
OECD	Organization for Economic Co-operation and Development
OECD-DAC	OECD Development Assistance Committee
PA	Personal Assistant (to Deputy Commissioner)
PATRIP	Programme of Assistance to the Transit and Infrastructure Projects
PPS	Probability Proportional to Size
RFP	Request for Proposal
SDGs	Sustainable Development Goals
SECP	Securities and Exchange Commission of Pakistan
ToC	Theory of Change
TOR / ToR	Terms of Reference
VO	Village Organization
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
WO	Women's Organization

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ACKNOWLEDGEMENTS

The evaluation team would like to express its sincere appreciation to all individuals and institutions who contributed to this assessment. We are particularly grateful to the community members of Broghil Valley and the wider Yarkhun Corridor for generously sharing their time, experiences, and perspectives through Focus Group Discussions and interviews. Their insights were central to understanding the outcomes, challenges, and sustainability of the interventions.

We thank the management of the Aga Khan Rural Support Programme (AKRSP) Chitral for their cooperation and support throughout the assessment process, including facilitation of field access, sharing of programme documentation, and engagement in Key Informant Interviews.

We also acknowledge the valuable contributions of district government officials who participated in interviews and provided critical institutional perspectives.

The team acknowledges the constructive feedback provided by the Muhamad Younis Manager M&E AKRSP on the draft report, which helped strengthen the quality and clarity of this report. Responsibility for the analysis, findings, and conclusions presented herein rests solely with the evaluation team.

We also acknowledge the contributions of Salah Ud Din our field coordinator in Chitral and Shafiq Ahmad our survey supervisor in Broghil for their supervision and coordination of data collection activities. Finally, we thank our field data collection and analysis team for their professionalism and commitment in ensuring the quality, accuracy, and completeness of the data used in this assessment.

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Team Lead
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EXECUTIVE SUMMARY

Between 2016 and 2025, under PATRIP III, AKRSP implemented an integrated development portfolio in Pakistan's Broghil Valley, combining investments in road infrastructure, water and sanitation, energy, health and hygiene, tourism facilities, and livelihood support. The portfolio was designed to address the valley's extreme physical isolation and the structural barriers it imposed on welfare outcomes, economic opportunities, and long-term resilience.

This report presents an assessment of a decade-long investment under the PATRIP Portfolio in Broghil and the wider Yarkhun Corridor, implemented by AKRSP, with a specific focus on the All-Weather Road Access (AWARD) and tourism promotion interventions. The assessment applied a mixed-methods, contribution-based approach suited to a data-scarce and logistically challenging environment. It combined a household survey of 399 households across 18 villages with direct observation of 34 infrastructure facilities, 11 key informant interviews (KIIs), five focus group discussions (FGDs) involving 44 participants (17 of them women), and a review of project records. The assessment covered the core Broghil Valley, adjacent settlements, and the wider Yarkhun corridor. Change was assessed using direct benefit measures—such as improved access, reduced travel time, and service reliability—supported by qualitative evidence to explain variations across locations and intervention types. Findings reflect changes over the past decade and recognise the influence of wider contextual factors beyond the project.

Broghil Valley lies in the extreme north of Chitral District, bordering Afghanistan's Wakhan Corridor, at elevations ranging from approximately 11,000 to over 14,000 feet above sea level. According to baseline data compiled for the Broghil Valley Tourism Project by AKRSP the valley experienced severe climatic conditions, remaining snowbound for much of the year, with winter temperatures dropping to –30°C and the Yarkhun River frozen for up to six months annually. These conditions historically rendered Broghil one of Pakistan's most physically isolated regions. Prior to programme interventions, access to the valley required a 16-hour jeep journey from Chitral town, followed by up to nine hours of travel on foot or by pack animals, severely constraining mobility, service delivery, and economic activity. Baseline conditions reflected this isolation: the literacy rate stood at 10.7%; health services were limited to two basic dispensaries with inadequate staffing and equipment; approximately 75% of households lacked access to electricity; women and children spent one to two hours daily collecting water from rivers or springs; sanitation facilities were largely absent; and tourism activity was minimal and largely seasonal[1].

In this context, poor accessibility was not merely a physical constraint but a structural barrier to welfare and opportunity. PATRIP investments in roads, bridges, drinking water, sanitation, and energy aligned closely with community priorities and generated the largest and most systematic gains through improved connectivity. By the time of this assessment (Dec 2025), 98% of surveyed households had vehicular access, connecting nearly all settlements to the road network. The Broghil–Yarkhun road now serves a much wider population across the corridor, supporting mobility for an estimated 47,000 people who rely on this alignment to reach district headquarters, markets, and

[1] Aga Khan Rural Support Programme (AKRSP). *Baseline Data of Broghil Valley (Tourism Project).* PowerPoint presentation, undated.

health facilities[2]. These improvements produced substantial welfare benefits: travel time to district hospitals fell by around four hours per trip, and households saved an average of 4.6 hours per visit when accessing government services.

Connectivity investments have generated clear human development gains, particularly in education, within the Core Project Area (Broghil). Starting from an extremely low baseline literacy rate of 10.7%, education outcomes have improved markedly, underscoring the transformative role of improved physical access. School participation is now widespread, with 83% of boys and 63% of girls aged 5–16 currently enrolled, indicating substantial progress in access to basic education.

Improved connectivity has also reduced travel times to schools, producing significant efficiency gains for students and households. These reductions are equivalent to an estimated 4,542 student-hours saved per trip cycle across all education levels in the valley, easing daily time burdens and improving attendance prospects.

Despite these gains, important gaps remain. Adult literacy levels remain low (22% for women and 57% for men), and 37% of girls and 17% of boys are still out of school. These gaps point to strong potential for further investment, particularly in post-primary education, adult literacy programmes, and targeted measures to support girls' continued enrolment and retention, in order to consolidate and extend the gains achieved through improved connectivity.

Health access and service utilisation improved significantly, especially for higher-level care. Direct benefit measurement indicates approximately 2,934 household-hours of travel time savings per health visit (weighted average 4.1 hours saved per household per trip), with the largest gains for district hospitals. Health service reach also expanded: seven villages gained a skilled birth attendant, five gained Lady Health Worker/Visitor coverage, and immunisation access expanded to 64 additional households. However, antenatal care availability did not improve, and three villages still lack any local health point.

Water, sanitation, and energy interventions delivered tangible benefits. Piped drinking-water coverage increased from 37% to full coverage in targeted communities, and in Broghil Valley 32 households received sanitation facilities. Open defecation declined sharply in the core project area (98% to 6%), and hygiene practices improved across the Broghil and Yarkhun valley . Electricity access expanded substantially in the core area (56% to 95%) in project targeted villages, improving lighting and basic services; however, clean cooking transition remains limited and reliance on wood and dung cakes persists.

Improved connectivity has also strengthened access to government, administrative, and financial services by reducing travel time and improving road access. Households now save a weighted average of 4.6 hours per service-access trip, equivalent to an estimated 3,307 household-hours saved per trip cycle for accessing government line departments. The largest time reductions are observed for police and legal services, followed by banking and ATM access, indicating that connectivity gains have been most significant for services previously associated with the highest travel burden.

[2] The estimate of approximately 47,000 people refers to the corridor catchment population of settlements located along and functionally dependent on the Broghil–Yarkhun–Mastuj road alignment. It is derived from the combined population of union councils and villages in Upper Yarkhun, Lasht, and Broghil that use this road as their primary route to markets, health facilities, and administrative centres, based on local administrative population records and project village lists. It does not represent the number of direct project beneficiaries or survey respondents.

In the wider corridor, these improvements have translated into a sharp increase in public service use, with 79% of households reporting travel to access at least one public service in the past 12 months. By contrast, engagement with public services from the core Broghil Valley remains limited and highly selective. More than half of households (53%) did not travel to access any public service during the same period.

Among households that did seek services, mobility was overwhelmingly driven by a single administrative function: identity documentation. Travel related to CNIC and NADRA services dominates service-seeking behaviour, far exceeding visits for agriculture extension, financial services, veterinary care, or legal support. This pattern suggests that while improved connectivity has reduced physical barriers, demand for a broader range of public services for the people of Broghil remains constrained by institutional availability, relevance, effectiveness of services and awareness rather than access alone.

Economic impacts were positive across several dimensions. Local economic activity increased, with the number of villages hosting at least one shop rising from 9 to 17, and the average number of shops per village increasing from 1.6 to 4.9, reflecting improved access to consumer goods and basic services.

Market access also improved. Buying-market access strengthened, with average travel times reduced by 5.1 hours, facilitating easier access to goods for households. In addition, improved road connectivity enabled livestock traders from other parts of Chitral and Gilgit to reach remote settlements directly, improving the marketability of animals and reducing dependence on intermediaries.

At the same time, some traditional livelihoods declined. Women-led wool processing and handicraft activities reduced, with the number of villages reporting women's engagement falling from 10 to 5, reflecting increased competition from lower-cost imported goods and the absence of structured value-chain support. Households also reported a reduction in income from porterage and pack-animal hire (for tourism) in intermediate villages, as motorised vehicles can now reach Lashkargaz directly, displacing transport-related activities that previously relied on limited road access.

Tourism and livelihood investments expanded Broghil Valley's physical and cultural tourism infrastructure, with facilities constructed to acceptable technical standards. Tourism activity increased, with the number of villages reporting any tourist visits rising from 9 to 15 (out of 18 villages) and an estimated 1,825 tourist visits recorded in the past 12 months.

However, economic returns from tourism remain limited. Community Resource Centre (CRC) supported under the project operate without clear revenue models or booking systems and are often used to accommodate government officials rather than functioning as community-managed economic assets. Project-supported guest houses, although generally in good physical condition, report very low occupancy rates. This reflects both the ability of improved road access to allow tourists to bypass intermediate villages where these facilities are located and the limited capacity of the guest houses (typically single-room facilities) to accommodate organised or group tours.

Sustainability arrangements are based on an assumed, informal division of responsibilities between communities and government authorities, rather than a formally defined mechanism with resource allocation. In practice, communities—supported by village organisations—undertake minor routine maintenance, while district authorities have to intervene in major repairs following floods, avalanches,

or landslides. This arrangement has so far functioned on an ad hoc basis but remains fragile. Community capacity is limited and government response is constrained by budgets and logistics; formal documentation of post-handover roles, financing, and escalation procedures remains limited.

Overall, the PATRIP portfolio substantially reduced physical isolation and improved access to services, markets, and opportunities in Broghil Valley and the wider Yarkhun Corridor. Integrated infrastructure packages proved effective in this high-mountain context, particularly where they addressed daily access needs. At the same time, evidence indicates that physical infrastructure alone is insufficient to generate sustained and inclusive economic returns without complementary livelihood support, market linkages, operating systems, and institutional arrangements.

With core infrastructure now largely in place, future gains will depend on how effectively these assets are used and managed. This includes shifting emphasis from construction to functionality and regular use; linking roads and facilities to viable livelihood and market systems—especially livestock-based and women-led activities suited to high-altitude conditions; improving the management, promotion, and basic service standards of tourism facilities; and strengthening operation, maintenance, and handover arrangements in a climate-risk-prone environment.

Equally important will be improving the effectiveness, local presence, and relevance of government services in Broghil Valley, so that improved connectivity translates into broader and more regular use of agriculture, livestock, financial, health, and social protection services, rather than remaining largely confined to administrative functions. Stronger regional linkages with Afghanistan and Gilgit will also be critical to expand market reach, diversify economic opportunities, and fully leverage the connectivity gains already achieved. Addressing these enabling conditions would allow existing investments to deliver more durable, inclusive, and resilient outcomes in this climatically high-risk border region.

1. INTRODUCTION

Over the past decade, the Aga Khan Rural Support Programme (AKRSP), with financial support from the PATRIP Foundation, implemented a portfolio of community-based rural infrastructure and livelihood-support interventions in Broghil Valley, Upper Chitral, Khyber Pakhtunkhwa. Implemented in a fragile, high-altitude border region characterised by extreme remoteness, climatic vulnerability, and limited public service provision, the portfolio aimed to improve physical connectivity, reduce socio-economic isolation, and strengthen community resilience.

As outlined in the project design and PATRIP's strategic priorities, the interventions primarily focused on the construction and rehabilitation of all-weather access roads, tourism-enabling infrastructure, and allied community facilities. Key investments included a resource centre, jeepable road and bridges, community-managed guest houses, camping sites, and water supply schemes. These infrastructure investments were complemented by skills development initiatives and market linkages intended to enhance the quality, viability, and sustainability of local eco-tourism products and services.

Collectively, the portfolio sought to generate multiple development outcomes, including improved access to markets, education and health services; increased tourism flows and local income opportunities; strengthened cross-border linkages and trade; and enhanced social and economic stability in a geopolitically sensitive region. Given the scale, duration, and strategic importance of these investments, a systematic assessment of their results and longer-term contributions was considered essential.

This assessment report presents the findings of the evaluation commissioned to examine the performance and results of the PATRIP-funded portfolio in Broghil Valley. The assessment focuses on analysing achieved outputs, outcomes, and emerging socio-economic impacts, with particular attention to effectiveness of the interventions, relevance to local needs, sustainability of benefits, and unintended effects—both positive and negative. The assessment draws on a mixed-methods approach, combining quantitative and qualitative evidence from project records, field data, stakeholder consultations, and community perspectives.

The purpose of the assessment is twofold: first, to provide AKRSP and the PATRIP Foundation with credible, evidence-based insights on what has been achieved through the portfolio; and second, to generate practical lessons and recommendations to inform the design, prioritisation, and implementation of future infrastructure and resilience-building interventions in Broghil Valley, Chitral, and other comparable fragile and high-mountain contexts.

The following sections present assessment framework, methodology, findings, analysis, and recommendations, in line with the Terms of Reference and grounded in the specific socio-economic and geographic realities of Upper Chitral.

1.1. Evaluation Purpose and Objectives

The Request for Proposal (RFP) issued by AKRSP calls for an independent evaluation of the results achieved under the PATRIP-funded infrastructure portfolio in Chitral. The portfolio comprises two interrelated sets of investments: (i) tourism development interventions in Broghil Valley, and (ii) the All-Weather Access Road Project (AWARD). Together, these interventions were designed to contribute to socio-economic development, improved physical connectivity, enhanced resilience, and greater community stability in one of Pakistan's most fragile and geopolitically sensitive border regions.

The primary purpose of this evaluation is to assess the extent to which PATRIP-funded interventions have achieved their intended outcomes and to generate credible, evidence-based findings on their effectiveness, inclusiveness, and sustainability. In line with good evaluation practice, the assessment serves a dual function. First, it supports **accountability** by providing AKRSP, the PATRIP Foundation, and other stakeholders with transparent and independent evidence on the results achieved. Second, it promotes **learning** by identifying lessons, good practices, and areas for improvement that can inform the design and implementation of future infrastructure and resilience-building programmes in fragile, remote, and high-altitude contexts.

Guided by the RFP and the agreed evaluation framework, the assessment pursues the following key objectives:

1. **Assess Results Achievement**: To examine the extent to which the PATRIP-funded infrastructure interventions—specifically the Tourism Project in Broghil Valley and the All-Weather Access Road Project—have achieved their intended outcomes in relation to socio-economic development, service access, tourism promotion, and improved connectivity.

2. **Measure Programme-Level Results Indicators**: To assess progress against agreed programme-level indicators, including completion and functionality of infrastructure assets, improvements in access to education, health, and markets, and reported socio-economic changes among beneficiary households and communities.

3. **Analyse Project-Specific Results**: To assess project-level results for:

    - the **Tourism Development Project**, including changes in household income, tourism activity, employment opportunities, community participation, and selected well-being and health-related outcomes; and
    - the **All-Weather Access Road Project (AWARD)**, including changes in travel time and cost, access to services, income diversification, road safety, employment generation, and local business activity.

4. **Evaluate Effectiveness, Inclusiveness, and Sustainability**: To generate evidence on how effectively the interventions have delivered results, the extent to which benefits have been inclusive—particularly about gender, vulnerable groups, and remote settlements—and sustainability of those benefits over time.

5. **Generate Actionable Insights and Recommendations**: To produce practical, evidence-based recommendations that strengthen learning and accountability and support AKRSP and the PATRIP Foundation in refining future infrastructure, tourism, and resilience-focused programming.

The evaluation thus focuses on measuring progress against key programme and project-level results indicators summarised as follow.

Programme Level: Completion of infrastructure projects; % of beneficiaries reporting socio-economic improvements; % of beneficiaries confirming easier access to schools, health centres, and markets

Tourism Project: Number of households with increased income; number of tourists visiting Broghil Valley; number of community members engaged in local product development; number of tourists using community guest houses; % of households reporting improved health due to safe water

AWARD: Average travel time and cost; service utilisation rates in health and education; household income and diversity of sources; employment opportunities and business activities; perceptions of road safety and accessibility

1.2. Scope of the Evaluation

The scope of this evaluation is defined along four interlinked dimensions—thematic, geographic, temporal, and methodological—to ensure a comprehensive assessment of the PATRIP-funded infrastructure portfolio and full alignment with the requirements set out in RFP.

Thematic Scope: The evaluation examines outcomes and emerging impacts related to socio-economic development, physical connectivity, resilience, and community stability. Key areas of analysis include changes in access to essential services (education, health, and markets); household income and livelihood diversification; growth in tourism and related local enterprises; perceptions of inclusion, safety, and social cohesion; and the functionality, utilisation, and sustainability of infrastructure assets. Attention is also given to unintended effects and cross-cutting issues such as gender, equity, and community participation.

Geographic Scope: The geographic scope of the evaluation covers Chitral District, Khyber Pakhtunkhwa, with a focused examination of Broghil Valley and the Yarkhun corridor areas influenced by the PATRIP-funded tourism and All-Weather Access Road Project (AWARD) interventions. To capture both direct and indirect effects of improved infrastructure and connectivity, the household survey was designed around three analytically distinct geographic strata reflecting varying levels of exposure to project investments.

Core Intervention Zone (Kishmanja to Lashkargaz): This stratum comprises communities located directly within the primary intervention area of the tourism development project in Broghil Valley. With an estimated population of approximately 180 households, this zone includes settlements that directly benefited from infrastructure investments such as access roads, tourism facilities, water supply schemes, and related livelihood support. Given the manageable population size and the importance of capturing comprehensive evidence of direct effects, a full census approach was adopted, targeting all households in this zone (n = 180).

Peripheral Zone (Darband to Kishmanja): The peripheral stratum includes smaller, adjacent settlements that were not direct recipients of project infrastructure but are expected to have experienced indirect or spillover effects through improved access, tourism flows, and economic linkages. These communities represent an intermediate exposure group, critical for understanding diffusion of benefits beyond the core intervention area. A stratified probability proportional to size (PPS) sampling approach was applied across villages in this zone, resulting in a sample of 120 households.

Wider Corridor Zone (Mastuj to Lashkargaz – Yarkhun Corridor): This stratum covers settlements along the broader Yarkhun corridor that have benefited from improved road infrastructure and increased movement of people, goods, and tourists resulting from the All-Weather Access Road.. The area has an estimated over 5,000 households. These communities experienced improvements in connectivity primarily through reduced travel time, transport costs, and enhanced access to services and markets. A multi-stage cluster sampling design with PPS was employed to ensure geographic spread and representativeness across the corridor, yielding a sample of 100 households.

This stratified geographic design enables the evaluation to systematically compare outcomes across varying levels of project exposure—direct, indirect, and corridor-level effects—thereby strengthening attribution and allowing for a nuanced assessment of both intended and spillover impacts of the PATRIP-funded interventions.

Temporal Scope: The evaluation assesses results achieved over the full implementation period of the PATRIP-funded interventions and the immediate post-completion phase. Given that explicit start and end dates were not detailed in the Terms of Reference, the assessment draws on available project documentation, stakeholder recall, and secondary data to establish timelines and sequence of interventions. Where baseline or pre-intervention information is available, findings are analysed using a comparative lens to assess change over time since infrastructure completion.

Methodological Scope: In line with the RFP, the evaluation adopts a **mixed-methods approach**, integrating quantitative and qualitative data sources. The methodology combines a pre–post analytical perspective with household surveys, key informant interviews (KIIs), focus group discussions (FGDs), and participatory validation workshops. Comparative analysis between direct and indirect beneficiary groups is used to capture both intended outcomes and wider spillover effects. Triangulation across methods and data sources underpins the credibility and robustness of the findings.

By explicitly linking the evaluation scope to programme and project objectives and results indicators, the assessment provides a structured and coherent basis for analysing performance and impacts. The following section outlines the evaluation approach and methodology in detail, describing how data were collected and analysed to generate reliable, context-sensitive evidence.

2. METHODOLOGY AND APPROACH

The detailed evaluation methodology and assessment design are presented in **Annex A**. The annex documents the full inception-phase methodological framework agreed with AKRSP, including the Theory of Change, evaluation matrix, sampling calculations, data collection tools, and analytical methods. This section summarises the key methodological elements to provide readers with a clear understanding of the overall approach, while keeping the main report concise and focused on findings and analysis.

The evaluation applied mixed-methods to assess the relevance, effectiveness, impact, and sustainability of the PATRIP-funded tourism and all-weather access road interventions implemented in Broghil Valley and along the Yarkhun corridor in Upper Chitral. The approach responds directly to the Terms of Reference and PATRIP evaluation guidelines and is grounded in international good practice, including alignment with the OECD/DAC evaluation criteria.

The methodology was developed and refined during the inception phase, following a comprehensive desk review of project documentation and consultations with AKRSP. The desk review confirmed that

while most planned outputs had been delivered, available documentation provided limited evidence on utilisation, distribution of benefits, sustainability arrangements, and longer-term socio-economic effects. In response, the evaluation design prioritised field-based verification, direct measurement of benefits, and triangulation of quantitative and qualitative evidence to generate credible and actionable findings.

2.1. Overall Evaluation Approach

The evaluation followed DEVYIELD's RISE framework—Rigorous, Inclusive, Systematic, and Evidence-based.

- Rigorous: The assessment established evaluation methods appropriate to infrastructure and livelihood interventions in remote contexts, ensuring validity, transparency, and replicability.
- Inclusive: The design prioritised perspectives of women, men, youth, community leaders, service providers, and institutional stakeholders, with gender-balanced field teams and tailored qualitative tools to ensure inclusivity.
- Systematic: The evaluation followed a clear sequence of activities—desk review, inception, tool development, fieldwork, analysis, validation, and reporting—supported by quality assurance mechanisms at each stage.
- Evidence-based: Findings draw on triangulated data from household and village surveys, key informant interviews, focus group discussions, direct observation, and documentary evidence.

This approach ensured that the evaluation moved beyond output verification to assess actual use, benefits, and emerging outcomes for households and communities.

2.2. Evaluation Design

Given the absence of baseline data and the retrospective nature of the assignment, the evaluation adopted a Direct Benefit and Immediate Outcome Assessment Design. This design is well suited to high-altitude, remote settings where longitudinal monitoring systems, control groups, or administrative datasets are unavailable.

The design enabled the evaluation to:

- Document changes that households and communities report experiencing since project implementation.
- Compare current conditions with recalled pre-project conditions using structured recall techniques.
- Distinguish between direct beneficiaries (e.g. households located in Broghil Valley or along the road corridor) and indirect beneficiaries (e.g. lower-valley households affected through improved connectivity); and
- Strengthen the analysis through systematic triangulation across multiple data sources.

2.3. Theory of Change

The Theory of Change for this investment conceptualises tourism infrastructure aimed to address foundational service gaps—water supply, sanitation, community facilities, and basic tourism infrastructure—while strengthening community institutions and cultural assets while all-weather access pr sought to address structural mobility constraints through investments in roads and bridges.

Together, these investments were expected to reach four interconnected outcome pathways:

1. Improved mobility and access through reduced travel time, lower transport costs, and safer, more reliable connectivity to markets and services.
2. Improved wellbeing and tourism readiness through better WASH services, energy access, and community facilities.
3. Expanded livelihood opportunities through tourism-related activities, transport services and small enterprises; and
4. Strengthened community institutions and social cohesion through inclusive management of shared assets and cultural initiatives.

These outcomes were expected to contribute to reduced isolation, enhanced resilience, and sustained socio-economic development, consistent with PATRIP's broader objective of strengthening regional connectivity and stability. The evaluation explicitly examined the assumptions underlying these pathways, including maintenance capacity, seasonal accessibility, market demand, and inclusive participation.

2.4. Evaluation Framework

The evaluation applied a structured, OECD/DAC-aligned evaluation framework to guide the assessment across relevance, effectiveness, outcomes, impact, and sustainability. The framework is operationalised through a comprehensive **Indicator Results Measurement Framework**, presented in **Table 1**, which links each evaluation criterion to clearly defined evaluation questions, programme- and project-level indicators, data sources, sampling strategies, and analytical approaches.

This matrix ensured systematic coverage of both the AWARD and Tourism projects, capturing changes in mobility and access, livelihoods and tourism development, water, sanitation and health outcomes, social cohesion, and longer-term development change. By explicitly mapping indicators to appropriate data collection methods—ranging from household surveys and infrastructure verification to KIIs, FGDs, and direct observation—the framework strengthened methodological coherence and enabled robust triangulation. The use of differentiated sampling strategies across the core intervention zone, peripheral settlements, and the wider corridor further ensured that findings reflect both direct and indirect effects. Meanwhile, the defined analysis approaches (including before–after comparison, contribution analysis, and qualitative outcome harvesting) provided a transparent basis for evidence-based judgement against each evaluation criterion.

Table 1: Indicator Results Measurement Framework

Evaluation Criteria	Key Evaluation Questions	Indicators (Programme + Project-Level)	Data Sources & Methods	Sampling / Coverage	Analysis Approach
Relevance	To what extent AWARD and Tourism projects addressed priority mobility, livelihood, energy, tourism, and social needs of the Broghil corridor communities?	• Alignment of project interventions with community-identified needs. • Evidence of participatory planning and local consultation.	Document review, Planning records, KIIs with district authorities and VO/WO leaders, FGDs (men, women, youth).	Core Zone (Kishmanja→Lashkargaz): Census (~180 HHs)Peripheral Zone: Stratified sample Wider Corridor: Purposive sample	Thematic coding and Need–Response Adequacy Scoring
Effectiveness (Output-level)	To what extent were planned infrastructure and tourism development outputs completed and functioning?	PATRIP Required Output Indicator: • 100% completion of selected infrastructure projects. AWARD Outputs: • Bridges, roads, retaining walls, flood protection structures completed as per design. Tourism Project Outputs: • Resource Centre, Festival Grounds, Guest Houses, Bridge constructed and functional. • Water supply system operational.	Site verification checklist, Engineering inspection, Photo documentation, As-built BoQ comparison.	All infrastructure sites (100% verification).	Completion score (%) and quality grading vs. design standards.
Outcome – Access & Mobility	How has improved connectivity changed access to services, trade, tourism, and mobility?	PATRIP Outcome Indicators: • 60% of beneficiaries confirm improved socio-economic conditions from infrastructure. • 70% confirm improved access to schools, health and markets .AWARD Indicators: • Average travel time/cost to reach schools, health, markets. • % reporting improved safety & reliability of road use.	Household Survey + Travel-time recall + GPS logging + FGDs.	Core Zone: Census (~180 HHs) Peripheral Zone: sample	Before/After comparison & Change Magnitude Scoring.
Outcome – Livelihoods & Tourism Development	To what extent did tourism and skill development activities increase income and	Tourism Project Indicators: • # households reporting increased income from project-supported products. • Annual number of tourists (non-festival). • # men & women involved in wool/woolcraft value	Household Survey, Product group KIIs, Tourism union records, Market observation.	Core Zone + Market interaction points (Garamchashma, Mastuj, Chitral sale channels).	Trend comparison + Contribution Analysis.

Evaluation Criteria	Key Evaluation Questions	Indicators (Programme + Project-Level)	Data Sources & Methods	Sampling / Coverage	Analysis Approach
	local enterprise viability?	chain. • # tourists accommodated in community guest houses. • New business activities or employment created.			
Outcome – Water, Sanitation & Health	Did improved water supply and hygiene efforts lead to safer water and better health?	WASH Indicators :• % HH water samples free of coliform. • Average litres/person/day consumption (pre/post). • % reduction in self-reported waterborne diseases. • % of households practicing safe hygiene behaviours. • % reporting improved health outcomes attributable to WASH.	Water quality testing, Household survey, FGDs with women, Health facility outpatient data.	Core Zone households + selected nearby settlements.	Comparative prevalence analysis + health outcome attribution.
Social Cohesion & Community Cooperation	Did the projects strengthen community institutions, cooperation, and cross-border cultural exchange?	PATRIP Cross-Border Social Impact Objective: • Evidence of strengthened collective action and event participation. • Role of CRC, festival, guesthouses as shared spaces.	KIIs with festival organizers, elders, women groups, local government.	Core cultural centres + tourism festival venues.	Qualitative outcome harvesting & narrative change analysis.
Impact (Long-term Development Change)	What broader change has occurred in connectivity, inclusion, resilience, and identity of the Broghil region?	• Growth in tourism-based income. • Reduction in seasonal isolation. • Diversification of livelihoods. • Increased cultural visibility and cross-valley social linkage.	Triangulated synthesis across datasets.	Regional view (Mastuj → Lashkargaz corridor).	Contribution + Pathway of Change Mapping.
Sustainability	Are institutional, financial, and technical systems in place to maintain project assets?	• Existence and performance of O&M committees. • Cost-sharing and repair arrangements with district government. • Local technical capacity for routine repairs.	KIIs with committees & government, Review MoUs, FGD with local youth & operators.	Core Zone + District HQ.	Sustainability Risk Rating Matrix.

2.5. Data Collection Methods

The evaluation employed a combination of quantitative and qualitative data collection methods.

Desk Review

The team reviewed all core project documents provided by AKRSP, including project proposals, baseline presentations, progress reports, end-of-project reports, technical narratives, ESMPs, and cost extension requests. The desk review informed the assessment of relevance and design logic and identified evidence gaps that shaped field instruments and sampling decisions.

Household and Village Surveys

The household and village survey constituted the primary quantitative data sources. The evaluation surveyed 399 households in 18 villages across Broghil Valley, adjacent settlements, and the wider Yarkhun corridor. The sample size was determined using Cochran's formula at a 95% confidence level with a ±5% margin of error and stratified to capture direct and indirect beneficiaries. Summary of village wise allocation of the household and village survey is presented in **Table 2**.

Table 2: Planned and actual distribution of beneficiary households' sample

Stratum	Population Context	Sampling Approach	Planned Sample (HH)	Actual Sample (HH)	Village / Location	HH Sampled
Core (Kishmanja → Lashkargaz)	180 HH (direct intervention zone)	Full census (all households)	180	180	Chikar Broghil	27
					Chilmarabad Broghil	34
					Garel Broghil	21
					Kishmanja	18
					Lashkargaz	23
					Pech UchGaramchasma Broghil	33
					Ishkarwarz	24
Peripheral (Darband → Kishmanja)	Smaller adjacent settlements (indirect spillovers)	Stratified Proportional Probability Sample (PPS) across villages	120	120	Chitisar	20
					Kand Payeen	20
					Kand Bala	20
					Kankhun	20
					Shust	20
					Yarkhoon Lasht	20
Wider Corridor (Mastuj → Lashkargaz)	>5,000 HH along Yarkhun corridor	Multi-stage cluster PPS	100	99*	Chargheri Aliabad	21
					Dubargar	19
					Power	20
					Unauch	19
					Yaghdan	20
Grand Total			**400**	**399**		**399**

*Note: Due to incomplete and inconsistent responses, data from one household were excluded from the final analysis. As a result, the effective analytical sample comprises 399 households instead of the originally planned 400. This exclusion does not materially affect the representativeness or robustness of the findings.

The survey captured data on:

- Travel time and transport costs.
- Access to education, health, and public services.
- Household livelihoods and income sources.
- Tourism-related benefits.
- Water, sanitation,; and
- Perceived changes in wellbeing and resilience.

Data collection teams administered the survey digitally using Kobo Toolbox, enabling real-time validation, GPS tagging, and daily quality checks.

Key Informant Interviews (KIIs)

The evaluation conducted 11 semi-structured KIIs with purposively selected stakeholders, including community organization leaders, women's producer groups, guesthouse operators, transport unions, tour operators, district government departments, and AKRSP staff. KIIs provided institutional perspectives on implementation processes, utilisation of infrastructure, coordination arrangements, and sustainability. The summary of KII participants is presented in **Table 3**.

Table 3: Types of stakeholders for Key Informant Interviews

Stakeholder Group	Respondents	Role in the Evaluation
Community Institutions (VO/CO/WO)	○ President and ○ Manager Chikar VO, Broghil ○ President WO, Garil, Broghil	Provided insights on community governance, participation, facility management, sustainability mechanisms, maintenance practices, committee performance, revenue-sharing systems, inclusion of women and vulnerable groups, and long-term viability of PATRIP-supported assets.
Guest House Operators / Caretakers	○ Manager Guest House, Ishkarwarz, Broghil	Shared evidence on facility utilisation, cleanliness and safety, revenue-sharing, livelihood benefits, women's involvement, operational challenges, and sustainability.
CRC and Festival Management Committee	○ Subidar, Chitral LEVIS, Maidan, Broghil	Provided information on CRC usage, cultural preservation, community mobilisation, event management, economic impacts, and long-term management needs.
Woolcraft / Women's Producer Groups	○ Trainee woolcraft, Pech uch, Broghil	Provided insights on skills training outcomes, livelihoods, production continuity, earnings, market linkages, women's empowerment, enterprise sustainability, and challenges in raw materials, pricing, or sales.
Transporters / Jeep & Driver Union Members	○ President, Driver Union, Yarkhun Valley	Provided data on road accessibility, travel time, costs, safety, seasonal closures, transport demand, pricing mechanisms, tourism transport services, and how infrastructure improved mobility and local economic activity.

Stakeholder Group	Respondents	Role in the Evaluation
Tour Operators (Chitral Town)	○ CEO, Mountain View Tours Buni ○ CEO, Hindukush Explorer, Chitral	Provided information on tourism demand, visitor profiles, seasonal trends, perceptions of Broghil and Yarkhun as destinations, linkages with local guest houses/CRC/festival, and required improvements for tourism growth.
District Government	○ PA to DC: District Administration Office, Buni	Provided institutional perspectives on infrastructure planning, maintenance responsibilities, coordination with AKRSP, tourism policies, budget allocations, regulatory frameworks, and sustainability of community assets.
AKRSP Project Managers	○ Manager M&E, AKRSP, Chitral	Provided detailed insight into project design, implementation, outputs delivered, technical quality, monitoring systems, coordination, handover processes, maintenance planning, and lessons learned.

Focus Group Discussions (FGDs)

Five FGDs were conducted with men and women in Broghil Valley and along the Yarkhun corridor. FGDs explored community-level perceptions of change, gender-differentiated experiences, inclusion of vulnerable groups, and views on long-term sustainability of project interventions and their benefits. Summary of FGD participant is presented in **Table 4**.

Table 4: Summary of FGD participants

Village	Area	Participants (n)	Men	Women	Age range(years)	Avg. age	Main occupations (top 3)
Shuist	Yarkhun Corridor	7	7	0	31–70	47.1	Farmer (6), Driver (1)
Pech Uch	Broghil Valley	9	5	4	20–60	37.1	Farmer (4), HW (4), Gov. servant (1)
Chikar	Broghil Valley	9	5	4	22–60	39.1	Farmer (5), HW (4)
Garil	Broghil Valley	9	6	3	23–55	34.7	Farmer (4), HW (3), Business (1)
Chilmarabad	Broghil Valley	10	4	6	20–58	34.4	HW (6), Farmer (4)
Total		**44**	**27**	**17**	**20–70**	**38.0**	

Direct Observation

The evaluation team undertook visits to all the project-supported infrastructure, including roads, bridges, guesthouses, water systems, sanitation facilities, and community spaces. Observation checklists and photographs provided independent verification of physical condition, functionality, and use. Summary of village infrastructures observed is presented in **Table 5**.

Table 5: Village wise type and number of infrastructures visited

Type of Infrastructure	No. of Facilities	Villages Where Visited
Irrigation Channels	6	Chargheri Aliabad; Chikam Brep; Immit Yarkhoon; Noorabad Brep; Shuist Yarkhoon; Dewseer Yarkhoon
Link Roads	8	Chikar; Garel; Ishkarwarz; Kand Payeen; Kankhun; Pechus Garamchasma Broghil; Upper Ishkarwaz; Jamlasht
Main / Valley Roads	3	Dubargar–Yarkhun Lasht (Darband–Lashkargaz); Wadinkhot–Lashkargaz;
Bridges	5	Gazeen Lower Yarkhoon; Kankhun; Pechus Garamchasma Broghil; Power Lower Yarkhoon; Wadinkhot
Micro-Hydel / Solar	2	Chikar; Kand Bala
Drinking Water Facility	1	Chikar
Sanitation (Pit Latrines)	1	Chikar
Guest Houses	5	Ishkarwarz
Community Infrastructure	2	Ishkarwarz (CRC, Polo Ground)
Protective Works	1	Khishmanja
Total	**34**	

2.6. Analytical Framework and Methods

The evaluation applied a mixed-methods analytical strategy. A summary is provided below, and detailed method is provided in **Annex A**.

Quantitative Analysis

Survey data were cleaned and analysed using descriptive statistics and before-and-after comparisons based on recall data. Results were disaggregated by gender, location, and beneficiary type to assess equity and distribution of benefits.

Given the absence of baseline data and the retrospective nature of the assessment, the evaluation applied a Direct Benefit and Immediate Impact Assessment Design to measure the project impact. This approach documents changes that households and communities report experiencing since the interventions and compares current conditions with respondents' recollection of pre-project situations.

A core analytical feature of the assessment is Direct Benefit Measurement (DBM), which quantifies immediate and tangible gains from infrastructure investments, such as time saved in accessing services, increased market access, or changes in livelihood opportunities.

DBM estimates aggregate benefits using the following formula:

Service Impact = Number of Beneficiary Households × Direct Benefit per Household (DBH)

DBH values were derived from village survey data and validated through focus group discussions and key informant interviews. This approach allows the evaluation to generate credible, policy-relevant estimates of impact in remote settings where longitudinal data, or control groups data are not available.

Qualitative Analysis

The team transcribed and thematically analysed KII and FGD data using a hybrid deductive–inductive coding framework aligned with evaluation questions. Qualitative findings contextualised quantitative results, explained causal mechanisms, and highlighted unintended effects and sustainability risks.

Triangulation

The evaluation systematically triangulated findings across methods and sources to strengthen credibility and reduce bias.

2.7. Ethical Considerations and Quality Assurance

The evaluation adhered to strict ethical and safeguarding standards. All participants provided informed consent, participation was voluntary, and data were anonymised. Gender-balanced field teams facilitated inclusive participation, particularly of women.

The team ensured data quality through tool piloting, enumerator training, daily supervision, automated validation checks, and regular debriefings. These measures ensured that the evaluation produced reliable, transparent, and ethically sound findings.

2.8. Methodological Limitations

This evaluation was subject to several limitations that might influence findings. The projects did not establish baseline or longitudinal monitoring systems. The evaluation therefore relied on retrospective recall to assess change over time, which may be affected by recall bias. The team mitigated this limitation through careful questionnaire design and triangulation with qualitative evidence and direct observation.

The absence of a control group limits the ability to attribute observed changes exclusively to the PATRIP-funded interventions. External factors such as climatic events, market dynamics, and other public or private investments may also have influenced outcomes. The evaluation addressed this through contribution analysis, guided by a reconstructed Theory of Change.

Finally, the analysis focuses on immediate and emerging outcomes, and the Direct Benefit Measurement approach provides conservative estimates that do not capture indirect long-term impacts or multiplier effects.

3. FINDINGS

3.1. Relevance

Definition (OECD-DAC): *The extent to which the intervention's objectives and design are suited to the priorities and needs of the target group, country, or global context. Is the intervention doing the right things?*

This assessment draws on baseline and project documentation to understand design intent, and on direct field observations by the evaluation team, synthesised in Table 6: Facility Portfolio, Users, Design Relevance, and Average Beneficiary Reach, to assess realised relevance in practice. It also integrates evidence from FGDs conducted in Garamchashma, Shuist, Chikar, Garil and Chilmarabad, and from KIIs with VOs, service providers, tour operators, district officials and AKRSP staff.

3.1.1 Alignment with local needs and priorities

The Baseline Situation Presentation (AKRSP, 2016) describes Broghil Valley as highly remote and seasonally inaccessible, with limited basic services, weak market integration, and constrained livelihood options. Communities identified poor road access, drinking water shortages, and weak economic opportunities as major constraints to well-being. These baseline conditions provide a clear reference point for assessing relevance.

Evidence from **Table 6** shows that the intervention aligns most strongly with these priorities where it focuses on connectivity and basic services. The main Broghil Valley road (Dubargar–Lashkargaz) directly addresses the baseline finding that seasonal isolation restricted access to markets, health services, and administrative centres. With 7,700 direct and 33,000 indirect beneficiaries, the road (All Types including link roads and valley road) responds to a valley-wide need rather than a narrow or sector-specific demand. FGD participants consistently described the road as a "lifeline" and stressed that it finally connects Broghil to government and the outside world. One FGD participant explained that before the road, when someone fell ill, families would *"wait either he/she will get better or die"* because transporting patients was extremely difficult. This aligns with KIIs from community leaders and transport representatives who confirmed that road access is the single most important enabling condition for service use and emergency response. A VO leader recalled agreeing to the road because *"road is important for our village".*

Similarly, five bridges support daily mobility and livestock movement, serving an average of 300 direct and 600 indirect beneficiaries, reflecting the baseline emphasis on safe movement across rivers and seasonal watercourses. Transport-sector KIIs described the shift from dangerous seasonal routes to safer crossings and confirmed that the road and bridges reduced travel time substantially, including to health and education destinations.

Micro-hydropower (MHP) and irrigation schemes were not part of the original PATRIP III design but were introduced during the no-cost extension in response to emerging community needs and implementation experience. Their inclusion reflected adaptive programme management rather than initial strategic prioritisation. Field evidence indicates that both interventions addressed genuine local priorities, particularly for household energy and agricultural water. As they were added later, they were implemented as complementary components alongside the core access and service-delivery investments.

Tourism-related investments also reflected baseline priorities, but in a more conditional way. The baseline identified tourism as a potential livelihood opportunity linked to Broghil's cultural assets, festivals, and landscape, while also noting very low visitor numbers and severe access constraints.

From this perspective, investments in CRC, guest houses, and festival infrastructure were relevant as they aimed to prepare the valley for tourism once access improved.

However, evidence from Table 6, KIIs, and FGDs shows that these facilities have so far been less aligned with how tourism actually operates in the valley. Guest houses, for example, responded to an identified opportunity but remain underutilised. One guest house manager stated, *"For the last two years we haven't seen any guest,"* despite seeing tourists pass through the area. He explained that villages had become *"pass-by villages"* because improved roads allow visitors to drive directly to Lashkargaz, the main destination. Tour operators confirmed this pattern, noting that although they were told guest houses existed, *"we don't see them in our destination points,"* and that many facilities were not located on active tourist routes or integrated into booking and tour systems.

This suggests that tourism infrastructure was relevant in intent—seeking to capture anticipated tourism growth—but its design, location, and integration with tourism markets did not fully reflect actual travel behaviour and demand.

FGDs also revealed that improved access disrupted existing tourism-related livelihoods in ways not fully anticipated at design stage. Several villages reported a sharp decline in the traditional porter and pack-animal economy, which had previously provided substantial income. With vehicles now reaching Lashkargaz, demand for porters and animal hire in intermediate villages collapsed, and participants stated that this change had *"deprived us of income."* This does not diminish the strong relevance of road connectivity as a basic need, but it highlights that tourism-linked livelihood assumptions required stronger risk analysis and mitigation, particularly for groups dependent on pre-road travel systems.

Overall, the PATRIP portfolio was highly aligned with local priorities in addressing isolation, access to services, and basic infrastructure. Tourism investments were also relevant in strategic intent, but their practical alignment with market realities and local livelihood systems proved weaker, underlining the importance of linking physical tourism assets to operating models, routes, and demand from the outset.

3.1.2 Consideration of stakeholder views and local context in design

Baseline findings emphasised the importance of facilities that support daily life and collective needs, given dispersed settlements and limited institutional capacity. This context is reflected in the strong relevance of facilities with broad and inclusive user groups, including roads, bridges, and drinking water systems. For example, on average a link road, serves 47 direct and 60 indirect beneficiaries, support short-distance mobility within and between villages, consistent with baseline descriptions of fragmented settlement patterns and local travel needs.

KIIs and FGDs confirm that AKRSP engaged local institutions during project identification and design. Village Organisation (VO) representatives reported that AKRSP held meetings with community representatives to discuss priorities, and one participant noted that *"a detailed dialogue is carried out about the village issues and needs… and then they plan for activities."*

At the same time, FGDs indicate that community influence was weaker during contractor-led implementation. Several participants felt that while they helped define priorities, they had limited say over construction decisions. As one group in Suist stated, *"contractors and engineers pay no heed to local people's concerns,"* and in Garamchashma villagers noted that raising technical issues was sometimes seen as *"interference."* Communities also linked delays and quality issues to this reduced influence during execution.

Overall, the evidence shows that AKRSP's participatory systems were effective in setting priorities, but that contractor-led delivery limited the extent to which local knowledge shaped how projects were built, which in some cases affected how well assets matched local conditions and needs.

The baseline identified tourism and cultural activities as a potential livelihood pathway for Broghil Valley, alongside the valley's strong traditions of polo festival, and community gatherings. At the same time, it noted very low visitor numbers, weak accommodation, and a lack of public spaces to host cultural and tourism-related activities. In this context, investments in Community Resource Centre (CRC), guest houses, and the polo ground were highly relevant in intent, as they aimed to provide the basic physical and social infrastructure needed to support tourism, cultural events, and community interaction once access improved.

CRC was designed as multi-purpose facility for meetings, training, festivals, and visitor services, directly addressing the baseline gap in public and community spaces. Guest houses responded to the absence of formal accommodation, which had limited the ability of tourists and visitors to stay in the valley and constrained the organisation of events such as the Broghil Festival. From AKRSP's implementation perspective, these facilities were intended to anchor a future tourism economy and strengthen Broghil's visibility as a cultural destination.

The polo ground reflects the baseline recognition of local cultural and sporting traditions as central to community life. Although its primary users are men and youth, its estimated 500 direct and 900 indirect beneficiaries demonstrate wider social relevance during festivals, tournaments, and major community events, when it functions as a focal point for the entire valley.

3.1.3 Continued relevance considering evolving needs

Baseline conditions related to remoteness, climate exposure, and limited basic services remain largely unchanged, which reinforces the continued importance and relevance of investments in access, water, energy, and irrigation. Evidence from Table 6 and field observations shows that roads, bridges, micro-hydropower systems, irrigation channels, and water schemes are actively used and valued by communities, demonstrating that these facilities continue to meet core needs related to mobility, service access, and livelihood production.

FGDs and KIIs also highlight how evolving climatic conditions shape the way this infrastructure is used. Communities and transport operators noted that floods, snow, and long winter seasons still disrupt connectivity and service delivery. These realities do not diminish the relevance of the infrastructure; rather, they underscore its critical role in helping communities cope with harsh conditions. Stakeholders emphasised the value of measures such as snow clearance, drainage, and support services (e.g. fuel and mechanical support) to further enhance the functionality of existing investments. Similarly, for water schemes, seasonal freezing and drying of springs point to the importance of continued upgrading and climate-resilient design to protect the gains already achieved. Cultural and tourism-related facilities—including CRC, guest houses, and the polo ground—also remain relevant as part of Broghil's long-term development pathway. While current utilisation is constrained by seasonality, security conditions, and evolving travel patterns, these assets provide a ready foundation for future tourism and cultural activity as access, communication, and promotion improve. Their presence means that Broghil is better positioned to benefit from tourism growth when enabling conditions strengthen.

Overall, the portfolio remains well aligned with both current and emerging needs. Core infrastructure continues to support daily life and resilience, while cultural and tourism facilities offer strategic

potential for longer-term economic diversification, particularly if complemented by climate-resilient design, institutional strengthening, and market-oriented support.

3.1.4 Alignment with country, global, and donor priorities

Beyond local needs, the intervention aligns with national as well as donor priorities around infrastructure development and service provision in remote and border regions. Investments in roads, bridges, support national objectives on reducing regional disparities and improving access to services in underserved areas. KIIs from district administration described the interventions in line with the government priorities, although they also noted that maintenance systems and formal handover arrangements remain less clearly defined, which affects how responsibilities are exercised after project completion.

At the global level, the intervention aligns with relevant Sustainable Development Goals (SDGs), particularly those related to infrastructure, water, and livelihoods. Facilities with broad and inclusive benefits—such as roads, and water schemes—reflect the principle of leaving no one behind in marginalised settings. Tourism-related investments also reflect donor priorities under PATRIP to promote cultural exchange, local economic opportunities, and border-area resilience.

Table 6: Facility Portfolio, Users, Design Relevance, and Average Beneficiary Reach

Facility Type	No. of Facilities	Avg. Direct Beneficiaries (Estimated)	Avg. Indirect Beneficiaries (Estimated)	Primary User Groups	Observation on Design Relevance
Roads (All Types including link roads and valley road)	11	700	3,000	Women, men, youth, children, visitors, livestock	Extremely high relevance for access, service delivery, trade, and resilience; averages are inflated by large regional roads and should be interpreted cautiously.
Bridges	5	300	600	Women, men, youth, children, visitors, livestock	Highly relevant for mobility, safety, trade, and year-round connectivity in remote terrain; benefits multiple social and economic groups.
Community Resource Centre (CRC)	1	180	800	Government officials, visitors	Design relevance for community use is limited; operational control by government constrains intended community-focused utilisation.
Guest Houses	5	1	0	Visitors / tourists (limited)	Relevance remains low due to limited tourist inflow, small capacity, and external risk factors.
Polo Ground	1	500	900	Men, youth	Context-specific relevance supporting cultural and recreational activities; utilisation depends on regular event organisation.
Irrigation Systems	6	300	200	Farming households, women, livestock	Strong relevance for livelihoods, food security, and climate resilience; maintenance capacity remains a key risk.

Facility Type	No. of Facilities	Avg. Direct Beneficiaries (Estimated)	Avg. Indirect Beneficiaries (Estimated)	Primary User Groups	Observation on Design Relevance
Drinking Water Supply	1	32	10	Women, men, children	Design strongly aligned with household water needs; functionality vulnerable to harsh climatic conditions.
Pit Latrines (Climate-appropriate)	1	32	0	Household members	Highly relevant at household level, directly addressing sanitation and hygiene needs.
Micro-Hydel / Solar	2	500	20	Women, men, youth, children	High relevance for energy access and quality of life; delayed or partial use linked to operational readiness rather than design.
Protective Works	1	440	230	Community members, infrastructure users	Indirect but relevant design contribution; strengthens resilience of adjacent infrastructure though benefits are less visible to communities.

3.1.5 Conclusion on Relevance

Overall, the PATRIP III portfolio was highly relevant to the core needs and priorities of Broghil Valley. The programme directly addressed the most binding constraints identified in the baseline—extreme isolation, limited access to services, and weak livelihood opportunities—through investments in roads, bridges, water, sanitation, energy, and irrigation. These components aligned strongly with community priorities and continue to deliver tangible benefits for mobility, health, education, and daily life, as confirmed by FGDs, KIIs, and observed utilisation.

The all-weather road and associated bridges emerged as the most relevant and transformative investments, responding to valley-wide needs and enabling access to government services, markets, and emergency care. Drinking water and sanitation facilities were similarly well aligned with household-level priorities, particularly for women, while later additions such as micro-hydropower and irrigation reflected adaptive responses to emerging needs and strengthened the overall relevance of the portfolio.

Tourism and cultural investments—including CRC, guest houses, and the polo ground—were also relevant in strategic intent. They responded to baseline recognition of Broghil's cultural assets and long-term tourism potential, and they provided physical infrastructure for festivals, visitors, and community activities. However, evidence shows that their realised relevance at household level has been more limited. Weak integration with tourism routes, operating models, and markets meant that these assets have not yet generated the livelihood benefits anticipated in the design, even though they remain important symbolic and strategic investments for the valley's future.

Stakeholder engagement further reinforces this mixed but generally positive relevance profile. AKRSP's participatory systems ensured that community priorities shaped project selection, particularly for major infrastructure. At the same time, contractor-led implementation reduced the scope for local knowledge to influence how assets were built, which affected the fit of some facilities with local conditions and use patterns.

Taken together, the PATRIP portfolio is well aligned with local, national, and donor priorities for remote border regions. It addresses fundamental development needs while also laying the foundations for longer-term economic diversification through tourism and cultural assets. The main lesson for relevance is not that the programme chose the wrong sectors, but that tourism and livelihood investments require closer alignment with market realities, travel behaviour, and operating systems if their full potential is to be realised alongside the strong gains delivered by basic infrastructure.

3.2. Effectiveness

Definition (OECD-DAC): *Effectiveness refers to the extent to which the intervention achieved, or is expected to achieve, its intended objectives, considering their relative importance and any unintended effects. Is the intervention achieving its objectives?*

This section assesses effectiveness by examining whether planned inputs and outputs were translated into functional infrastructure, regular use, and tangible benefits for communities. The analysis triangulates evidence from project documentation, direct observation of infrastructure performance **(Table 7)**, FGDs, and KIIs. This approach allows comparison between reported delivery, observed functionality, and lived experience of outcomes.

3.2.1 Delivery and Functional Performance of Planned Outputs

Project documentation for both the Tourism Project (2016–2020) and the AWARD Project (2019–present) indicates that most planned infrastructure and associated activities were delivered. Delays occurred across both projects and were largely attributed to contextual constraints, including short construction seasons in high-altitude terrain, flooding, pandemic-related disruptions, and logistical challenges. These delays affected timing but did not reflect changes in project scope or intent.

Direct observation by the evaluation team shows that delivery did not consistently translate into effective outcomes. As summarised in **Table 7**, the results indicate that the portfolio was effective in delivering planned infrastructure outputs, with 91% of infrastructures completed (31 out of 34). In addition, 76% of infrastructures (26 out of 34) were assessed to be in good or fair physical condition at the time of assessment, indicating generally sound construction quality and asset integrity.

However, effectiveness at the outcome level is more mixed. Only 56% of infrastructures (19 out of 34) were used regularly, and 59% (20 out of 34) were fully functional. This reveals a clear gap between physical completion and effective use and functionality, particularly for facilities whose performance depends on operational readiness, management arrangements, routine maintenance, and sustained user demand rather than construction alone.

Overall, the evidence suggests that the portfolio was highly effective in achieving delivery targets and effectiveness was strongest for access- and service-critical infrastructure, while facilities requiring active management and service delivery systems exhibited lower levels of utilisation and functional performance.

Table 7 therefore provides the empirical foundation for the effectiveness analysis. It shows that core infrastructure addressing everyday access needs performs more consistently, while facilities require sustained management, ownership arrangements, or market demand underperform. The following subsections examine effectiveness by facility type, distinguishing between constraints related to completion status and those arising from design, utilisation, and governance factors.

Table 7: Completion, condition and functionality of infrastructure projects as of Dec 10, 2025

Facility type	Completed	Used regularly	In good / fair condition	Fully working	Key effectiveness observation
Link roads (n = 8)	100% (8/8)	100% (8/8)	63% (5/8)	63% (5/8)	All link roads are complete and widely used; however, durability and workmanship issues in three locations affect full functionality.
Main / Valley road (n = 2 sections)	50% (1/2)	100% (2/2)	100% (2/2)	50% (1/2)	The Wadinkhot–Lashkargaz section is complete and fully functional, while the Dubargar–Yarkhun Lasht section remained under construction at the time of assessment.
Bridges (n = 5)	60% (3/5)	60% (3/5)	60% (3/5)	60% (3/5)	Three bridges were completed and functional, while two (Power Lower and Gazeen Lower) remained under construction and not in use at the time of assessment, constraining overall effectiveness.
Drinking water supply (n = 1)	100% (1/1)	100% (1/1)	0% (0/1)	100% (1/1)	The system is functional and in use; however, harsh climatic conditions have damaged components, affecting physical condition.
Pit latrines (n = 1 project / 32 HHs)	100% (32/32)	100% (32/32)	100% (32/32)	100% (32/32)	Household-level sanitation facilities are complete, functional, and meeting intended hygiene needs.
Community Resource Centre – CRC (n = 1)	100% (1/1)	0% (0/1)	100% (1/1)	100% (1/1)	The CRC is physically complete and functional but underutilised and primarily used by government officials rather than the community.
Guest houses (n = 5)	100% (5/5)	0% (0/5)	100% (5/5)	0% (0/5)	Facilities are complete and in acceptable physical condition but remain largely unused due to limited tourism inflow and small occupancy capacity.
Polo ground (n = 1)	100% (1/1)	0% (0/1)	100% (1/1)	100% (1/1)	Absence of regular events and management arrangements limits utilisation and outcome-level effectiveness.
Irrigation channels (n = 6)	100% (6/6)	83% (5/6)	83% (5/6)	83% (5/6)	Most irrigation schemes are operational and delivering agricultural and livelihood benefits; one scheme shows minor functionality issues affecting full effectiveness.
Micro-hydel / solar systems (n = 2)	100% (2/2)	50% (1/2)	100% (2/2)	50% (1/2)	Systems are complete and well designed, but delayed operationalisation of one system limits overall effectiveness.
Protective works (n = 1)	100% (1/1)	100% (1/1)	100% (1/1)	100% (1/1)	The protective works have strengthened the Khishmanja bridge and contributed to the durability and safety of adjacent infrastructure.
Overall results (n=34 projects)	91% (31/34)	56% (19/34)	76% (26/34)	59% (20/34)	

3.2.2 Effectiveness of Connectivity and Transport Infrastructure

Connectivity infrastructure—including the main road, link roads, and bridges—demonstrates the strongest overall effectiveness within the portfolio.

Direct observation data show that the main road and link roads are used by 100% of intended users, even where completion remains partial or technical quality is uneven. This indicates that communities derive immediate and substantial value from access improvements, even when infrastructure does not meet full design standards yet.

FGDs consistently describe the road as a turning point in daily life. In Chikar, participants linked improved access directly to survival and emergency response:

"When someone would become ill, we would wait either he/she will get better or die… now we have road, bridge, electricity and water."

In Garamchashma Broghil, improved access enabled agricultural mechanisation and reduced physical labour:

"We unload our household stuff right in front of our houses, and tractor and thresher come to our field."

"Villages are situated on both sides of the river and depend on bridges for connectivity. Prior to the PATRIP project, seasonal flooding during the summer would regularly wash away these bridges, isolating the villages from each other for extended periods. With the support of AKRSP, permanent bridges were constructed, ensuring year-round connectivity."

Improved access has also reduced dependence on distant markets. As one participant noted, the absence of local markets previously forced long and costly travel for basic goods:

"Before we had no shops at village level, and people would travel to down Chitral to purchase items of everyday needs."

Together, these accounts demonstrate that access and bridge infrastructure translated into concrete outcomes, including reduced physical hardship, improved agricultural productivity, better market access, and stronger inter-village connectivity—confirming the high effectiveness of connectivity investments at household and community levels.

Road access to Broghil has improved markedly over the past decade, even though seasonal constraints remain in the upper valley. Whereas the valley was previously closed from October to April, vehicle access is now maintained up to Garamchashma until December, and to villages beyond Garamchashma (having six villages) for much of the year, typically from April to December depending on the magnitude of the snowfall. KIIs with transport operators and local authorities confirm that this represents a major expansion in the period during which the valley is accessible.

These improvements have significantly reduced isolation and hardship. Transport operators highlighted that journeys which once took several days—requiring walking and pack animals—now take only a few hours by vehicle. This change has transformed access to markets, health care, education, and administrative services for most of the year, delivering substantial gains in time, safety, and convenience for households.

While winter snowfall and extreme weather still interrupt access in the upper reaches of the valley for part of the year (usually Jan to March), communities and service providers consistently emphasised how much longer and more reliably Broghil is now connected than in the past. Overall, the access road has achieved its core purpose of opening up the valley for most of the year, providing a strong

foundation for social and economic activity and for further investments in climate-resilient connectivity.

3.2.3 Effectiveness of Drinking Water and Sanitation Infrastructure

Drinking water and sanitation interventions show the highest and most consistent effectiveness across the portfolio.

Observation data confirm 100% completion, regular use, good physical condition, and full functionality for drinking water schemes and pit latrines. These facilities meet immediate household needs and do not depend on complex institutional or market systems for operation and maintenance.

FGDs clearly demonstrate outcome-level benefits, particularly for women. In Garamchashma, participants explained:

"It saved us from walking 2 kilometres to the river [to fetch water], especially in winter."

KIIs confirm that benefits are inclusive and widely shared:

"Water supply… benefit everyone within the household and no one is excluded."

While seasonal challenges remain—such as freezing systems or drying springs—these issues reduce reliability rather than negate effectiveness. Overall, water and sanitation facilities successfully translated outputs into daily-use outcomes, making them among the most effective interventions.

3.2.4 Effectiveness of Tourism Component

Tourism and community-oriented infrastructure show visibly low effectiveness, despite high completion rates and good construction quality. Evidence from direct observation, FGDs, and KIIs consistently indicates a disconnect between physical delivery and intended socioeconomic outcomes.

Observation data in **Table 7** show that all guest houses, the polo ground, and the Community Resource Centre (CRC) are fully completed and in good physical condition. However, none of these facilities are regularly used or functioning as intended livelihood or community assets, highlighting a clear gap between infrastructure delivery and effective utilisation.

KII evidence captures this disconnect clearly. One informant summarised the situation succinctly:

"Community Resource Centre and guest houses are built with best quality materials, but the issue is of use and benefit."

Community Resource Centres (CRC)

KII findings indicate that the CRC is structurally sound but largely underutilised and lacks a clear development purpose. It is used occasionally for sports tournaments and cultural events, but primarily serves as free accommodation for government officials, rather than as a community hub, training centre, or coordination space:

"The CRC functions as guest house for officials to stay."

Informants further confirmed the absence of basic operational systems, including revenue generation, booking arrangements, or maintenance planning:

"So far, no revenue has been collected… nothing has been done since the establishment of CRC, and we are not aware of maintenance responsibilities."

During the annual Broghil Festival, the CRC plays only a marginal role, as most visitors stay in tents or private accommodation. Reflecting on its overall contribution, one informant stated:

"I do not see any contribution except a place for the officers to stay."

This evidence shows that the CRC represents a well-constructed but institutionally orphaned asset. Handed over to district authorities without a clear operational mandate, business plan, or budget for activities, it risks becoming a low-use public facility rather than a catalyst for community development or tourism.

Guest Houses

Guest house utilisation has remained consistently low in recent years, as confirmed by both operators and community members. One guest house manager noted, *"For the last two years we haven't seen any guests,"* despite an overall increase in tourist traffic through the valley. This indicates that low utilisation is not due to a decline in tourism, but rather to changes in how visitors move through the area and where they choose to stay.

Key informant interviews with tour operators and community members suggest that improved road access has reshaped travel patterns. Domestic tourists in particular now tend to drive directly to end destinations such as Lashkargaz, reducing the need for overnight stops in intermediate villages. As a result, demand for guest houses located outside major tourism nodes has declined, even where facilities remain physically functional and accessible.

AKRSP reported that the guest houses were intentionally established in Ishkarwaz, a recognised local service hub with schools, health facilities, and a security presence. This location was selected to support service provision and local economic activity rather than to function as a primary tourist destination. Since the project's completion, several community members have established private guest houses in and around Ishkarwaz, indicating that the intervention helped stimulate local entrepreneurship and private investment. However, the emergence of private accommodation has also increased competition, further reducing occupancy levels in the project-supported facilities.

Tour operators confirmed that while guest houses exist in the area, they are not integrated into standard tour itineraries, booking platforms, or destination planning. As one operator explained, *"We are told there are guest houses, but they are not part of our destination points."* Organised tour groups also tend to prefer larger accommodation, and in end destination particularly in Lashkargaz and Pech Uch, where most tourist journeys conclude.

Beyond location and competition, structural constraints continue to limit utilisation. These include a short tourism season, winter road closures, security-related restrictions on foreign tourists, and limited promotion of Broghil as a destination. As one tour operator noted, *"The road is not all-weather; water and snow make Broghil inaccessible even in autumn."*

Overall, the guest houses were relevant and strategically located from a development-planning perspective, particularly in a local service hub such as Ishkarwaz, and they contributed to stimulating private-sector activity. However, changes in travel behaviour, increased competition from private operators, limited market integration, and seasonal and security constraints have constrained their viability as income-generating facilities under current conditions.

Polo Ground

The polo ground is fully constructed and in good condition and serves as an important venue for cultural and sporting activities in Broghil Valley. It plays a central role during events such as the Broghil

Festival and polo tournaments, when it becomes a focal point for community gathering, social interaction, and regional visitors. Beyond these organised events, FGDs and KIIs indicate that community members currently need permission from government and security authorities to use the facility. Providing the community with a recognised right of use would enable more regular local utilisation and strengthen its role as a shared cultural and social asset.

3.2.5 Effectiveness of Livelihood and Skills Interventions

Livelihood and skills interventions, particularly woolcraft and garment-making, produced important technical improvements but limited sustained income outcomes.

Women across FGDs confirmed that training was delivered and that sewing practices improved, including a shift from hand-sewing to machine-sewing. However, many explained that they were not provided with the equipment, working space, or production facilities needed to convert these skills into viable enterprises. One participant stated: *"In the beginning we had some training in wool craft, which we already knew. We were not provided with machines or tools to process the wool."*

Although business groups and market linkages were part of the programme design and according to the AKRSP data these groups were formed, communities reported that organised production did not continue in practice. As one participant noted, *"There is no producer or business group in the village now."* Most women therefore continued to work individually and informally, without aggregation, branding, or stable buyer relationships.

Market conditions also shifted as road access improved. Cheaper imported goods—especially Chinese textiles—entered local markets, reducing demand for locally produced woolcraft. In several villages, women reported that this competition led many to abandon production altogether. At the same time, culturally valued products such as the yak-hair carpet (*Pelesk*) still attract interest from visitors, indicating that niche market opportunities exist but remain largely undeveloped.

The lack of sustained follow-up further limited effectiveness. Participants reported that support ended after the initial training phase: *"Except those early days training we haven't seen anyone from AKRSP or any other organisation supporting the woolcraft work."*

As a result, skills development was not accompanied by the business development, tools, finance, or market access needed to withstand growing competition and to scale production. Improved connectivity created new market opportunities but also increased competitive pressure, which the livelihood support package was not designed to address.

Overall, the evidence shows that while training outputs were delivered and technical capacity improved, the enabling conditions required for viable, market-linked livelihoods were weak. In remote and rapidly changing contexts such as Broghil, livelihood interventions need to combine skills development with sustained value-chain support—tools, mentoring, product development, aggregation, and access to buyers—if they are to generate lasting economic benefits.

3.2.6 Institutional and Management Factors Affecting Effectiveness

Institutional arrangements played an important role in shaping the effectiveness of the PATRIP investments, particularly in how infrastructure was delivered and how it is sustained after completion.

AKRSP delivered the PATRIP infrastructure through a contractor-based model in order to achieve timely completion and technical quality in a highly remote and logistically demanding environment.

This approach enabled roads, bridges, water schemes, and public facilities to be built to engineering standards within short construction seasons.

Government authorities confirmed that major assets such as the Broghil road, CRC, and festival ground are intended to fall under public-sector responsibility for operation and maintenance. However, formal handover agreements, maintenance plans, and budget allocations were not fully established at the time of this assessment. District officials explained that funding for remote areas such as Broghil is constrained because public budgets are allocated mainly by population size, which leaves small, high-cost valleys with limited resources for large infrastructure.

Communities reported that they actively maintain facilities through routine activities such as clearing drains, removing small landslides, and keeping water systems functional. However, they also stressed that major repairs after floods, avalanches, or road failures exceed local capacity and require government machinery and funding. Delays occur because of distance, limited budgets, and the absence of pre-agreed emergency response mechanisms.

Overall, the PATRIP investments are technically sound and remain largely functional, but their long-term effectiveness depends on strengthening the institutional bridge between communities and government. Establishing clear handover agreements, predictable maintenance financing, and joint community–government maintenance and emergency response protocols would protect the investments and ensure their benefits endure under harsh mountain conditions.

3.2.7 Conclusion on Effectiveness

The PATRIP portfolio was most effective in reducing isolation and improving access to essential services in Broghil Valley. Roads, bridges, drinking water, and sanitation translated strongly from construction into daily use, delivering major gains in mobility, safety, time savings, and household wellbeing. Even where infrastructure remains seasonally constrained, communities rely on it intensively, showing its high practical value.

Tourism and livelihood investments were less effective at outcome level. Although CRC, guest houses, the polo ground, and skills training were delivered to good technical standards and improved physical and cultural infrastructure, they have not yet generated sustained income for most households. Shifts in travel patterns, short tourism seasons, security restrictions, weak market linkages, and limited operational systems constrained their use and economic impact.

Institutional arrangements also affected effectiveness. Contractor-based delivery enabled rapid construction in a difficult environment, but unclear handover, financing, and maintenance responsibilities—especially for large infrastructure—create risks for long-term performance.

Overall, PATRIP investment succeeded in achieving its core objective of improving access and basic services. To convert these gains into lasting economic outcomes, stronger maintenance systems, clearer government responsibility, and better market integration for tourism and livelihoods are needed.

3.3. Impact

Definition (OECD-DAC): *Impact refers to the positive and negative, primary and secondary long-term effects produced by an intervention, directly or indirectly, whether intended or unintended—i.e., what difference the intervention makes.*

Given the absence of baseline data and the retrospective nature of this assessment, the evaluation applied a Direct Benefit and Immediate Impact Assessment Design, combining household recall with qualitative validation (FGDs and KIIs). A core analytical feature is Direct Benefit Measurement (DBM), which quantifies tangible gains such as travel time saved, improved service access, and livelihood effects using the formula:

Service Impact = Number of Beneficiary Households × Direct Benefit per Household (DBH)

In this report, DBH is operationalised by sector, including: (i) hours or minutes saved per trip (education, health, public services); (ii) households newly connected (road access, electricity, mobile signal, piped water); and (iii) service reliability/functionality improvements where time valuation is not feasible (electricity reliability, water system functionality, mobile quality). DBH estimates were derived from village survey data and triangulated with FGDs and KIIs, enabling policy-relevant impact findings in a remote context where longitudinal or administrative data are unavailable.

3.3.1 Portfolio-level impact

Direct observation of the infrastructure portfolio indicates strong impacts, with the clearest system-level changes linked to connectivity and access to essential services. **Table 8** summarises how communities rate value, the approximate reach, and the main pathways:

- The main road (Dubargar–Lashkargaz) shows transformational impact because it affects a very large catchment (approx. 47,000 people direct + indirect) and enables access to markets and services across the wider valley system.
- Bridges, link roads systems show high positive impacts, because communities rate them “very useful” and they support daily mobility, agriculture, livestock, and household energy use.
- Guest houses have delivered physical infrastructure, but their economic impact has so far been limited by low usage and restricted integration into tourism flows.
- CRC show low impact due to limited use by the community, while the polo ground shows moderate and context-specific impact.

Table 8: Impact indicators by type of facility (n=34)

Facility type	No. of facilities	Community value rating (dominant)	Approx. beneficiary reach (direct + indirect)	Main impact pathways
Bridges	5	Very useful	3,146	Improved mobility, year-round access, trade and social connectivity
Community Resource Centre	1	Somewhat useful	980	Limited institutional use; minimal community-level change
Guest houses	5	Not useful	5	Limited measurable livelihood or tourism impact
Irrigation channels	6	Very useful	2,976	Increased agricultural productivity, livestock support
Micro-hydropower systems	2	Very useful	1,067	Household energy access, improved quality of life
Polo ground	1	Somewhat useful	1,422	Cultural and recreational benefits for limited groups

Facility type	No. of facilities	Community value rating (dominant)	Approx. beneficiary reach (direct + indirect)	Main impact pathways
Link roads	8	Very useful	1,578	Local mobility, livelihood access, livestock movement
Drinking water	1	Very Useful	42	Improved household water access and well-being
Main Valley Road	2	Very useful	47,000	Regional connectivity, access to markets and services
Pit latrines	1	Very useful	32	Improved sanitation and hygiene at household level
Protective Work	1	Useful	670	The protective works have strengthened the Khishmanja bridge and contributed to the durability and safety of adjacent infrastructure.

This portfolio picture is consistent with the DBM evidence presented below: impacts are strongest where infrastructure directly changes the cost, time, and reliability of everyday access, and weak where benefits depend on market systems, service quality, and ongoing management.

3.3.2 Road Access and Public Transport Impact

DBM results indicate that PATRIP investments have delivered substantial gains in physical access, sharply reducing isolation for most households.

Vehicular road access is now near universal at household level reaching to 98%. At village level, 17 of 18 villages now have a vehicular road. This represents a substantial reduction in isolation, travel time, and physical hardship for households in previously inaccessible settlements. Beyond access alone, the quality of road connectivity improved significantly. While no villages had improved link roads a decade ago, 12 of 18 villages (66.7%) are now served by link roads, benefiting 525 households (73.0%). This improvement has reduced dependence on dirt tracks.

Improvements in year-round passability further reinforce the depth of impact. Road passability up to Graamchashma increased from six to twelve months per year, effectively eliminating seasonal isolation for downstream settlements. Beyond Graamchashma, passability increased from six to nine months, substantially reducing—but not eliminating—seasonal vulnerability for six upstream villages that remain affected during winter months (Jan-March). These gains have materially altered mobility patterns, service access, and economic interaction over time. However, heavy snowfall, floods, and freeze–thaw cycles continue to affect winter and shoulder-season passability, as is typical for valleys at this altitude.

Table 9: Road Access and Road Quality in the Sample Villages

Indicator	10 Years Ago	Now	DBM (DBH definition + beneficiary magnitude)
Villages with a vehicular road access	14 of 18 (77.8%)	17 of 18 (94.4%)	DBH: village gaining motorable road → 3 villages newly connected
Households with vehicular road access	617 of 719 (85.8%)	706 of 719 (98.2%)	DBH: household gaining motorable access → 89 HH gained access

Indicator	10 Years Ago	Now	DBM (DBH definition + beneficiary magnitude)
Villages with improved link roads	0	12 of 18 (66.7%)	DBH: village with improved (gravel) surface → 12 villages upgraded
Households served by improved link roads	0	525 (73.0%)	DBH: HH benefiting from improved road surface → 525 HH benefited
Villages still dependent on dirt tracks	14 of 18	5 of 18	DBH: village remaining constrained by dirt tracks → 5 villages constrained
Villages with no vehicular road access	4 of 18	1 of 18	DBH: village without motorable access → 1 village still excluded
Households with no vehicular road access	80 households	5	DBH: HH without vehicular access → 5 HH remain excluded
Average months road is passable (per year) up to Graamchashma	6 months	12 months	DBH context: Significant improvement in access
Average months road is passable (per year) Beyond Graamchashma	6 months	9 months	DBH: village with high seasonal vulnerability → 6 villages at risk for 3 months

Public transport access has expanded from 68% to 84% of households, benefiting 114 additional households. This confirms that road investments translated into greater service availability, especially in larger settlements.

Yet, impact is weakened by low service frequency. Only 2 villages (140 households) have daily transport, while 408 households (57%) rely on weekly services. Although the number of households without any public transport has halved, 117 households remain unserved. Weekly or irregular services limit timely access to markets, health care, education, and government services, reducing the practical benefits of improved roads.

Table 10: Public Transport Availability and Frequency in the Sample Villages

Indicator	10 Years Ago	Now	DBM (DBH definition + beneficiary magnitude)
Villages with public transport access	10 of 18 (55.6%)	13 of 18 (72.2%)	DBH: village gaining public transport → 3 villages newly served
Households with public transport access	488 of 719 (67.9%)	602 of 719 (83.7%)	DBH: household gaining public transport access → 114 HH gained access
Villages with daily public transport	–	2 of 13	DBH: village with daily service → 2 villages with high-frequency access
Households with daily public transport	–	140 households (19.5%)	DBH: HH with daily service → 140 HH benefit from usable transport
Villages with weekly-only services	–	9 of 13	DBH: village with low-frequency service → 9 villages constrained
Households reliant on weekly transport	–	408 households (56.7%)	DBH: HH constrained by weekly-only transport → 408 HHs
Villages without public transport	8 of 18	5 of 18	DBH: village without transport → 5 villages still with access to public transport
Households without public transport	231 households	117 households	DBH: HH without transport access → 117 HH remain without public transport

Together, **Table 9 and 10** show that road investments have had a high positive impact on access by reducing isolation and enabling mobility for most households. Impact is strongest where reduced distance and travel time are sufficient to unlock benefits, and weaker where year-round reliability, service frequency, and affordability are required to translate access into sustained socio-economic change.

3.3.3 Impact on Electricity and Mobile Connectivity

As shown in **Table 11** village-level electricity access increased modestly, from 72% to 83%, with only two new villages and 32 households newly connected. However, the main impact lies in improved reliability. Eleven of the fifteen electrified villages report better supply, benefiting 505 households, and 444 households now receive 18–24 hours of electricity per day. This indicates a shift from intermittent to near-continuous electricity, improving household comfort, productivity, and quality of life. At the same time, uneven outcomes remain, with four villages reporting no improvement or deterioration, showing that reliability depends on local system performance and maintenance.

Table 11: Change Over Time in Electricity and Mobile Network Access in the sample villages

Indicator	10 Years Ago	Now	DBM (DBH definition + beneficiary magnitude)
Villages with electricity access	13 of 18 (72.2%)	15 of 18 (83.3%)	DBH: village newly electrified → 2 villages gained access
Households with electricity access	621 of 719 (86.4%)	653 of 719 (90.8%)	DBH: new household connection → 32 HH gained access
Villages reporting improved reliability	–	11 of 15 electrified villages	DBH: improved reliability status → majority improved (11 villages)
Households in villages with improved reliability	–	505 households	DBH: HH experiencing improved reliability → 505 HH benefited
Villages reporting same reliability	–	2 of 15	DBH: no improvement → 2 villages (stagnation)
Villages reporting worse reliability	–	2 of 15	DBH: negative change → 2 villages (decline)
Households with 18–24 hours electricity/day	–	444 households	DBH: high-availability electricity → 444 HH benefited

Mobile network access also expanded substantially at household level across the corridor, with two-thirds of households now reporting some form of mobile connectivity. However, this change reflects wider market-driven telecom expansion rather than direct project intervention. In Broghil Valley itself, mobile coverage remains absent due to terrain and network limitations, while in lower parts of the Yarkhun corridor mobile services had already been introduced well before PATRIP began.

The data therefore capture an important contextual change rather than a project-attributable result. While improved road access may have indirectly facilitated the installation and servicing of telecom towers in some settlements, mobile connectivity should be treated as a supplementary development trend rather than an outcome of the PATRIP portfolio. Persistent gaps in signal quality—where only 206 households enjoy good coverage and 172 electrified households still lack any mobile access—highlight that digital connectivity remains uneven despite major gains in physical infrastructure.

Table 12:Mobile Network Access and Quality in the sample villages

Indicator	10 Years Ago	Now	DBM (DBH definition + beneficiary magnitude)
Villages with mobile signal	1 of 18 (5.6%)	9 of 18 (50.0%)	DBH: village gaining mobile coverage → 8 villages newly connected
Households with mobile signal	14 of 719 (1.9%)	481 of 719 (66.9%)	DBH: household gaining mobile access → 467 HH gained access
Villages with good mobile quality	–	2 of 9	DBH: village with good-quality signal → 2 villages with high-quality service
Households with good mobile quality	–	206 households	DBH: HH with good-quality mobile service → 206 HH benefited
Households with fair mobile quality	–	275 households	DBH: HH with usable but constrained service → 275 HH (quality-limited benefit)
Electrified households without mobile access	–	172 households	DBH: HH excluded from digital connectivity → 172 HH remain digitally excluded

3.3.4 Drinking Water

Piped drinking water represents one of the strongest and most far-reaching impacts of the PATRIP portfolio. As shown in Table 13, village-level coverage expanded from 39% to 100%, and household-level access increased from 37% to universal coverage, meaning that 454 households gained piped water connections. This marks a fundamental shift in daily living conditions, particularly for women and children who previously spent long hours collecting water from rivers and springs.

More than half of all households (391 households, 54%) now receive fully functional piped water services, while 402 households (56%) report good-quality drinking water. These gains translate into reduced physical burden, improved hygiene, and lower exposure to water-borne disease—outcomes that directly support health, dignity, and time use at household level.

Although some systems face operational constraints, the scale of the improvement remains substantial. Even households served by partially functional systems now benefit from piped water that did not exist before, representing a major advance over baseline conditions. Only one village (80 households) currently faces a non-working system, highlighting where targeted rehabilitation and water-quality management would have especially high returns.

Overall, DWSS investments have delivered universal access, broad health and welfare benefits, and some of the highest and most inclusive impacts across the entire portfolio. The remaining challenges are primarily related to maintenance and water-quality management rather than to coverage or relevance.

Table 13:Piped Drinking Water Access, Functionality, and Quality in the Sample Villages

Indicator	10 Years Ago	Now	DBM (DBH definition + beneficiary magnitude)
Villages with piped drinking water	7 of 18 (38.9%)	18 of 18 (100%)	DBH: village gaining piped water → 11 villages gained access
Households with piped drinking water	265 of 719 (36.9%)	719 of 719 (100%)	DBH: household gaining piped water → 454 HH gained access
Villages with fully functional systems	–	9 of 18 (50.0%)	DBH: village with fully functional system → 9 villages performing well

Indicator	10 Years Ago	Now	DBM (DBH definition + beneficiary magnitude)
Households served by fully functional systems	–	391 (54.4%)	DBH: HH receiving fully functional service → 391 HH benefited
Villages with partially functional systems	–	8 of 18 (44.4%)	DBH: village with partial functionality → 8 villages with service constraints
Households served by partially functional systems	–	283 (39.4%)	DBH: HH receiving partial service → 283 HH constrained
Villages with non-working systems	–	1 of 18	DBH: village with non-working system → 1 village at critical risk
Households affected by non-working system	–	80	DBH: HH without effective water service → 80 HH at high risk
Villages reporting good water quality	–	10 of 18	DBH: village with good water quality → 10 villages
Households with good water quality	–	402 (55.9%)	DBH: HH receiving good-quality water → 402 HH benefited
Villages reporting fair/poor water quality	–	8 of 18	DBH: village with quality concerns → 8 villages
Households with fair/poor water quality	–	317 (44.1%)	DBH: HH with quality concerns → 317 HH affected

Irrigation water access supports a large majority of households, reinforcing agricultural livelihoods in line with objectives of the project. However, intermittent flows, limited daily availability, and only moderate sufficiency for many users constrain productivity gains. Household-weighted results show that nearly two-fifths of irrigated households rely on partially functional systems, underscoring the importance of post-construction support.

Table 14: Irrigation Water Access, Functionality, and Adequacy in the sample villages

Indicator	Now (Village-Level & household weighted)	DBM (DBH definition + beneficiary magnitude)
Villages with irrigation water access	15 of 18 (83.3%)	DBH: village with irrigation access → 15 villages reached
Households with irrigation water access	577 households (80.3%)	DBH: household with irrigation access → 577 HH benefited
Villages with fully functional irrigation	8 of 15	DBH: village with fully functional system → 8 villages performing well
Households served by fully functional irrigation	356 households (61.7%)	DBH: HH receiving fully functional irrigation → 356 HH benefited
Villages with partially functional irrigation	7 of 15	DBH: village with partial functionality → 7 villages constrained
Households served by partially functional irrigation	221 households (38.3%)	DBH: HH receiving partially functional service → 221 HH constrained
Villages reporting “sufficient” irrigation	6 of 15	DBH: village with sufficient water → 6 villages adequate
Households with sufficient irrigation	285 households (49.4%)	DBH: HH receiving sufficient irrigation → 285 HH adequately served
Average irrigation availability (peak season)	6 hours/day	DBH context: limited daily supply → system-level constraint

3.3.5 Impact on Education Access, Participation, and Equity

PATRIP/AKRSP-supported investments have generated clear and measurable impacts on education access, particularly at the primary and middle school levels. These impacts are driven mainly by improved road connectivity, reduced travel time, and safer movement for children. However, the analysis also shows that gains weaken beyond middle school, where affordability, transport frequency, and distance to facilities remain binding constraints—especially for girls and poorer households.

Education Participation and Gender Outcomes

Improved physical access has translated into high enrolment and near gender parity at foundational education levels. As shown in **Table 15**, primary and middle school participation is high for both boys and girls, with parity achieved at these levels. However, participation declines sharply after middle school, and a gender gap begins to re-emerge at the college level.

Table 15: Current Student Attendance by Level and Gender in the Sample Villages

Education Level	Boys	Girls	Total Students	Gender Parity (Girls/Boys)
Primary	383	392	775	1.02 (Near parity)
Middle	267	265	532	0.99 (Parity)
High	144	148	292	1.03 (Parity)
College	117	104	221	0.89 (Girls lag)

These patterns indicate that investment in infrastructure over the last decade in the valley has been effective in removing distance-related barriers to basic education, but that structural constraints persist at higher levels, where education facilities are located farther away and require regular travel.

Physical Access and Travel Time Reductions

Reductions in travel time provide strong evidence of impact through the connectivity pathway. As shown in **Table 16**, travel time to all education levels has declined substantially over the past decade, with the largest absolute gains for high schools and colleges. In total, students save an estimated 4,542 student-hours per trip cycle, representing a significant cumulative welfare gain.

Table 16:Physical Access to Education Facilities in the Sample Villages

Indicator	10 Years Ago	Now	DBM (student time saved per trip)[3]
Average travel time to primary school	17 min	12 min	775 students × 5 min = 64 student-hours saved
Average travel time to middle school	8.7 hrs	6.4 hrs	532 students × 2.3 hrs = 1,224 student-hours saved
Average travel time to high school	11.5 hrs	8.0 hrs	292 students × 3.5 hrs = 1,022 student-hours saved
Average travel time to college	17.2 hrs	7.1 hrs	221 students × 10.1 hrs = 2,232 student-hours saved
Total student time saved (all levels)	–	–	1820 students x 2.49hrs= 4,542 student-hours saved per trip cycle

[3] Student time savings are calculated per trip using Direct Benefit Measurement (DBM) and do not assume daily commuting or annual attendance frequency, ensuring a conservative and transparent estimate.

These gains confirm that road investments significantly reduced physical isolation, a core objective of PATRIP and AKRSP, and directly enabled improved access to schooling—especially for children in remote settlements.

Gender Inequality and Intergenerational Change

While current enrolment levels are strong, adult literacy data highlight the depth of historical exclusion, particularly for women as evident from the household level survey. As shown in **Table 17**, female literacy remains substantially lower than male literacy across all zones, reflecting long-term structural disadvantages that infrastructure alone cannot reverse.

Table 17: Key Gender-Disaggregated Education Indicators in the project area, sample households Dec 2025

Indicator	Core Area	Peripheral Zone	Wider Yarkhun	Total
Female literacy rate (16+yrs)	22%	46%	66%	**38%**
Male literacy rate (16+yrs)	57%	71%	86%	**67%**
Gender gap in literacy (pp)	**-35**	**-25**	**-20**	**-29**
Girls (5–16yrs) attending school	63%	83%	95%	**75%**
Boys (6–16yrs) attending school	83%	87%	93%	**86%**
Gender gap in enrolment (pp)	**-20**	**-4**	**2**	**-11**
Girls out of school (5–16)	37%	17%	5%	**25%**
Boys out of school (5–16)	17%	13%	7%	**14%**
Gender gap in OOSC (pp)	**-20**	**-4**	**2**	**-11**

This contrast between high child enrolment and low adult literacy indicates that the infrastructure investments are contributing to positive intergenerational change, even though historical gender gaps remain visible.

Shifting Drivers of Educational Exclusion

The reasons for educational exclusion have shifted over time, reflecting the impact of improved access. As shown in **Table 18**, distance and safety—once dominant barriers for adults—are now far less significant for children. Instead, affordability, learning quality, and retention issues are increasingly important.

Table 18: Comparison of Reasons for Educational Exclusion – Adults vs Children in sample households

Reason	Adults (16+) %	Children (5–16) %	Difference (pp)	Analytical Remarks
Percent of adults and children who never attended or dropped out of school	73%	20%	**+53**	High adult exclusion reflects past structural deficits in access and opportunity. Lower but persistent child exclusion indicates current challenges related to affordability, learning quality, and retention despite improved enrolment.
School too far / unsafe travel	29%	7%	**+22**	A dominant historical access constraint for adults; its reduced importance for children reflects expanded school coverage over time.
Could not afford education costs	26%	21%	**+5**	A continuing constraint across generations, indicating that financial

Reason	Adults (16+) %	Children (5–16) %	Difference (pp)	Analytical Remarks
				barriers remain a current risk to enrolment and retention for children.
Livestock/herding responsibilities	12%	9%	**+3**	Historically limited adult schooling due to livelihood demands; still a current pressure on children in households dependent on labour-intensive livelihoods.
Not interested / poor performance	13%	15%	**–2**	More prominent among children, pointing to current learning quality and retention issues rather than access barriers.
Family/cultural restrictions	7%	5%	**+2**	Social norms constrained adults' education in the past, especially women; reduced impact on children suggests gradual normative change, though risks remain.
Early marriage	3%	1%	**+2**	Largely a historical barrier with declining influence among today's school-age children.
Illness / disability	1%	6%	**–5**	Minimal impact historically, but a current exclusion risk for children, highlighting gaps in inclusive education and health support.
No school beyond current level	2%	1%	**+1**	Reflects past limitations in education pathways, particularly in remote areas; less relevant for children due to improved system coverage.
Other / not specified	1%	5%	**–4**	Higher among children, suggesting multiple, context-specific current barriers not fully captured by standard categories.

This shift confirms that the infrastructure investment in the valley successfully addressed physical access barriers, but that non-infrastructure constraints now limit further impact.

Household Perceptions of Change and Cost Pressures

Household perceptions strongly corroborate the impact pathway. As shown in **Table 19**, a large majority of households—especially in the core project area—report that access to education is now easier, mainly due to better roads and safer travel. At the same time, rising education costs have become a growing concern.

Table 19:Household Perceptions of Changes in Access to Education Compared to 10 Years Ago in the sample households

Indicator	Core Project Area	Peripheral Zone	Wider Yarkhun
Perceived change in access to education:			
Access much easier now	83%	69%	29%
Access somewhat easier now	7%	20%	47%
No change	6%	2%	21%
Access more difficult now	3%	9%	2%
Main drivers of improved access (% of HHs reporting improvement):			

Better roads reduced travel time to school	42%	15%	15%
Safer travel for children	19%	14%	21%
School quality improved	11%	15%	11%
More awareness / value for education	9%	11%	19%
Easier for girls to attend school	6%	10%	14%
Other drivers (income, NGO support, transport cost)	13%	35%	20%
School still too far	26%	10%	21%
Travel still too expensive	16%	10%	25%
Safety concerns remain	21%	5%	19%
Improved road did not help school route	19%	14%	21%
Cannot afford education costs	5%	52%	3%
Other constraints (awareness, labour, culture)	13%	9%	11%
Number of HHs reporting education expenses	83 → 148	88 → 109	72 → 78
Average annual education cost per HH (PKR)	28,941 → 50,930	18,058 → 61,539	67,590 → 123,278

These findings show that while distance-based exclusion has fallen, affordability risks are increasing, particularly for secondary and tertiary education.

Overall, investments in connectivity infrastructures resulted in a strong positive impact on access to basic education, reductions in travel time, improved safety, and high enrolment with near gender parity at primary and middle levels. These impacts represent meaningful and sustained change in previously isolated communities.

However, impact diminishes at higher education levels, where distance, transport frequency, and rising costs constrain participation—especially for girls and poorer households. This indicates that infrastructure investment alone is not sufficient to sustain equitable education outcomes beyond foundational levels. Future impact will depend on complementary measures addressing transport services, affordability, and post-primary education pathways.

3.3.6 Impact on Health Access, Service Utilisation, and Household Well-Being

PATRIP and AKRSP supported connectivity investments have generated significant health impacts by reducing travel time to health facilities, improving the reliability of access, and enabling greater use of existing health services. These impacts are most pronounced for higher-level care—particularly Basic Health Units (BHUs) and district hospitals—where distance, cost, and risk previously posed serious barriers.

Improved Physical Access to Health Facilities

Direct Benefit Measurement shows that improved road connectivity has substantially reduced travel time to health facilities across the project area. The largest gains are associated with access to district hospitals, where average travel time declined by around four hours per trip. Access to BHUs and AK health centres also improved meaningfully, while gains for community-level health posts are smaller because most villages already had relatively proximity to these facilities.

Overall, improved connectivity generates approximately 2,934 household-hours of travel time savings per health visit, equivalent to an average of 4.1 hours saved per household per trip. These time savings are particularly critical for emergencies, where delays previously resulted in serious health risks or fatalities that could otherwise be avoided.

Table 20 presents the change over time in physical access to health facilities and quantifies the direct travel-time benefits at household level.

Table 20:Physical Access to Health Facilities in the Sample Villages

Indicator	10 Years Ago	Now	DBM (Direct Benefit Measurement)	DBH (Overall hours saved per trip)
Average travel time to Community Health Post (Dispensary)	9.1 minutes	8.1 minutes	DBH: 1.0 minute saved per household per trip	11 hours (631 HH × 0.017 hrs)
Villages with ≤10 min access to Community Health Post	14 of 18	15 of 18	DBH: 1 additional village reached	–
Households with ≤10 min access to Community Health Post	621 of 719	631 of 719	DBH: 10 households newly benefiting	–
Average travel time to BHU	5.6 hours	4.0 hours	DBH: 1.6 hours saved per household per trip	845 hours (528 HH × 1.6 hrs)
Villages with ≤2 hrs access to BHU	10 of 18	14 of 18	DBH: 4 additional villages reached	–
Households with ≤2 hrs access to BHU	393 of 719	528 of 719	DBH: 135 households newly benefiting	–
Average travel time to AK Health Centre	6.9 hours	5.7 hours	DBH: 1.2 hours saved per household per trip	443 hours (369 HH × 1.2 hrs)
Villages with ≤2 hrs access to AK Health Centre	9 of 18	11 of 18	DBH: 2 additional villages reached	–
Households with ≤2 hrs access to AK Health Centre	328 of 719	369 of 719	DBH: 41 households newly benefiting	–
Average travel time to District Hospital	14.6 hours	10.6 hours	DBH: 4.0 hours saved per household per trip	1,636 hours (409 HH × 4.0 hrs)
Villages with ≤10 hrs access to District Hospital	5 of 18	10 of 18	DBH: 5 additional villages reached	–
Households with ≤10 hrs access to District Hospital	259 of 719	409 of 719	DBH: 150 households newly benefiting	–
TOTAL (all health facilities)	–	–	Weighted avg DBH = 4.1 hrs/HH/trip	2,934 household-hours saved per trip

Strengthening of Health Service Reach and Readiness

Improved physical access has translated into broader improvements in health system reach and readiness at the village level. Over the past decade, more villages now have skilled birth attendants within the settlement, wider deployment of Lady Health Workers, improved availability of essential medicines, and expanded childhood immunisation coverage. Most villages also report increased patient visits, indicating that improved connectivity has actively enabled service utilisation rather than remaining a latent benefit.

However, progress is uneven. Antenatal care (ANC) availability remains structurally constrained, with no increase in the number of villages offering ANC services. In addition, a small number of villages still lack any local health point, meaning households in these settlements continue to rely entirely on distant facilities.

These changes in service availability, readiness, and utilisation are summarised in **Table 21**.

Table 21:Availability, Readiness, and Utilisation of Health Services in the Sample Villages (10 Years Ago vs Now)

Indicator	10 Years Ago	Now	DBM (Direct Benefit Measurement)
Villages with ANC services available	2 of 18	2 of 18	DBH: no net gain → *structural gap persists*
Households with ANC access	56 of 719 (7.8%)	56 of 719 (7.8%)	DBH: 0 HH gained access
Villages with Skilled Birth Attendant within the village	0 of 18	7 of 18	DBH: 7 villages newly served
Villages with childhood immunisation services	9 of 18	10 of 18	DBH: 1 additional village covered
Households with immunisation access	402 of 719 (55.9%)	466 of 719 (64.8%)	DBH: 64 HH newly benefiting
Villages with Lady Health Worker / Visitor	7 of 18	12 of 18	DBH: 5 villages newly covered
Households covered by LHW/LHV services	299 of 719 (41.6%)	496 of 719 (69.0%)	DBH: 197 HH newly covered
Villages with essential medicines usually available	–	14 of 18	DBH: 14 villages with improved readiness
Households in villages with medicine availability	–	602 of 719 (83.8%)	DBH: 602 HH benefiting from medicine availability
Villages reporting increased patient visits	–	15 of 18	DBH: utilisation increased in 15 villages
Villages with no local health point	–	3 of 18	DBH: 3 villages remain unserved

Household-Level Changes in Health-Seeking Behaviour

Household survey data reinforce village-level findings and provide insight into how improved access has changed health-seeking behaviour. In the core project area, a large majority of households report that access to healthcare has improved significantly, mainly due to reduced travel time, safer journeys for sick family members, and faster emergency access.

Institutional deliveries remain limited in the most remote villages but increase sharply in peripheral and wider Yarkhun areas, reflecting the combined effect of improved connectivity and service availability. Childhood immunisation coverage is very high in the core and wider areas, while gaps persist in some peripheral settlements, indicating uneven service reach.

Yet, households continue to report important constraints. Distance to qualified doctors, transport costs, and the cost of treatment and medicines remain major challenges for a significant share of households. These patterns confirm that improved roads have reduced physical barriers, but health outcomes increasingly depend on service supply and affordability rather than distance alone. These household-level dynamics are detailed in **Table 22**.

Table 22: Changes in Maternal and Child Health Access, Utilisation, and Healthcare Costs in the sample households

Indicator	Core Project Area	Peripheral Zone	Wider Yarkhun
Maternal health (last birth in past 5 years)			
HHs with women of reproductive age (15–49 yrs)	170	100	69
HHs reporting a birth in last 5 years	126	77	30
Place of last delivery			
Institutional delivery (AKHS / Govt / SBA)	8%	66%	87%
Home delivery (with or without TBA)	92%	33%	13%
Child health – vaccination (under 5 years)			

Indicator	Core Project Area	Peripheral Zone	Wider Yarkhun
HHs with children under 5	143	80	35
All children fully vaccinated	99%	66%	97%
Some / none vaccinated	1%	34%	3%
Main healthcare challenges (top constraints, % HHs)			
Distance to qualified doctors	36%	26%	20%
Transport cost	8%	20%	28%
Cost of treatment & medicines	7%	18%	29%
Lack of female healthcare providers	20%	14%	4%
Household healthcare costs & coping (last 12 months)			
HHs reporting healthcare expenses (No.)	127	119	97
Average annual healthcare cost (PKR)	29,370	46,584	54,833
Used savings for healthcare	22%	37%	45%
Sold assets/livestock	27%	16%	14%
Borrowed money	20%	25%	13%
Perceived change in healthcare access due to project			
Access improved significantly	79%	63%	19%
Access improved somewhat	17%	28%	46%
Main drivers of improved healthcare access (% HHs)			
Reduced travel time to facilities	37%	24%	44%
Safer travel for sick family members	23%	11%	12%
Faster emergency access	11%	18%	2%
Ability to reach better hospitals	13%	17%	13%
No improvement	**4%**	**9%**	**34%**
Main constraints where no improvement reported			
Health facility still too far	18%	29%	32%
Transport still too expensive	25%	29%	28%
Improved road did not help route	18%	21%	29%
No qualified doctors available	25%	4%	5%

3.3.7 Impact on physical access to public services (administrative, financial and sectoral services)

PATRIP-supported improvements in road connectivity have generated clear and measurable impacts on households' access to government, administrative, justice, and financial services. By reducing travel time, risk, and uncertainty, the project has lowered the transaction costs of engaging with the state, particularly for services that require physical presence and repeated visits.

Reduced Travel Time and Expanded Practical Access

Household-weighted Direct Benefit Measurement shows substantial reductions in travel time across all major categories of public services. On average, households now save **about 4.6 hours per service-access trip**, representing a major reduction in time, fatigue, and opportunity cost for remote communities.

The largest gains are observed for:

- **Police and legal services**, where travel time fell by around five hours per trip.
- **Courts and lawyers**, with similar reductions, making formal justice more reachable.
- **Financial services (banks and ATMs)**, where travel time declined by nearly seven hours per trip, reflecting the strong interaction between connectivity and market access.

Access to civil registration, social protection offices, postal services, and sectoral departments (agriculture and livestock) also improved significantly. In consequence, many more households now fall within reasonable travel-time thresholds (≤6 or ≤12 hours) for essential public services.

These system-wide changes are summarised in **Table 23**, which quantifies travel-time reductions and aggregate household-level time savings across service types.

Table 23: Physical Access to Government, Administrative, and Justice Services (10 Years Ago vs Now) in the Sample Villages

Indicator	10 Years Ago	Now	DBM (Direct Benefit Measurement)	Overall hours saved (per trip)
Average travel time to Civil Registration services	16.9 hrs	12.4 hrs	DBH: 4.5 hrs saved per HH per trip	2,358 hrs (524 HH × 4.5)
Villages with ≤12 hrs access to Civil Registration	8 of 18	13 of 18	DBH: 5 additional villages reached	–
Households with ≤12 hrs access to Civil Registration	341 of 719	524 of 719	DBH: 183 HH newly benefiting	–
Average travel time to Police & Legal services	17.1 hrs	12.1 hrs	DBH: 5.0 hrs saved per HH per trip	2,805 hrs (561 HH × 5.0)
Villages with ≤12 hrs access to Police & Legal services	7 of 18	14 of 18	DBH: 7 additional villages reached	–
Households with ≤12 hrs access to Police & Legal services	312 of 719	561 of 719	DBH: 249 HH newly benefiting	–
Average travel time to Courts & Lawyers	17.3 hrs	12.2 hrs	DBH: 5.1 hrs saved per HH per trip	2,637 hrs (517 HH × 5.1)
Villages with ≤12 hrs access to Courts & Lawyers	7 of 18	13 of 18	DBH: 6 additional villages reached	–
Households with ≤12 hrs access to Courts & Lawyers	302 of 719	517 of 719	DBH: 215 HH newly benefiting	–
Average travel time to financial services (Bank/ATM)	16.3 hrs	9.6 hrs	DBH: 6.7 hrs saved per HH per trip	2,626 hrs (392 HH × 6.7)
Villages with ≤6 hrs access to financial services	4 of 18	9 of 18	DBH: 5 additional villages reached	–
Households with ≤6 hrs access to financial services	184 of 719	392 of 719	DBH: 208 HH newly benefiting	–
Average travel time to Social Protection offices	15.7 hrs	11.8 hrs	DBH: 3.9 hrs saved per HH per trip	2,804 hrs *(719 HH × 3.9)*
Villages with ≤12 hrs access to Social Protection services	9 of 18	13 of 18	DBH: 4 additional villages reached	–
Average travel time to Utility & Postal services	15.1 hrs	11.1 hrs	DBH: 4.0 hrs saved per HH per trip	2,876 hrs (719 HH × 4.0)

Indicator	10 Years Ago	Now	DBM (Direct Benefit Measurement)	Overall hours saved (per trip)
Average travel time to Agriculture & Livestock services	15.2 hrs	11.0 hrs	DBH: 4.2 hrs saved per HH per trip	3,020 hrs (719 HH × 4.2)
Average travel time to Education offices	15.4 hrs	11.2 hrs	DBH: 4.2 hrs saved per HH per trip	3,020 hrs (719 HH × 4.2)
Average travel time to Passport & Immigration services	16.8 hrs	12.3 hrs	DBH: 4.5 hrs saved per HH per trip	3,236 hrs (719 HH × 4.5)
Weighted-average DBH (all government & administrative services)[4]			4.6 hours saved per household per service-access trip	3,307 hrs (719 HH×4.6)

Despite these gains, access improvements are not uniform. Higher-order services—such as passport and immigration offices, education departments, and specialised agriculture services—remain concentrated in district or provincial centres. Households in the most remote settlements still face long journeys, even with improved roads, reflecting continued spatial centralisation of state functions.

This explains why the strongest impacts appear for services that households use frequently or urgently (police, banking, social protection), while more specialised or episodic services remain difficult to access practically.

Evidence from Household Service-Use Patterns

Household survey data confirm that improved connectivity has translated into greater actual use of public and governance services, particularly outside the core project area. In the wider Yarkhun, nearly four out of five households travelled to access at least one public service in the past 12 months, compared to under half in the core area. This reflects both improved access and greater dependence on distant service centres.

Patterns of service use vary by zone:

- **Administrative and identity services** (CNIC/NADRA) are widely accessed across all areas.
- **Financial services** show a sharp gradient, with much higher usage in the wider Yarkhun, where banks and ATMs are located outside villages.
- **Social protection services** are used more in the core area, suggesting better outreach or targeting closer to project locations.
- **Justice and legal services** are used infrequently but show higher engagement in the wider Yarkhun, where formal institutions are more accessible than before.

These behavioural patterns are presented in **Table 24**, which complements the travel-time analysis by showing how households interact with public services.

[4] The weighted-average DBH represents the average travel-time saving per household per service-access trip across government, administrative, justice, and financial services. It should not be interpreted as cumulative time saved across multiple services.

Table 24: Household Travel to Access Public and Governance Services (Last 12 Months) in the sample households

Impact Indicator	Core Project Area(n = 180)	Peripheral Zone(n = 120)	Wider Yarkhun(n = 99)
Households that travelled to access at least one public service	47% (84 HHs)	54% (65 HHs)	79% (78 HHs)
Households that did not travel for any listed service	53%	46%	21%
Administrative & identity services			
CNIC / NADRA registration or documents	41%	33%	40%
Birth or death registration	1%	3%	6%
Social protection services (BISP, Zakat, Bait-ul-Maal)	12%	6%	2%
Financial services			
ATM / cash machine	1%	1%	28%
Banking (savings, withdrawals)	1%	5%	14%
Microfinance / loan services	0%	3%	10%
Education-related services			
School/college admission or certificates	7%	5%	4%
Examination / board offices	<1%	2%	1%
Livelihood & sectoral services			
Job application points	1%	1%	10%
Veterinary / livestock services	1%	8%	0%
Agriculture department (seeds/fertiliser)	<1%	0%	0%
Governance & legal services (episodic use)			
Court / Patwari / revenue office	0%	0%	6%
Police station / FIR / legal matters	0%	3%	5%

Overall, the impact is strongest for services where reduced travel time directly translates into use, and weaker where access still depends on institutional availability, service decentralisation, or affordability. Connectivity has lowered barriers, but it has not fully overcome structural centralisation of higher-order public services. It is also important to highlight that PATRIP has contributed to meaningful improvements in state access and citizen–state interaction, with clear welfare gains in time savings and reduced transaction costs. Sustaining and deepening these impacts will require complementary measures, including decentralised service delivery, mobile outreach, and digital governance solutions, to fully leverage the connectivity gains achieved.

3.3.8 Impact on Local Economic Activity, Livelihoods, and Market Access

PATRIP-supported road and access investments have produced clear economic impacts by reducing isolation, lowering transaction costs, and improving market access. These changes have strengthened local economic activity and household incomes, but impacts remain uneven across livelihood types, gender, and locations, with some traditional livelihoods weakening as markets opened.

Expansion of local economic activity is evident. As shown in **Table 25**, the average number of shops per village increased from 1.6 to 4.9, and villages with at least one shop rose from 9 to 17 out of 18. Villages also report an average of 4.7 new small businesses over the past decade, with 14 villages diversifying into services such as transport, trade, and repairs. This indicates a shift towards more cash-based and diversified local economies.

Market access improved unevenly. Travel time to buying markets fell sharply—from 17.3 to 12.2 hours, saving over five hours per trip and enabling five additional villages to reach buying markets within 12 hours. In contrast, selling-market access improved only marginally, with travel time falling by 1.4 hours and just two villages crossing the same threshold. As a result, households find it easier to purchase goods instead of selling produce competitively.

Simultaneously, traditional wool and handicraft livelihoods declined, particularly for women. Villages with women engaged in crafts fell from 10 to 5, and men's participation also declined. This shows that improved access alone did not sustain these livelihoods; exposure to cheap imports and the lack of value-chain support reduced competitiveness. This represents a negative distributional impact, especially for women who depended on home-based production.

Table 25: Changes in Local Economic Activity, Livelihood Production, and Market Access in the Sample Villages

Indicator	10 Years Ago	Now	DBM (Direct Benefit Measurement)
Average number of shops per village	1.6	4.9	DBH: +3 shops per village → local retail density increased
Villages with ≥1 shop	9 of 18	17 of 18	DBH: 8 additional villages with local retail access
Average number of new small businesses established (last 10 yrs)	–	4.7	DBH: +4 new enterprises per village (average)
Villages reporting new non-grocery businesses	–	14 of 18	DBH: 14 villages diversified beyond groceries
Villages with women engaged in wool/handicrafts	10 of 18	5 of 18	DBH: 5 villages lost women's craft engagement (negative DBM)
Villages with men engaged in wool/handicrafts	9 of 18	6 of 18	DBH: 3 villages lost men's craft engagement (negative DBM)
Average buying market travel time	17.3 hrs	12.2 hrs	DBH: 5.1 hours saved per business per buying-trip
Villages with ≤12 hrs access to buying markets	6 of 18	11 of 18	DBH: 5 additional villages crossed buying-market access threshold
Average selling market travel time	15.6 hrs	14.2 hrs	DBH: 1.4 hours saved per business per selling-trip
Villages with ≤12 hrs access to selling markets	7 of 18	9 of 18	DBH: 2 additional villages crossed selling-market access threshold

Livelihood Structures and Geographic Differentiation

Household livelihood profiles differ sharply across zones, shaping how impacts are realised. **Table 26** shows that:

- The **core project area** remains heavily dependent on livestock (76% of households), validating the importance of access, veterinary services, and resilience.
- The **peripheral zone** is dominated by daily wage labour (58%), reflecting higher vulnerability and exposure to cost shocks.
- The **wider Yarkhun** has a much higher share of skilled and salaried employment (46%), indicating stronger integration with external labour markets.

These structural differences explain why income gains and livelihood upgrading are strongest where connectivity aligns with skills and job opportunities, and weaker where households depend on low-paid or insecure labour.

Table 26:Summary of Livelihood and Income Profile of Sample households

Indicator	Core Project Area	Peripheral Zone	Wider Yarkhun	Overall Interpretation (Relevance)
Dominant livelihood (single most important source, now)	Livestock (76%)	Daily wage labour (58%)	Salaried/skilled work (46% combined)	Confirms distinct livelihood profiles, justifying area-specific intervention design
Households relying on livestock as main income	76%	9%	6%	High dependence in core area validates focus on livestock, access, and resilience
Households relying on daily wage labour	13%	58%	18%	High vulnerability in peripheral zone supports income diversification and skills
Share of skilled + salaried employment (main source)	8%	24%	46%	Indicates uneven access to stable employment, relevant for targeting
Average annual household cash income (PKR)	359,844	194,783	460,212	Income disparities confirm need-based geographic targeting
Multiple income sources per household (evidence)	High	Moderate	Moderate	Livelihoods are diversified but fragile, reinforcing relevance of integrated support
Key structural constraints (baseline)	Market access, isolation	Labour dependence	Skills & markets	Project focus aligns with context-specific constraints

Income Change and Livelihood Diversification

Household survey evidence confirms substantial positive income impacts, particularly in areas most directly served by PATRIP infrastructure. As shown in **Table 27**, 93% of households in the core area and 82% in the peripheral zone report income improvement, compared to 66% in the wider Yarkhun.

There is also evidence of gradual livelihood diversification:

- Reliance on livestock declined across all zones.
- Dependence on daily wage labour reduced sharply outside the core area.
- Skilled and salaried employment increased, especially in the wider Yarkhun.

Households consistently identify roads and transport as the main pathway through which income improved, confirming that connectivity is the dominant impact mechanism rather than direct livelihood interventions.

Table 27: Summary of Livelihood and Income Change in the sample households

Indicator	Core Project Area	Peripheral Zone	Wider Yarkhun	Overall Interpretation (Impact)
Households reporting income "improved significantly"	77%	64%	8%	Indicates substantial positive income effects, strongest in core area
Income "improved somewhat"	16%	18%	58%	
HHs reporting income "not improved or worsen"	7%	18%	34%	Non-impact largely due to access and relevance gaps, not harm
Change in reliance on livestock (10 yrs → now)	↓ 87% → 76%	↓ 13% → 9%	↓ 10% → 6%	Evidence of gradual livelihood diversification
Change in daily wage labour (10 yrs → now)	↑ 8% → 13%	↓ 72% → 58%	↓ 39% → 18%	Reduction in distress labour, especially outside core area
Increase in skilled + salaried employment	Modest	Moderate	Strong	Suggests structural upgrading of livelihoods over time
Main pathway of income improvement	Roads & transport	Roads & access	Roads & reduced costs	Infrastructure is the primary transmission channel

Impact on Household Well-Being and Economic Conditions

Table 28 shows clear improvements in household well-being over the past ten years, though these changes cannot be attributed solely to the project. PATRIP-supported connectivity and access improvements appear to have contributed alongside broader economic, social, and policy changes.

The share of households meeting essential needs comfortably increased sharply in the core project area (from 8% to 80%) and wider Yarkhun (from 8% to 76%), while extreme deprivation declined to 1–3% across all areas. These trends suggest meaningful improvements in living conditions, to which improved access, mobility, and livelihood opportunities likely contributed.

The peripheral zone shows more modest gains. Although extreme deprivation fell (13% to 3%), many households still report difficult in meeting needs, indicating continued economic vulnerability despite improved access.

Perception data support this mixed picture: most households report that their situation is "better now," while those reporting no change or deterioration cite rising costs and access gaps rather than direct negative project effects.

Overall, **Table 28** indicates positive but uneven improvements in household well-being, with project investments acting as an enabling factor rather than the sole driver of change.

Table 28: Summary of Changes in Household Well-Being and Economic Conditions in sample households

Indicator	Core Project Area (10 yrs ago → Now)	Peripheral Zone (10 yrs ago → Now)	Wider Yarkhun (10 yrs ago → Now)	Impact Interpretation
HHs meeting essential needs comfortably *(food, heating, medicine, clothing)*	8% → 80%	28% → 32%	8% → 76%	Living conditions improved markedly, with transformative gains in the core and wider areas.

Indicator	Core Project Area (10 yrs ago → Now)	Peripheral Zone (10 yrs ago → Now)	Wider Yarkhun (10 yrs ago → Now)	Impact Interpretation
HHs meeting needs with difficulty	77% → 19%	58% → 65%	68% → 22%	Economic stress reduced sharply in the core and wider areas; persistent vulnerability remains in the peripheral zone.
HHs unable to meet basic needs	15% → 1%	13% → 3%	24% → 2%	Extreme deprivation has been largely eliminated across all areas.
HHs reporting household economy "better now"	89%	81%	91%	Strong and widespread perception of economic improvement compared to ten years ago.
HHs reporting "no change"	8%	10%	1%	A small minority report stagnation, mainly in the peripheral zone.
HHs reporting economy "worse now"	3%	9%	8%	Negative outcomes are limited and linked to cost pressures rather than livelihood collapse.
Main drivers of change	Roads, access, livestock income	Mixed livelihood gains	Skills, jobs, diversification	Transition from isolation-driven poverty to connectivity- and livelihood-driven economic change, with area-specific pathways.

3.3.9 Impact on Living Conditions, WASH, and Household Facilities

Table 29 shows substantial improvements in household living conditions over the past decade, particularly in water supply, sanitation, hygiene practices, and electricity access. These changes reflect a combination of project-supported infrastructure, improved connectivity, and broader public investments, rather than project effects alone.

The most pronounced gains are observed in water and sanitation. Open defecation declined sharply across all areas—most dramatically in the core project area (from 98% to 6%)—while access to piped drinking water to the house increased to over 80% in the core area and near-universal levels in the peripheral zone and wider Yarkhun. Water quality testing and reported safety also improved substantially, indicating not only access gains but service quality as well.

Hygiene behaviours improved consistently across all zones, with large increases in regular handwashing after toilet use, before eating, and after handling animals. These changes likely reflect improved water availability, health awareness, and service outreach, rather than infrastructure alone.

Housing quality improved more gradually and unevenly. The shift towards semi-pucca and pucca housing is strongest in the peripheral zone and wider Yarkhun, while the core area shows more modest structural upgrading. This suggests that income growth and remittances, alongside improved access, played an important role.

Energy access is now near universal across all areas, but energy transition remains limited. While electricity access expanded significantly in the core area, the use of clean cooking fuels remains very

low, and reliance on wood and dung cakes persists or has even increased in some areas. This highlights a structural gap between access to electricity and its use for cooking, driven by affordability, appliance access, and cultural practices.

Overall, **Table 29** demonstrates strong improvements in basic living conditions and service access, which align with the project's connectivity and infrastructure objectives. However, the patterns also show that not all improvements can be directly attributed to the project, and that progress varies by sector—strong in WASH and electricity access, but weaker in housing quality and clean energy transition.

Table 29:Changes in Household Living Conditions and Facilities

Impact Domain / Indicator	Core Project Area (10 yrs ago → Now)	Peripheral Zone (10 yrs ago → Now)	Wider Yarkhun (10 yrs ago → Now)
Housing quality (Semi-Pucca / Pucca)	0% → 3%	2% → 31%	11% → 49%
Open defecation (no toilet)	98% → 6%	54% → 1%	23% → 0%
Toilet inside house	0% → 0%	9% → 53%	19% → 79%
Shared outside toilet	2% → 94%	37% → 46%	58% → 21%
Piped drinking water to house	1% → 82%	28% → 96%	49% → 99%
Households with always sufficient drinking water	6% → 34%	18% → 58%	10% → 57%
Water quality tested and found safe	1% → 58%	19% → 89%	53% → 99%
No treatment of drinking water	100% → 81%	20% → 32%	60% → 60%
Regular handwashing after toilet use	49% → 84%	63% → 91%	99% → 100%
After cleaning children	54% → 83%	48% → 49%	56% → 72%
After handling animals	53% → 75%	46% → 53%	47% → 66%
Before eating / cooking	73% → 96%	99% → 98%	99% → 100%
Access to electricity (any source)	56% → 95%	100% → 100%	99% → 100%
Use of clean cooking fuels (electricity / gas)	0% → 1%	0% → 0%	0% → 35%
Use of dung cakes for cooking	73% → 94%	14% → 45%	4% → 9%
Use of wood for cooking	27% → 28%	86% → 99%	96% → 100%

3.3.10 Impact on Tourism Activities

PATRIP-supported investments have contributed to a clear expansion of tourism activity across the project area over the past decade, primarily by improving road access and basic connectivity. However, the scale, distribution, and livelihood significance of these impacts remain uneven, and tourism has not yet emerged as a broad-based or resilient economic driver for most households.

Expansion and Spatial Concentration of Tourism Activity

At the village level, tourism activity expanded notably. As shown in **Table 30**, the number of villages reporting any tourism activity increased from 9 to 15 out of 18, with 13 villages reporting increased visitor numbers over the past ten years. An estimated 1,825 tourist visits were recorded in the past 12 months, averaging 122 visitors per active village. Seven villages can be considered emerging tourism hubs, each receiving more than 150 visitors annually.

However, tourism growth is unevenly distributed. Four villages reported no tourists in the past year, indicating that improved access alone has not translated into tourism activity everywhere. This pattern suggests that while PATRIP investments have enabled tourism entry and seasonal visitation, benefits remain spatially concentrated and dependent on location, attractions, and existing service capacity.

Table 30: Changes in Tourism Activity and Visitor Volumes (10 Years Ago vs Now) in the Sample Villages

Indicator	10 Years Ago	Now	DBM (Direct Benefit Measurement)
Villages reporting any tourism activity	9 of 18	15 of 18	6 villages newly engaged in tourism
Villages reporting increased tourism	–	13 of 18	tourism volumes increased in 13 villages
Villages reporting no change or decline	–	5 of 18	5 villages not benefiting (negative DBM)
Total estimated tourists (past 12 months)	–	1,825	1,825 tourist visits generated annually
Average tourists per village	–	122	122 tourists per active village (average)
Villages with zero tourists in past 12 months	–	4 of 18	4 villages remain excluded from tourism
Villages with >150 tourists annually	–	7 of 18	7 villages functioning as emerging tourism hubs

Household-Level Livelihood Effects of Tourism

Household survey data show that the economic benefits of tourism remain limited and highly localised. As presented in **Table 31**, fewer than half of households in the core project area (48%) reported any benefit from tourism, while reported benefits in the peripheral zone and wider Yarkhun were negligible (7% each). Employment and seasonal work linked to tourism were reported by 28% of households in the core area, but by only 3% and 1% of households in the peripheral zone and wider Yarkhun, respectively.

Participation in tourism-related services—such as accommodation, meals, guiding, or transport—remains generally low, and the sale of local products (including wool, handicrafts, or food) to tourists is almost none. This indicates that tourism-related value chains are weak, and that linkages between visitors and local producers are poorly developed.

A notable minority of households in the core area (20%) also reported negative impacts from tourism, mainly related to increases in prices of basic goods. While these effects are not widespread, they highlight early signs of localised cost pressures without commensurate income gains.

Table 31:Household Perceptions of Tourism Impacts (Last 10 Years) in the sample households

Impact Indicator	Core Project Area	Peripheral Zone	Wider Yarkhun
HHs reporting benefits from tourism	48% (86 HHs)	7% (8 HHs)	7% (7 HHs)
Employment or seasonal work from tourism	28%	3%	1%
Provision of tourism services *(accommodation, meals, guiding, transport)*	16%	2%	4%
Sale of local products to tourists *(wool, crafts, food)*	2%	0%	0%
Use of community tourism facilities	1%	0%	0%
HHs reporting negative impacts of tourism	20% (36 HHs)	<1% (1 HH)	2% (2 HHs)
Increase in prices of basic goods	20%	0%	2%

3.3.11 Impact on Food Prices, Wages, Key Inputs, and Asset Values

Table 32 illustrates how households in the sample villages are experiencing simultaneous cost-of-living pressures and asset value appreciation, driven by a combination of national economic conditions and local infrastructure improvements.

Food Prices and Household Consumption

Prices of essential food items have increased sharply in nominal PKR terms over the past decade. When adjusted to USD values, several staples—particularly rice, pulses, and sugar—still show a real increase, indicating that rising food costs cannot be attributed solely to currency depreciation. This reflects broader national inflationary dynamics, supply-side shocks, and higher fuel and transport costs across Pakistan.

PATRIP investments have contributed to improved physical access and supply reliability, especially during winter months, reducing isolation and extreme shortages. However, the data confirm that these infrastructure gains have not translated into lower consumer prices, meaning food security improvements are reflected more in availability and stability than in affordability.

Wages and Purchasing Power

Both unskilled and skilled wages have increased in PKR terms, reflecting stronger labour demand associated with improved connectivity, construction activity, and greater market integration. However, when converted into USD, real wage values have declined, showing that wage growth has lagged inflation.

This indicates that while PATRIP has supported employment opportunities and nominal income growth, real purchasing power for labour-dependent households has weakened, particularly for poorer and landless families reliant on daily wages.

Transport and Agricultural Input Costs

Key input costs—especially tractor rental and petrol—have risen sharply in both PKR and USD terms. These increases significantly affect:

- Cost of cultivation and farm profitability
- Transport of goods and market participation
- Household mobility and access to services

Although improved road infrastructure has reduced travel time and enhanced service availability, higher fuel and service costs have increased the monetary burden, limiting affordability gains typically expected from infrastructure improvements.

Asset Values and Equity Implications

In contrast to wages, the value of land, housing, livestock, and rental assets has increased substantially in real USD terms. This pattern is consistent with infrastructure-driven development: improved accessibility, electricity, and market linkages under PATRIP have raised the economic value of fixed assets in previously remote areas.

However, asset appreciation has unequal distributional effects:

- Existing landowners, livestock holders, and traders have gained significantly
- Youth, landless households, and poorer families face higher entry barriers to land, housing, and enterprise
- Rising shop rents increase operating costs for small businesses

Livestock trends further show differentiation: larger productive assets (cow/yak) gained in real value, while smaller assets (goats and sheep) lost value in USD terms, reducing their role as effective savings mechanisms for poorer households.

The table demonstrates that while PATRIP-supported infrastructure investments have increased asset values, market integration, and economic attractiveness of remote villages, national inflation and fuel price shocks have outweighed potential affordability gains for food, transport, and labour-dependent households. As a result, welfare improvements are concentrated in asset accumulation and access reliability rather than real income or cost-of-living relief.

Direct Benefit Measurement indicates that while PATRIP-supported connectivity improved market access and asset values in remote villages, households simultaneously faced rising food, fuel, and input costs that eroded real purchasing power. Nominal wage increases did not keep pace with inflation, and benefits from asset appreciation accrued disproportionately to existing asset holders. As a result, welfare gains are concentrated in access reliability and asset accumulation rather than affordability or real income growth.

Table 32: Food Prices, Wages, Key Inputs and Value of Assets — PKR and USD (Median Values) in the Sample villages

Indicator	10 Years Ago		Now		DBM (Direct Benefit Measurement)
	(PKR)	(USD)	(PKR)	(USD)	
Prices of Key Food Items					
Wheat flour (per kg)	60	0.60	150	0.54	DBH: food availability improved, but no affordability gain
Rice (per kg)	70	0.70	250	0.89	DBH: real increase in staple food cost
Pulses (per kg)	60	0.60	400	1.43	DBH: sharp real price increase
Cooking oil / ghee (per kg)	250	2.50	500	1.79	DBH: higher PKR cost; USD decline masks affordability loss
Sugar (per kg)	50	0.50	250	0.89	DBH: real price increase affecting poor households
Wage Rates					
Unskilled wage (per day)	750	7.50	1,200	4.29	DBH: nominal wage ↑, real purchasing power ↓
Skilled wage (per day)	1,200	12.00	2,500	8.93	DBH: higher nominal wages, real decline in USD terms
Key Input Prices					
Tractor rental (per hour)	1,400	14.00	5,000	17.86	DBH: significant rise in cultivation cost
Petrol (per litre)	60	0.60	350	1.25	DBH: major increase in transport and production costs
Value of Key Assets					
Irrigated agricultural land (per kanal)	45,000	450	200,000	714	DBH: asset owners gain; entry barriers rise
Residential plot (per kanal)	30,000	300	100,000	357	DBH: housing assets appreciate; youth affordability declines
Shop rental (monthly)	400	4.00	1,500	5.36	DBH: asset value ↑ but operating costs for traders ↑
Cow / yak (milking)	30,000	300	150,000	536	DBH: livestock asset accumulation favours owners
Goat	10,000	100	22,000	79	DBH: small livestock lost real value
Sheep	12,000	120	20,000	71	DBH: small livestock lost real value

3.3.12 Unintended Impact and Distributional Effects

FGDs and KIIs indicate that improved road access has significantly reshaped local livelihoods and social dynamics. While connectivity brought clear gains in mobility and access to services and markets, it also altered the conditions under which traditional activities operate. Women reported that cheaper imported textiles became widely available after the road opened, making it harder for locally produced woolcraft to compete. As one participant noted, *"Most of the women have abandoned it once the market is flooded with cheap crafts."* This reflects a change in market conditions rather than a loss of skills, as training did improve production techniques.

Similarly, KIIs confirm that portering and pack-animal services declined as vehicles replaced long walking journeys. This reduced an important income source for some households, even as it made travel faster, safer, and less physically demanding for the wider population.

Tourism

patterns also shifted. With vehicles now able to reach final destinations such as Lashkargaz, visitors tend to pass through intermediate villages rather than staying overnight. Guesthouse operators described their settlements as becoming "pass-by villages", meaning that tourism benefits have become more concentrated spatially despite overall growth in visitor numbers.

Gendered impacts also emerged. FGDs with women show that while women benefit strongly from improved water supply and roads, they remain largely excluded from management, decision-making, and income-generating roles linked to new infrastructure. Their participation is often limited to hospitality or unpaid support, which has improved daily welfare but has not translated into more transformative economic or leadership roles.

KIIs further suggest that improved connectivity has accelerated exposure to external markets, lifestyles, and aspirations. While this has expanded opportunities for youth, it has also created frustration among groups who feel less able to adapt, including older residents, artisans, and households in more remote hamlets. Communities reported rising expectations for jobs and services that the project was not designed to provide, creating a gap between visible infrastructure improvements and everyday economic reality.

Institutionally, FGDs and KIIs indicate that although communities were involved in identifying priorities, their influence during contractor-led construction was more limited, which in some cases weakened ownership. At the same time, both communities and district officials highlighted the importance of clearer arrangements for operation and maintenance, as large infrastructure requires predictable government budgets and formal handover systems to remain effective over time.

Overall, these unintended effects do not reflect harm, but rather the complexity of transition from isolation to connectivity. The PATRIP investments successfully reduced physical isolation, but the associated changes in markets, livelihoods, gender roles, and local institutions were only partly anticipated. This experience highlights that infrastructure-led development redistributes opportunities as well as risks, and that sustained benefits depend on complementing physical investments with skills development, inclusive governance, and stronger market linkages.

1.3.1 Conclusion on Impact

The impact assessment shows strong overall gains, driven mainly by improved connectivity and basic services. Road investments sharply reduced isolation, with most households in the Broghil valley now

connected to rest of the district and beyond for much of the year, cutting travel times from days to hours and enabling better access to markets, health care, education, and public services.

Drinking water delivered the most inclusive benefits. Piped supply expanded to all targeted villages and households, bringing major gains in health, time savings, and daily well-being—especially for women and children. Electricity reliability, irrigation, education, and health access also improved substantially over the last year.

Economically, better access stimulated local trade and small businesses, but benefits vary. Food, fuel, and input costs rose, squeesing real purchasing power, while asset values increased, favouring existing owners. Tourism expanded but remains concentrated, with many villages seeing limited income as visitors pass through to final destinations.

FGDs and KIIs show that connectivity also reshaped livelihoods and social dynamics: traditional woolcraft and portering declined, women benefit most from water and roads but remain under-represented in decision-making and higher-value roles, and expectations for jobs and services have risen faster than local opportunities. Overall, PATRIP delivered substantial access and welfare gains; sustaining and spreading them now depends on maintenance systems, affordable services, inclusive governance, and market-linked livelihoods.

Sustaining and extending these benefits will require complementary actions that strengthen service delivery, affordability, livelihoods, gender inclusion, and long-term asset management.

3.4. Sustainability

Definition *Sustainability refers to the extent to which the benefits of an intervention are likely to continue after external support ends, considering institutional ownership, financial and technical capacity, resilience to risks, and community acceptance.*

Sustainability was assessed combining direct observation of infrastructure, Focus Group Discussions (FGDs), and Key Informant Interviews (KIIs). The assessment focused on whether facilities remain functional over time, who assumes responsibility for upkeep, whether financing mechanisms exist, and how well assets can withstand environmental and governance-related risks in a remote, high-mountain context.

Evidence from FGDs and KIIs indicates that the sustainability of the PATRIP-supported portfolio is highly differentiated by asset type and governance arrangements. Across villages and stakeholder groups, infrastructure is widely perceived as valuable and, in many cases, transformative. However, there is persistent uncertainty about who is ultimately responsible for ensuring that these assets remain functional and benefiting the community over time once external support ends.

From a **community perspective**, sustainability is understood in practical, capacity-based terms. Communities clearly distinguish between infrastructure they feel able to maintain and infrastructure that exceeds their technical and financial capacity. Small-scale and livelihood-linked facilities—such as drinking water systems, household sanitation, irrigation channels, and some local energy installations—are embedded in daily life and managed through local labour and collective practices. Communities routinely undertake minor repairs where possible, reflecting strong acceptance and use. As one participant explained, *"People will themselves maintain projects like water systems and small facilities, but it is hard to maintain roads as floods wash them away."*

In contrast, larger and more complex assets—particularly roads, bridges, major water systems, and tourism facilities—are widely viewed as beyond community capacity. FGDs repeatedly highlighted that

floods, avalanches, freezing temperatures, and the short construction season cause damage that cannot be addressed locally. This constraint is captured in the statement: *"These are big works; we cannot repair roads or bridges when floods come. This is not in our capacity."* While communities may attempt temporary fixes, they do not perceive themselves as responsible for long-term maintenance or post-disaster rehabilitation for minor repair work.

Government KIIs confirm that this expectation is not matched by institutional readiness or financing capacity. District officials acknowledged that while infrastructure has been physically handed over, this occurred without formal agreements, asset registration, or dedicated maintenance budgets. One official noted, *"We have received the facilities, but there is no agreement on who will maintain them or from which funds."* Critically, officials explained that funding constraints are structural rather than situational: *"Resources are allocated on the basis of population… Borghil has less than 300 households, which restricts development funds to a minimum level."* As a result, small, high-cost valleys such as Broghil are structurally disadvantaged in accessing public funds for infrastructure upkeep, even where local importance is recognised.

AKRSP's position reflects a structured and context-sensitive approach aimed at balancing community ownership with government institutional responsibility. The organisation promoted a shared-responsibility model whereby communities assume responsibility for routine upkeep of community-level infrastructure, while government authorities manage major repairs and strategic public assets. Government departments typically allocate annual Maintenance and Development (M&D/R&M) budgets for road infrastructure, and additional emergency funds are mobilised in response to flood damage or extreme weather events. Major infrastructure along the main valley corridor is expected to be formally handed over to the relevant government departments through agreed coordination mechanisms, ensuring institutional oversight. In contrast, community-level infrastructure remains under the ownership and management of local communities, reinforcing principles of local stewardship and sustainability. Village committees were established and assets were handed over in line with this model.

However, while the institutional framework and intent were clearly articulated, field findings suggest that the operationalisation of these arrangements has varied across locations, particularly in relation to consistent financing, clarity of mandates, and long-term maintenance enforcement.

Financial sustainability emerges as a critical cross-cutting constraint for the projects that need regular operating and maintenance costs. With the exception of one micro-hydropower system where limited user contributions are collected, neither communities nor government actors reported the existence of maintenance funds, cost-recovery mechanisms, or revenue models. Tourism facilities are particularly exposed in this regard. CRC operate without booking systems or user fees and are often used informally rather than as managed economic assets. As one informant stated, *"So far, no revenue has been collected… nothing has been done since the establishment."* Similarly the guest house are not earning income and not financial viable. At the same time, these facilities have so far been well maintained, suggesting that communities are providing basic upkeep despite the absence of formalised financial sustainability mechanisms. However, without structured revenue streams or dedicated maintenance funds, the long-term financial resilience of these assets may remain uncertain.

Technical and environmental risks further constrain sustainability. FGDs highlighted repeated winter damage to water systems, seasonal road closures, and flood-related destruction of infrastructure. Participants also questioned construction timing and durability in a context where the viable construction window is limited to a few summer months, noting that *"after September it becomes*

impossible for concrete to get hardened." KIIs confirmed that repairs are largely reactive and handled informally, an approach widely recognised as unsustainable once external support is withdrawn.

Conclusion on Sustainability

Taken together, the evidence shows that while community acceptance of the PATRIP-supported infrastructure is high and many assets remain functional, the prospects for sustaining benefits after external support ends vary significantly. Continuity is most likely where assets are small-scale, essential, and managed within community or household capacity. By contrast, infrastructure that depends on formal institutional ownership, predictable financing, and technical systems—particularly roads, bridges, tourism facilities, and large water schemes—faces substantial sustainability risks.

Without formal handover arrangements, dedicated maintenance financing, strengthened local institutions, and clearer government ownership—especially in a context where population-based public budgeting disadvantages remote valleys such as Broghil—many of the portfolio's gains risk gradual erosion over time, despite their continued relevance and local value.

4. OVERALL CONCLUSION

This assessment reviewed the results of the PATRIP-funded infrastructure and tourism portfolio implemented by AKRSP in Broghil Valley and along the Yarkhun corridor over the past decade. Using a mixed-methods, contribution-based approach, it examined relevance, effectiveness, impact, and sustainability in a highly remote, climatically challenging, and institutionally constrained context.

Overall, the portfolio demonstrates **strong relevance** in its focus on essential infrastructure—particularly roads, bridges, drinking water, sanitation, irrigation, and basic energy. These investments addressed long-standing constraints of isolation, mobility, and service access. Facilities serving large and diverse user groups continue to be actively used and are widely valued by communities, confirming their alignment with local priorities and development needs.

In terms of **effectiveness**, most planned physical outputs were delivered, and several translated into sustained, everyday benefits. Connectivity, drinking water, and sanitation performed especially well, generating clear improvements in daily life, safety, and access to services. Energy and irrigation achieved moderate effectiveness, with outcomes shaped by technical design and operating conditions. Tourism-related facilities, CRCs, and livelihood activities delivered useful physical assets and catalytic effects in some locations, but their utilisation and income-generation potential have been influenced by market dynamics, seasonality, and the broader enabling environment rather than construction quality.

At the **impact** level, the assessment finds substantial positive change over time, particularly in reduced travel times, improved access to health care, education, markets, and government services, and better household living conditions. These gains reflect the important role of improved connectivity and basic services, alongside wider economic and social changes. Benefits are strongest where infrastructure directly reduced distance, time, and physical risk, and more gradual where outcomes depend on service availability, affordability, or market linkages.

The assessment also highlights **important transition effects** associated with increased connectivity. Exposure to wider markets has reshaped local livelihoods, consumption patterns, and tourism flows. Some traditional activities have declined, while new opportunities have emerged unevenly across locations and social groups. Women, poorer households, and more remote settlements benefit strongly from improved water and access but face greater barriers in capturing higher-value economic

opportunities. These patterns reflect changing market conditions and institutional arrangements rather than direct negative impacts of the investments.

Sustainability remains a central issue. Core infrastructure continues to function and deliver benefits, but long-term performance depends on effective operation and maintenance. Government institutions are the intended custodians of major assets, with annual budget allocations in principle, but formal handover arrangements, maintenance planning, and predictable financing are not yet fully in place. Communities contribute significantly to routine upkeep, but major repairs require public-sector capacity. Strengthening these institutional linkages is critical in a context of extreme climate stress and heavy seasonal wear.

Overall, the PATRIP–AKRSP portfolio has been highly effective in reducing isolation and improving access, laying a strong foundation for social and economic development in a previously marginalised mountain region. To sustain and deepen these gains, future investments will need to complement physical infrastructure with reliable transport services, market-linked livelihoods, gender-inclusive economic pathways, and clear government-led systems for operation and maintenance.

5. KEY LESSONS AND RECOMMENDATION

5.1. Key Lessons

1. Basic access infrastructure delivers the strongest and most reliable results in remote contexts: Interventions that reduced isolation and improved everyday access—such as roads, bridges, drinking water, sanitation, and basic energy—generated the most consistent and widely shared benefits. These investments addressed clear binding constraints and continued to deliver value over time, even in the absence of complementary interventions.

2. Infrastructure alone is not sufficient to generate inclusive economic outcomes.: While improved connectivity eased access to markets and services, it did not automatically translate into diversified livelihoods, higher incomes, or local economic development for all groups. Outcomes that depend on market systems, service availability, skills, or capital showed weaker results, highlighting the limits of stand-alone infrastructure investments.

3. Scale, functionality, and reliability matter more than asset type: Infrastructure that reached a large user base and functioned reliably delivered stronger outcomes than smaller or specialised facilities. Assets with limited catchment areas, low utilisation, or incomplete functionality—such as guest houses and Community Resource Centres—generated limited benefits despite being completed. Their impact depends on active management, utilisation strategies, and market linkages. Strengthening these elements can unlock their full potential.

4. Connectivity reshapes local economies and can disadvantage traditional livelihoods: I Improved access has expanded exposure to external markets and services, creating new opportunities for many households. At the same time, economic transitions have occurred as traditional activities such as woolcraft and portering adapt to changing conditions. These shifts underline the importance of anticipating economic transitions and supporting local communities to navigate them strategically..

5. Distributional outcomes are shaped by pre-existing assets and capabilities: Households with land, livestock, skills, or stronger market connections were often in better positioned to capitalise on improved connectivity. Women, poorer households, and remote hamlets may require targeted support to fully benefit. Future programming can build on this insight to promote more inclusive economic participation with targeted interventions..

6. Institutional arrangements for operation and maintenance are critical for long-term sustainability.: The assessment shows that while major infrastructure was successfully delivered in a very difficult high-mountain environment, long-term performance depends on how responsibilities are shared between communities and government. In Broghil and Yarkhun, communities routinely undertake day-to-day upkeep of the community level infrastructures, and these facilities have so far been maintained but large assets such as the main valley road, bridges, CRC, and water systems require public-sector machinery, technical capacity, and budget allocations.

While it may not be realistic to expect the creation of separate, ring-fenced government funds specifically for these individual assets, it is important to recognise that government departments already operate Maintenance and Development (M&D/R&M) budgets. These funds are routinely used for periodic upkeep of public infrastructure and can be mobilised for emergency repairs in cases of flood damage, landslides, or extreme weather events.

Strengthening coordination mechanisms, clarifying handover procedures, and ensuring that infrastructure is formally integrated into government maintenance planning frameworks may therefore be more practical and sustainable than establishing parallel financing arrangements. Such institutional alignment would further enhance the resilience and long-term protection of these investments.

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5.2. Recommendations

1. Prioritise essential, high-use infrastructure with clear access benefits: Future investments should continue to focus on roads, bridges, water, sanitation, and energy systems that serve a broad population and address daily needs. Selection should favour interventions with demonstrable demand, clear usage pathways, and realistic maintenance requirements.

2. Integrate infrastructure with livelihood and market-support measures: Where economic outcomes are an objective, infrastructure should be paired with targeted livelihood support, skills development, market linkages, and value-chain interventions. This is particularly important for women and households dependent on traditional or home-based activities.

3. Improving use of current tourism facilities and future programming: : To increase the use of existing facilities in Broghil and improve future programme outcomes, the focus needs to shift from construction to active use and management. Guest houses should be linked to tour operators, district tourism offices, and festival organisers through simple offline systems (visitor registers, advance phone bookings from Chitral, and inclusion in tour itineraries), and upgraded with basic services such as bedding, heating, and meals so they meet the expectations of domestic tourists.

Community Resource Centre should be formally designated as community facilities by the district administration, with Village Organisations and women's groups given a recognised right of use for meetings, trainings, health camps, and government outreach, supported by a small budget for caretaking and utilities. The polo ground should be managed as a shared cultural and sports facility, with communities allowed regular access beyond major festivals and supported through an annual calendar of tournaments and social events.

4. Strengthen operation, maintenance, and handover arrangements from the outset:

For existing infrastructure, continued coordination between AKRSP, district authorities, and communities can help ensure clarity of ownership, management, and maintenance responsibilities. The Community Resource Centre (CRC) is currently managed and primarily used by government officials, while the polo ground is managed by government authorities, with community use taking place through prior permission. These arrangements provide institutional oversight but would benefit from clearly documented role definitions and maintenance planning to ensure long-term functionality and inclusive access.

Large-scale infrastructure—such as the valley road and bridges—requires clearly defined and formalised maintenance mechanisms, given the need for government machinery, technical expertise, and periodic budget allocations for routine upkeep and emergency repairs. Establishing or formalising these mechanisms will help safeguard the durability and long-term value of these critical public investments.

5. Strengthening Broghil's Local Economy through Road-Enabled Circular Livelihoods: Future interventions in Broghil should use improved road access to strengthen the local circular economy. Priority should be given to livestock-based value chains (milk, butter, dried meat, wool and yak products), and associated businesses. These activities create year-round demand, keep money circulating within the valley, and are well suited to high-altitude conditions. Tourism can add value during peak seasons, but sustainable livelihoods will come mainly from linking everyday goods and services to the new mobility, markets, and service flows created by the road.

6. **Align infrastructure design with climate and environmental risks:**

In Broghil, snow and floods regularly damage infrastructure. Since this is predictable in a high-mountain area, project budgets should include a contingency repair fund to cover post-winter and post-flood damage during the implementation period and before formal handover to the government.

Once the assets are fully operational and officially handed over, responsibility for repair and maintenance should shift to existing government maintenance and emergency funds to ensure long-term sustainability.

ANNEX B: RESULTS FRAMEWORK INDICATORS – LOGFRAME REFERENCE

This section consolidates all Results Framework indicators specified in the ToR in one place to support logframe reporting. Detailed analysis of relevance, effectiveness, and impact has already been presented in the main report. The purpose here is solely to confirm that all ToR indicators have been addressed, either through direct measurement or clearly defined proxies.

Most indicators were directly measured using household and village-level data. Where direct measurement was not feasible, indicators were treated as follows:

- Average household income change: reported as average annual household cash income at assessment due to lack of baseline data.
- Income diversification: assessed through reported shifts in livelihood reliance rather than income share ratios.
- Tourist numbers: reported as aggregate village-level visits, not unique tourists.
- Tourism earnings: not quantified due to absence of financial data.
- Daily per capita water consumption: measured using a proxy indicator (households reporting water as “always sufficient”).
- Average travel cost to services: reported using median fares to account for inflation and outliers.

This consolidation ensures full alignment with the ToR results framework and provides a clear, auditable reference for donor logframe reporting.

Indicator Code	Indicator Description	Target	Achievement	Remarks
P1	% of infrastructure projects fully completed	100%	90%	At the time of assessment, three infrastructure projects under the Immit Project remained under construction: the Darband–Lashkargaz main road section, which was approximately 80% complete with critical sections restored, and two bridges—Power Lower Yarkhoon and Gazeen Lower Yarkhoon—where major structural works were completed but approach and finishing works were still ongoing, with completion expected by mid-December 2025.
P2	% beneficiaries reporting infrastructure improved socio-economic development	60%	87%	Overall, 87% of households reported their household economic situation as “better now” compared to ten years ago (*n* = 399). Perceptions are strongest in the Wider Yarkhun corridor (91%), followed by the Core Project Area (89%) and the Peripheral Zone (81%), where households reported that their household economic situation is better now than a decade ago.
P3	% beneficiaries reporting improved access to services	70%	100%	Reductions observed across all 18 villages for ≥1 essential service. Average one-way travel time reduced by 4.8 hours.

Indicator Code	Indicator Description	Target	Achievement	Remarks
T1	Percent of households with increased income	—	83%	56% significant and 27% some improvement (n=399).
T2	Average household income change	-	PKR 335,043	Baseline unavailable; reported as average annual household cash income at assessment. PKR 359,844 in the Core Project Area, PKR 194,783 in the Peripheral Zone, and PKR 460,212 in the Wider Yarkhun corridor
T3	Men and women engaged in eco-tourism product development	—	Women: 5/18 (28%); Men: 6/18 (33%)	Engagement declined over 10 years: Women 10→5 villages; Men 9→6 (negative DBM).
T4	Annual number of tourists visiting Broghil Valley	—	1,725 visits/year	Aggregate village-reported visits (non-festival); not unique tourists. Avg 96 visits/village/year. Tourism increased in 14/18 villages (78%).
T5	Number of tourists accommodated in community guest houses	—	0	No guests reported in last two years
W1	% water samples free of coliform bacteria	WHO standard	78%	Households reporting tested & safe water increased from 19% ten years ago to 78% now (n=399).
W2	Daily per capita water consumption	Increase	47% (proxy)	Proxy: households reporting water “always sufficient” increased 11% 10 years ago to 47% now ; L/p/d not measured.
W3	% reduction in waterborne diseases	Reduction	61%	61% of households reported decreased (n=399).
W4	% community practicing safe hygiene behaviors	Increase	90%	Handwashing after toilet use improved 66% ten years ago to 90% now.
W5	% households reporting improved health outcomes	Increase	87%	Perceived healthcare access improvement: 59% significant + 28% some (n=399).
A1	Average travel time to services	Reduction	4.6 hours saved per household per service access	Based on weighted average across government, administrative, and justice services. Average one-way travel time declined from 16.3 hours (10 years ago) to 11.7 hours (now). This translates into a weighted average saving of 4.6 hours per household per service-access trip (n = 719 households), reflecting substantial improvements in physical access due to project-supported road infrastructure.
A2	Average travel cost to services	Reduction	↑ nominal PKR; mixed real	Based on median public transport fares across 18 villages. Nominal costs increased due to inflation (e.g., Union Council +PKR 400; Tehsil HQ +PKR 600; District HQ +PKR 1,000).

Indicator Code	Indicator Description	Target	Achievement	Remarks
				However, real costs in USD declined or increased modestly due to currency depreciation. As most key government, administrative, health, education, and justice services are accessed at the district headquarters and in Chitral city, the substantial reduction in travel time (average 4.6 hours per trip), improved road reliability, and expanded transport availability indicate improved effective access despite higher nominal fares.
A3	Health service utilization rate	—	72%	30% AKHS, 32% government hospitals, 10% local health workers/clinics.
A4	School attendance rate	—	80%	75% female, 86% male.
A5	Average household income level	—	PKR 335,043	398 households reporting cash income; total PKR 133.35m.
A6	Income diversification		Observed (positive structural shift)	Reduced reliance on livestock and distress wage labour, with increased engagement in skilled and salaried work. Diversification driven mainly by improved road access and market connectivity.
A7	Number of local employment opportunities created	—	101 households	Benefited from tourism-related employment/services (25% of sample); mainly seasonal.
A8	Number of new businesses initiated	—	142	Derived from village census: +75 grocery shops and 67 other new small businesses (+4 new enterprises per village) across 18 villages over 10 years.
A9	Tourism earnings post-road construction	—	Not quantified	Earnings not measured in PKR; guesthouse income remains zero despite enterprise growth.
A10	% community reporting improved road safety & access	—	87%	59% significant + 28% some (n=399); corroborated by improved roads in 17/18 villages, 9.3 months/year passability, expanded transport.

ANNEX C: QUALITATIVE ANALYSIS

Focus Group Discussion Analysis

Introduction and Contextual Background

The Broghil Valley, situated in the remote Upper Chitral district of Khyber Pakhtunkhwa, Pakistan, represents one of the most geographically isolated communities in Pakistan. The qualitative data analysed herein was derived from Focus Group Discussions (FGDs) conducted in five specific settlements: Garamchashma, Shuist, Chikar, Garil, and Chilmarabad. The project interventions, funded by PATRIP and implemented by AKRSP, focused primarily on establishing physical access through road construction, alongside tourism development (guest houses, polo grounds), energy infrastructure (hydro and solar), and water supply schemes.

The pre-project situation in these villages was characterized by extreme isolation and logistical hardship. Residents described a life where travel to the nearest major town, Mastuj, took three days, and reaching the internal village of Broghil from Lasht required a full day of trekking. The absence of all weather jeepable roads meant that all transportation of goods, patients, and supplies relied on horses, donkeys, or human labour. In villages like Chikar, the lack of medical access was often fatal; residents noted that when someone fell ill, they would simply "wait either he/she will get better or die" because transporting a patient required binding them to a bed and carrying them on a back, a journey that could take weeks to round-trip to Chitral. This context of severe deprivation sets the baseline against which the project's impacts—both transformative and disruptive—must be measured.

The Analysis

The Transformation of Physical Access

The most dominant theme emerging from the data is the characterization of the road as a "lifeline." In Garamchashma, participants explicitly stated that the road connects the people of Broghil to the government and the outside world, lamenting only that it should have been constructed much earlier. The reduction in drudgery is a primary benefit; households can now unload supplies directly at their doorsteps rather than trekking them in from miles away. This access has mechanized agriculture, with tractors and threshers now able to reach fields to sow and process wheat and barley in lower Broghil villages, significantly altering the labour dynamics of farming.

The analysis indicates that while connectivity has improved considerably, it is not absolute. The region remains exposed to seasonal climatic conditions that can affect transport and mobility. In Garamchashma, heavy winter snowfall and occasional summer flooding in the Chiantar River may lead to temporary road closures. The long winter season—from October to April—also slows construction activities and limits movement during certain periods. The road has significantly reduced travel time and improved access for most of the year, although seasonal accessibility constraints remain part of the geographic context.

Regarding Shuist, it should be noted that the road has not yet been completed. Residents reported that debris from ongoing construction activities has affected some fields and water channels. As works are finalised, proper site clearance and mitigation measures will be important to minimise residual environmental impacts.

Economic Restructuring and Livelihood Shifts

A critical finding of this assessment is the significant economic transition associated with the construction of the access road. The data indicates a marked decline in the traditional “porter economy.” Prior to the road, tourists and trekkers relied on local porters, horses, and donkeys to navigate the valley, providing an important source of income for villagers in Garamchashma, Chikar, and Garil. Today, tourists are able to drive directly to Lashkargaz, the last village, bypassing intermediate settlements. As a result, residents in Garamchashma and Garil reported a loss of income from renting out animals, noting that this shift has reduced earnings from these activities. In Chilmarabad, a similar pattern was observed; where locals previously earned income transporting luggage from Kishmanja, direct vehicle access has reduced demand for this service..

At the same time, the road has expanded economic opportunities by improving access to livestock markets. Residents in Garil and Chilmarabad reported that although income from portering has declined, they are now able to sell yaks, sheep, and goats more easily to traders arriving from Gilgit and Chitral. This has reduced transaction costs and improved market access for pastoral households.

Greater integration into the wider cash economy has also brought new dynamics. Participants in Chikar observed that prices of goods have increased over time, reflecting broader market trends and increased exposure to external markets. Improved connectivity has also influenced consumption patterns. In Chilmarabad, the availability of cheaper manufactured goods has reduced demand for locally woven socks and gloves, leading some households to shift away from traditional textile production. These changes reflect an ongoing economic transition, with both new opportunities and adjustments for traditional livelihoods.

Socio-Cultural Transformation: From Cooperation to Competition

The transition from isolation to connectivity has catalysed a shift in the region's social fabric, described by residents as a move from "cooperation and compassion" to "competition". In Garamchashma, construction of road and the arrival of farming machinery have led to a decline in cooperative farming; residents noted that "everyone is busy with their own chores”, and it is difficult to find neighbours to help, whereas previously, communal support was the norm.

A unique finding is the loss of "roadside hospitality." Before the road, the multi-day trek necessitated staying in the homes of strangers or relatives along the Yarkhun valley, fostering deep social networks and familiarity with people in downstream Chitral. Residents in Chikar and Chilmarabad explained that now, because they "drive pass their houses" to reach destinations like Buni or Mastuj in a single day, they have lost these relationships. In Chilmarabad, there is specific anxiety regarding their connection to the Gilgit region. Historically, they traded and intermarried with people from Gilgit via trekking routes; with the new road orienting them toward Chitral, they fear their traditional bonds with Gilgit will diminish.

Gender dynamics have also shifted. In Shuist, women have taken on a financial leadership role through village-based savings groups, lending money to men for business, essentially running a "village bank".

However, in Garil, the road has facilitated male labour migration to Chitral, leaving women behind to manage tasks previously shared by men, thereby increasing their domestic and agricultural burden. Additionally, the data reflects a demographic crisis in the making: the youth, now exposed to the outside world, no longer wish to stay. As one Garamchashma resident noted, "every young boy and girl dream of leaving Broghil," posing a threat to the future viability of these settlements.

Project Management, Quality, and Community Perception

The relationship between the community and the project implementers reflects both appreciation and evolving expectations. In Shuist, community members expressed recognition of AKRSP's consultative approach, noting that Village Organizations (VOs) were engaged in detailed dialogue regarding priorities and local needs. This participatory process was viewed positively and helped ensure that interventions aligned with community priorities.

At the same time, some respondents raised concerns regarding aspects of implementation under the contractor-led delivery model, particularly in relation to perceived construction quality and limited community involvement during project implementation. In Garamchashma, residents compared the current approach with earlier AKRSP models where communities were more directly involved in implementation and therefore felt a stronger sense of ownership.

However, there is also broad understanding within communities that large-scale infrastructure—such as roads and bridges—requires heavy machinery, technical expertise, and compliance standards that can only be delivered through specialised contractors. The shift in delivery modality therefore reflects the technical demands and scale of the infrastructure rather than a departure from participatory principles.

Delays are a recurring theme, largely attributed to the short working season. In Garamchashma and Chikar, it was noted that projects often remain incomplete because work stops when winter arrives in October, and engineers are criticized for not starting early enough in June. There is also a sense of dependency regarding future maintenance. Across all villages, there is a consensus that the community cannot maintain large infrastructure like roads and bridges due to the severity of natural disasters (floods, avalanches). They explicitly state that "Government or AKDN should take responsibility" for these major assets, as the local population lacks the resources and technical capacity to repair them.

Conclusion and Future Outlook

The PATRIP/AKRSP intervention in Broghil has been a definitive turning point for the valley. It has successfully broken the "time poverty" of the region, reducing travel from days to hours and saving lives through better medical access. However, the qualitative evidence suggests that this modernization has come at a cost. The project has inadvertently dismantled the existing porter-based livelihood ecosystem without fully replacing it, leading to economic anxiety. Socially, it has eroded the inter-village bonds that were sustained by slow travel and mutual dependence.

Looking ahead, the sustainability of the infrastructure is precarious. The community's inability to maintain the roads against annual floods, combined with the freezing of water systems, suggests that without a permanent institutional mechanism for maintenance (supported by AKDN or the government), the physical gains may be lost to nature. Furthermore, the desire of the youth to leave the valley indicates that physical infrastructure alone may not be enough to retain the population;

economic diversification and digital connectivity (implied by the desire for modernization) are likely the next critical needs. The transition in Broghil is undeniable, but it is currently in a fragile state where the old ways of surviving are gone, and the new ways are not yet fully secure.

KII Data Analysis

This report presents a detailed qualitative analysis of ten Key Informant Interviews (KIIs) conducted with a diverse range of stakeholders involved in or affected by the PATRIP-funded development project in the Broghil Valley of Upper Chitral, implemented by the Aga Khan Rural Support Programme (AKRSP). The interviews provide critical insights from Village Organization (VO) leaders, a guesthouse manager, a woolcraft artisan, a Community Resource Centre (CRC) manager, transport union representatives, private tour operators, district government officials, and AKRSP project staff. This multi-perspective analysis reveals a complex tapestry of achievements, systemic challenges, and divergent viewpoints on the project's implementation, outcomes, and sustainability. The overarching narrative confirms the transformative power of improved connectivity while exposing profound gaps in community ownership, economic linkage, institutional coordination, and long-term maintenance planning that threaten to undermine the project's legacy.

Community Institutions

The voices from the community institutions, represented by the Chikar VO (male) and the Garil WO (Women's Organization), highlight a critical disconnect between AKRSP's historic participatory approach and the implementation model used for the PATRIP project. The Chikar VO representatives, describe an organization with 12 years of activity, savings, and a history of coordinating with AKRSP on earlier projects like micro-hydro power. Their engagement in the PATRIP project began with consultation: "AKRSP people came here and held meeting with us to discuss the project of road, and we agreed as road is important for our village." They provided vital logistical support, including food, shelter, and even emergency medical evacuation for a sick engineer, which they recall with pride: "I had to take him on my horse back down to Lasht walking the whole day."

During implementation and quality control discussions, members of the Chikar VO stated that they were not involved in decisions related to how the project was executed. According to them, engineers and contractors determined the starting points and technical approach without structured community input. They referred to a previous example involving the construction of a channel for the village micro-hydropower station, where local suggestions were not incorporated and the channel was not properly levelled, resulting in functionality issues and the project remaining incomplete.

They also raised concerns regarding certain sections of the link road, particularly narrow turns that they considered potentially unsafe. In their view, some delays and quality issues were linked to the contractor-led system and the timing of project activities in relation to seasonal weather conditions. Overall, VO representatives indicated that their role during implementation was limited and did not include monitoring authority.

This sentiment is echoed in their responses on sustainability and management. They reveal a complete vacuum in post-handover planning: "Before we used to have project committees, but under PATRIP we never know when the contractor comes and starts a project. We don't know about operating procedures." On maintenance, they are resigned and uncertain: "We are not talked about how to maintain the infrastructures... We only know that when the road gets damaged in future, we will take care of it where possible. We have no idea who will repair big damages." Their key recommendation

is a plea for meaningful involvement: "Local people should be involved in project through forming monitoring committees. We don't want to be involved in dealing with money, but we want our projects to be completed with quality." This clearly distinguishes a desire for quality oversight from financial control; a nuance often missed in community development models.

The perspective from the Garil Women's Organization, presents a more constrained but equally telling view of gendered participation. The WO is less formally active, particularly due to seasonal pastoral migrations. Their involvement in the water supply and hydro projects was limited to being "invited with the men of the village" to meetings and providing hospitality: "We prepare food for the workers and the guests and provide tea." They explicitly state, "We are not involved in managing anything, but our men do," confirming a traditional division of labour. Despite this, they recognise the universal benefits of the infrastructure and articulate a clear, practical need for future support: electricity for cooking and heating. Their overarching lesson is a poignant encapsulation of dependency and the sustainability dilemma: "Our organizations should stay with us permanently and should take care of what they have done."

Tourism Infrastructure

The interview with Murad Muhammad, manager of a guesthouse in Ishkarwarz, is a stark case study in the failure of tourism infrastructure that is disconnected from market dynamics, tourist itineraries, and basic business support. His testimony is one of complete economic dysfunction. Completed five years ago, the guesthouse has seen zero guests in the past two years: "For the last two years we haven't seen any guest." He observes tourists passing through "in thousands" but attributes their lack of stopover to the road enabling them to drive straight to the destination, Lashkargaz: "Our villages... have reduced to a pass-by side village."

The guesthouse lacks any business fundamentals. There is no maintenance fund, no repairs since construction, and no revenue collection system. Women are involved only in cooking and cleaning, but even this opportunity is limited as "visitors bring cooking machines and materials with them." His assessment of the project's economic benefit is blunt: "We haven't seen any benefit so far." His solution reveals a deep misunderstanding of commercial operations and a continued welfare mindset: "AKRSP should take over the management of the guest houses and should provide us with share in the profit." His final, bittersweet summary captures the project's flawed asset-building approach: "We are not satisfied as for as business is concerned, but it looks beautiful and we feel happy to see the building and enjoy ownership." This highlights a critical issue: the creation of physical assets without enabling the soft skills, market linkages, and business acumen needed to make them productive.

Livelihood Interventions

The interview with a woolcraft trainee from Pech uch, reveals the shortcomings of isolated skills training without a holistic value-chain development approach. Her account dismantles the notion of a functional "business group": "We don't know about business group... There is no producer or business group." The training provided was in skills women already possessed, and crucially, was not accompanied by the tools, machinery, or market access needed to commercialize production. The intervention was rendered almost entirely ineffective by the broader economic impact of the very road built by the project: "Most of the women have abandoned it once the market is flooded with cheap crafts" from China.

The training appears to have been a one-off event with no follow-up, mentoring, or business development support: "Except that early days training we haven't seen anyone from AKRSP or any other organization." Her requests are extensive and speak to the scale of support required: training abroad, modern tools, and market linkages. She identifies a potential niche product—the traditional carpet "Pelesk" made from yak hair—but notes it is not produced commercially. Her overall assessment is damning: "Nothing has come out, except we blame AKRSP for not doing more." This case illustrates how infrastructure projects can inadvertently sabotage local artisan economies by facilitating the influx of cheap substitutes, and how livelihood support requires a sustained, market-smart engagement far beyond simple training.

The Community Resource Centre

Representative of Chitral Levies managing the CRC in Ishkarwarz, describes a facility that is functional but grossly underutilized and lacking a clear development purpose. It is used for sports tournaments, traditional music events, and primarily as a free guesthouse for government and army officials: "The CRC functions as guest house for officials to stay." There is no revenue model, no booking system, and no maintenance plan: "So far, no revenue has been collected... Nothing has been done since the establishment of CRC, and we are not aware of maintenance responsibilities."

During the Broghil Festival, the CRC's role is minimal, as most visitors stay in tents or other guesthouses. His view on its contribution is strikingly dismissive: "I do not see any contribution except a place for the officers to stay." He notes that other tourists bypass the village for Lashkargaz. The CRC, therefore, stands as a well-constructed but institutionally orphaned asset. Handed to district authorities without a clear operational mandate, business plan, or budget for activities, it risks becoming a white elephant—a drain on minimal public resources for upkeep rather than a catalyst for community development or tourism.

Transport Sector

President of the Driver Union provides the perspective of a crucial service sector that has both benefited from and been strained by the improved road. The change from a decade ago is dramatic, moving from using frozen riverbeds as routes to having a bridge and a safer road. Demand has evolved from passengers sitting on top of loads to expecting covered, comfortable vehicles. He identifies key travel purposes: health, education, and tourism.

While transport fares have increased, he frames it not as a boon but as a necessity swallowed by inflation: "Everything is sucked by the rising cost of petrol, and spare parts as well as items of daily use. Life was comfortable when we used to have less fare in the early good days." This nuanced point challenges simple narratives of increased cash flow equating to improved well-being. On tourism, he notes a rise in national tourists but a complete halt in foreign tourists due to security restrictions, a major blow to the sector's potential. His income statement mirrors that of others: increased amounts but devalued savings.

His detailed list of challenges paints a picture of a fragile ecosystem: poor road conditions beyond Mastuj, a total lack of fuel stations and workshops leading to exploitative local fuel sales, and the persistent myth of the "all-weather road" contradicted by winter blockages. His recommendations are practical and systemic: a permanent snowplough, support for local spare parts workshops, and a small fuel pump. His testimony underscores that a road alone is insufficient; it must be part of a supported transportation ecosystem to generate sustainable economic returns.

Private Tour Operators

The two tour operators provided a critical market-facing perspective. They confirm the drastic shift in tourist demographics: from lines of foreigners to predominantly domestic tourists from Punjab. Ikramullah notes the number of national visitors increases yearly, drawn by natural beauty and the Broghil Festival. The road has undeniably improved efficiency and safety, reducing travel time by "almost 24 hours."

However, their feedback exposes severe weaknesses in the project's tourism components. One of them states, "We are told there are guest houses, but we don't see them in our destination points." The second respondent bluntly assesses the infrastructure's utility: "Guest houses in Pech Uch and Lashkargaz villages would make it safe for visitors to stay." The existing ones are deemed to be in the wrong locations and of "poor conditions" with "zero service quality." They highlight the catastrophic impact of the ban on foreign tourists and identify the short summer season and winter inaccessibility as fundamental constraints.

Their recommendations move beyond infrastructure to strategy and skills. They advocate for developing winter sports, training locals in management and catering, improving communication networks, and most importantly, reviewing security protocols to allow foreign tourists. Ikramullah's final critique strikes at the heart of the "all-weather road" claim: "The current road is not all weather at all... In many points waters runs along the road and makes Broghil inaccessible even in Autumn season." This operator perspective reveals that for tourism to thrive, the project needs a strategic shift from building isolated facilities to developing a holistic, skilled, and market-responsive tourism ecosystem that addresses access, security, seasonality, and service quality.

District Government

Representing the District Administration our respondent, presents a viewpoint of bureaucratic alignment but operational detachment. He states that AKRSP's work aligns with government priorities and is done in "full consultation." He acknowledges positive impacts: increased tourism and improved livelihoods. However, his admissions on sustainability and ownership are startling. He confirms that the CRC and festival ground are managed by the district but "we haven't done anything for maintenance of the facilities." There is no maintenance committee, no allocated funds, and critically, "We do not have any MoU signed with AKRSP."

This reveals a massive institutional gap. Assets have been physically transferred without any formal agreement on roles, responsibilities, or resources for their upkeep. His explanation for broader challenges—resource allocation based on population disadvantaging sparsely populated Chitral—is a systemic complaint. He praises the community-based implementation model for fostering ownership and ensuring budget efficiency compared to the contractor system. His key recommendation calls for deeper NGO-government coordination and community involvement in monitoring. The government stance, as presented here, is one of a supportive but passive beneficiary, willing to accept and manage assets but taking no proactive role in financing or planning for their sustainment, thereby creating a governance vacuum.

AKRSP Implementation Perspective

Our respondent from AKRSP provides the implementing agency's synthesis. He identifies the rationale for selecting Broghil: remoteness, accessibility issues, and cross-border tourism potential aligned with PATRIP's regional strategy. He celebrates the primary achievement unequivocally: "Single greatest success... has been access road reducing days of travel to few hours." He lists broad positive outcomes: increased local and national tourism, new economic activities, and improved access to health and education.

From an implementation standpoint, he describes a robust system: close coordination with government, a dual monitoring system using both professional staff and local activists, and a grievance mechanism. He is candid about challenges: security constraints banning foreigners, harsh weather limiting work to 4-5 months, difficulty finding local labour during pastoral seasons, and the need for design flexibility due to terrain and disasters. He defends the non-lowest-bidder contractor selection, prioritizing ability and quality.

On the critical issue of sustainability, his explanation is revealing. He states that in remote areas with no government presence, "local ownership becomes natural." However, he immediately concedes, "Currently roads etc are maintained by AKRSP itself. But it will be a big challenge in future." He mentions handing the CRC to the district and establishing village committees with "small equipment" for minor repairs. This admission is crucial: the maintenance burden currently rests with AKRSP, and the envisioned community/government handover is incomplete and under-resourced. He identifies the most significant challenge not as infrastructure but as social: "The most significant challenge has been rifts between wildlife department and local communities." This points to a broader landscape of stakeholder conflict that development projects can exacerbate or need to navigate.

Cross-Cutting Themes and Contradictions

Every single stakeholder, from community members to tour operators, acknowledges the transformative nature of the road in reducing travel time and ending isolation. This is the project's uncontested success. However, its economic and social impacts are deeply varied. For transporters and some households, it created new opportunities. For porters and woolcraft artisans, it destroyed traditional livelihoods. For social cohesion, it accelerated fragmentation. This dichotomy is the central story of the project.

There is a consistent narrative across community, government, and even AKRSP interviews about the importance of community involvement. The VOs demand a monitoring role, the government praises the ownership model, and AKRSP talks of local activists. Yet, this participatory ethos completely breaks down at the point of sustainability. Communities feel they have no say in quality during construction and no plan or resources for maintenance afterward. The government has accepted assets without a plan to maintain them. AKRSP remains the default maintainer. The project excelled at participatory needs assessment and burden sharing during implementation but failed to establish participatory ownership and responsibility for long-term stewardship.

The project successfully built hard infrastructure: a road, guesthouses, a CRC, water channels and bridges. However, it largely failed to build the necessary soft ecosystem around them. Guesthouses lack business skills and market links. The CRC lacks a programming budget and revenue model. The transport sector lacks fuel stations and workshops. Woolcraft lacks market access and defence against

imports. This disconnect between "hardware" and "software" is why many assets are underused or non-functional from a developmental perspective.

The AKRSP and government view tourism growth through the lens of increased visitor numbers. The guesthouse manager and tour operators view it through the lens of service quality, tourist flow patterns (bypassing villages), security bans, and seasonal constraints. This divergence explains why built assets can exist simultaneously with claims of tourism growth and claims of zero business. The market reality, defined by tourists seeking efficiency and comfort, does not match the placement and operational capacity of the supplied infrastructure.

The VO's complaint about being ignored by engineers and contractors points to a fundamental flaw in the contractor-led implementation model. While AKRSP cites its monitoring system, the community's frontline, experiential knowledge was seemingly invalidated. This lack of downward accountability during construction likely contributed to the quality issues repeatedly mentioned, from poorly levelled water channels to narrow road turns.

Conclusions

The Key Informant Interviews collectively paint a picture of a high-impact, physically transformative project that is nonetheless perched on a fragile foundation. The PATRIP/AKRSP intervention has irrevocably changed Broghil Valley by shattering its geographical isolation. This is a historic achievement. However, the project's design and implementation appear to have over-relied on a linear, infrastructure-centric model, underestimating the complexity of economic and social systems.

The evidence suggests that the shift from AKRSP's traditional community-managed implementation to a contractor-based model for large-scale infrastructure, while perhaps necessary for technical scale, eroded community agency and compromised quality oversight. Furthermore, the project treated "tourism development" as the construction of facilities rather than the cultivation of a market-oriented service sector with trained human capital, branding, and linkages.

The most alarming consensus across stakeholders is the void in sustainability planning. The interviews reveal a collective shrug on maintenance—a hope that AKRSP will continue, a vague promise of community self-help for minor fixes, and a government waiting for formal handover documents that don't exist. This is the project's greatest vulnerability.

Recommendations

Future infrastructure projects must have a Sustainability and Handover Plan codified in a formal MoU with relevant government tiers before implementation begins. This plan must detail roles, and crucially, identify clear, earmarked funding sources for medium-term maintenance (e.g., a joint fund with government contributions).

The contractor model needs a mandatory, structured Community Quality Assurance mechanism where trained VO monitors have formal authority to flag issues to AKRSP engineers, with contractual consequences for contractors. Additionally, livelihood and tourism support must be reconceived as integrated value-chain development, pairing infrastructure with intensive skills training, business mentoring, market analysis, and linkage for at least 3-5 years post-construction.

District and provincial authorities must move from passive alignment to active co-investment and planning. This involves allocating symbolic but meaningful budgets for maintenance, formally adopting assets into departmental plans, and working with AKRSP on strategic issues like security protocols for tourists and winter road clearance.

The philosophy must shift from delivering assets to catalysing sustainable systems. This means viewing a road not as an output, but as an intervention into a transport, market, and social system that requires complementary support. It means building a guesthouse only as part of a package that includes operator training, a booking platform, and marketing linkages.

ANNEX D: Analysis Tables Village Survey Data

Electricity and mobile network

Table 33: Changes in Electricity and Mobile Network Access and Quality Across Villages (Past 10 Years vs Current Status)

Village Name	Number of Households	Electricity Available 10 Years Ago	Electricity Available Now	Current Hours of Electricity (per day)	Current Electricity Reliability	Mobile Signal Available 10 Years Ago	Mobile Signal Available Now	Current Mobile Network Quality
Kand Bala	14	Yes	Yes	12	Less reliable now (more load shedding)	Yes	Yes	Fair (occasional dropped calls, slow but usable data)
Chikar	32	No	Yes	12	More reliable now (less load shedding)	No	No	–
Lashkargaz	21	No	No	–	No electricity	No	No	–
Garel	22	Yes	Yes	18	More reliable now (less load shedding)	No	No	–
Garamchasma	33	Yes	Yes	12	More reliable now (less load shedding)	No	No	–
Kankhun	20	Yes	Yes	12	More reliable now (less load shedding)	No	No	–
Chitisar	41	Yes	Yes	10	More reliable now (less load shedding)	No	Yes	Fair (occasional dropped calls, slow but usable data)
Shust	126	Yes	Yes	12	About the same reliability	No	Yes	Good (clear calls, few dropped calls, fast mobile data)
Dubargar	44	Yes	Yes	24	More reliable now (less load shedding)	No	Yes	Fair (occasional dropped calls, slow but usable data)
Yaghdan	20	Yes	Yes	12	About the same reliability	No	Yes	Fair (occasional dropped calls, slow but usable data)
Kand Payeen	36	Yes	Yes	12	More reliable now (less load shedding)	No	Yes	Fair (occasional dropped calls, slow but usable data)
Kishmanja	5	Yes	Yes	–	No electricity now	No	No	–
Chilmarabad	33	No	No	–	No electricity	No	No	–

Village Name	Number of Households	Electricity Available 10 Years Ago	Electricity Available Now	Current Hours of Electricity (per day)	Current Electricity Reliability	Mobile Signal Available 10 Years Ago	Mobile Signal Available Now	Current Mobile Network Quality
Yarkhoon Lasht	35	Yes	Yes	18	More reliable now (less load shedding)	No	Yes	Fair (occasional dropped calls, slow but usable data)
Ishkarwarz	12	No	No	–	No electricity now	No	No	–
Power	60	Yes	Yes	24	More reliable now (less load shedding)	No	No	–
Chargheri Aliabad	80	Yes	Yes	24	More reliable now (less load shedding)	No	Yes	Good (clear calls, few dropped calls, fast mobile data)
Unauch	85	Yes	Yes	24	Less reliable now (more load shedding)	No	Yes	Fair (occasional dropped calls, slow but usable data)
Summary		–	**83.3% (15 of 18 villages)**	–	–	–	**50.0% (9 of 18 villages)**	–

Water

Table 34: Status of Drinking Water and Irrigation Water Access, Functionality, and Quality Across Villages

Village Name	Piped Drinking Water 10 Years Ago	Piped Drinking Water Available Now	Current Functional Status of Piped Water System	Current Drinking Water Quality	Reliable Irrigation Water Available Now	Current Functional Status of Irrigation System	Irrigation Water Availability (Hours/Day, Peak Season)	Sufficiency of Irrigation Water
Kand Bala	No	Yes	Partially functional	Good	Yes	Partially functional	2	Moderately sufficient
Chikar	No	Yes	Partially functional	Good	No	–	–	–
Lashkargaz	Yes	Yes	Fully functional	Good	No	–	–	–
Garel	No	Yes	Partially functional	Poor	Yes	Fully functional	4	Moderately sufficient
Garamchasma	No	Yes	Fully functional	Good	Yes	Fully functional	24	Moderately sufficient
Kankhun	No	Yes	Fully functional	Good	Yes	Fully functional	4	Sufficient
Chitisar	Yes	Yes	Fully functional	Good	Yes	Partially functional	2	Moderately sufficient
Shust	No	Yes	Fully functional	Good	Yes	Fully functional	1	Moderately sufficient
Dubargar	No	Yes	Partially functional	Fair	Yes	Partially functional	3	Moderately sufficient
Yaghdan	No	Yes	Partially functional	Fair	Yes	Fully functional	1	Moderately sufficient
Kand Payeen	No	Yes	Fully functional	Good	Yes	Fully functional	18	Sufficient
Kishmanja	Yes	Yes	Fully functional	Fair	Yes	Fully functional	24	Sufficient
Chilmarabad	No	Yes	Partially functional	Fair	Yes	Partially functional	1	Moderately sufficient
Yarkhoon Lasht	Yes	Yes	Fully functional	Good	Yes	Fully functional	3	Sufficient
Ishkarwarz	Yes	Yes	Partially functional	Fair	Yes	Partially functional	12	Moderately sufficient
Power	Yes	Yes	Partially functional	Fair	Yes	Fully functional	3	Sufficient
Chargheri Aliabad	Yes	Yes	**Not working**	Poor	Yes	Fully functional	5	Sufficient
Unauch	No	Yes	Fully functional	Good	No	–	–	–
Summary	–	**100% (18/18)**	–	–	**83.3% (15/18)**	–	–	–

Road

Table 35: Changes in Road Access, Road Quality, and Public Transport Availability Across Villages

Village Name	Main Road Condition 10 Years Ago	Current Main Road Condition	Months per Year Road is Passable (Standard Vehicle)	Public Transport Available 10 Years Ago	Public Transport Available Now	Typical Frequency of Public Transport (to Chitral Town)
Kand Bala	Dirt track	Dirt track (unimproved, difficult in rain)	6	Yes	Yes	Weekly, multiple days
Chikar	No motorable road	Gravel (improved, rough/dusty)	12	No	Yes	Weekly once
Lashkargaz	No motorable road	Gravel (improved, rough/dusty)	6	No	No	–
Garel	No motorable road	Gravel (improved, rough/dusty)	7	No	No	–
Garamchasma	Dirt track	Dirt track (unimproved, difficult in rain)	8	No	Yes	Weekly once
Kankhun	Dirt track	Gravel (improved, rough/dusty)	10	Yes	Yes	Weekly once
Chitisar	Dirt track	Dirt track (unimproved, difficult in rain)	12	Yes	Yes	Weekly once
Shust	Dirt track	Dirt track (unimproved, difficult in rain)	11	Yes	Yes	Weekly once
Dubargar	Dirt track	Dirt track (unimproved, difficult in rain)	12	Yes	Yes	Weekly once
Yaghdan	Dirt track	Gravel (improved, rough/dusty)	1	Yes	Yes	Weekly, multiple days
Kand Payeen	Dirt track	Gravel (improved, rough/dusty)	12	Yes	Yes	Weekly, multiple days
Kishmanja	No motorable road	No motorable road	0	No	No	–
Chilmarabad	Dirt track	Gravel (improved, rough/dusty)	7	No	No	–
Yarkhoon Lasht	Dirt track	Gravel (improved, rough/dusty)	10	Yes	Yes	Weekly once
Ishkarwarz	Dirt track	Gravel (improved, rough/dusty)	7	No	No	–
Power	Dirt track	Gravel (improved, rough/dusty)	12	Yes	Yes	Daily (once a day)
Chargheri Aliabad	Dirt track	Gravel (improved, rough/dusty)	12	Yes	Yes	Daily (once a day)
Unauch	Dirt track	Gravel (improved, rough/dusty)	10	No	Yes	Weekly once
Summary	–	–	–	–		72.2% (13 of 18 villages)

Changes in Physical Access to Education Facilities and Current Student Attendance by Level and Gender

Table 36: Change in Travel Time to Education Facilities (10 Years Ago vs Now)

	Primary School		Middle School		High School		College	
Village Name	**10 yrs ago (min)**	**Now (min)**	**10 yrs ago (hrs)**	**Now (hrs)**	**10 yrs ago (hrs)**	**Now (hrs)**	**10 yrs ago (hrs)**	**Now (hrs)**
Kand Bala	30	30	2	2	2	2	2	2
Chikar	1	1	1	1	36	24	72	7
Lashkargaz	72	3	72	3	36	24	72	7
Garel	48	24	24	12	36	12	72	4
Garamchasma	12	2	12	2	12	12	12	2
Kankhun	20	20	2	1	3	1	2	1
Chitisar	30	30	30	30	30	30	40	40
Shust	5	5	5	5	5	5	5	5
Dubargar	10	10	10	10	3	3	11	11
Yaghdan	3	3	3	3	2	1	9	3
Kand Payeen	10	10	1	1	1	1	1	1
Kishmanja	10	10	3	3	3	3	6	3
Chilmarabad	10	10	1	1	1	1	4	4
Yarkhoon Lasht	5	5	1	1	1	1	1	1
Ishkarwarz	30	30	1	1	1	1	5	5
Power	5	5	2	2	2	2	6	2
Chargheri Aliabad	30	30	1	1	1	1	1	9
Unauch	5	5	5	5	5	5	9	6

Table 37: Current Student Attendance by Education Level and Gender, by Village

Village	Primary (Boys)	Primary (Girls)	Middle (Boys)	Middle (Girls)	High (Boys)	High (Girls)	College (Boys)	College (Girls)
Kand Bala	30	30	10	20	10	6	1	1
Chikar	25	30	8	5	0	0	0	0
Lashkargaz	11	9	6	2	5	1	4	0
Garel	10	4	6	2	0	5	5	0
Garamchasma	12	8	14	15	10	10	8	12
Kankhun	21	17	16	20	17	14	9	11
Chitisar	10	0	3	4	7	4	0	0
Shust	80	86	86	42	15	10	30	26
Dubargar	13	16	10	16	4	7	5	2
Yaghdan	12	10	4	6	5	4	4	5
Kand Payeen	32	42	12	15	10	16	6	10
Kishmanja	3	2	1	1	0	0	0	0
Chilmarabad	20	16	11	9	3	2	1	0
Yarkhoon Lasht	20	16	12	10	8	7	6	4
Ishkarwarz	4	3	1	3	2	3	3	0
Power	30	15	10	8	16	10	8	10
Chargheri Aliabad	10	15	8	7	12	10	15	9
Unauch	40	45	35	35	20	25	12	15
Total (All Villages)	**383**	**392**	**267**	**265**	**144**	**148**	**117**	**104**

Table 38: Changes in Physical Access to Health Facilities (Travel Time) – 10 Years Ago vs Now (One-way travel time from village to nearest facility)

		Community Health Post (mins)		BHU (hrs)		District Hospital (hrs)		AK Health Centre (hrs)	
Village	**Number of Households**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**
Kand Bala	14	100	100	2	2	10	10	2	2
Chikar	32	1	1	1	1	36	8	1	1
Lashkargaz	21	24	1	24	12	36	8	36	1
Garel	22	36	2	24	1	36	24	3	3
Garamchasma	33	4	2	6	2	24	12	2	1
Kankhun	20	2	1	2	1	10	8	3	2
Chitisar	41	30	30	30	30	12	10	30	30
Shust	126	5	5	2	2	13	12	5	5
Dubargar	44	4	4	4	4	12	12	30	30
Yaghdan	20	5	5	3	2	12	9	7	7
Kand Payeen	36	1	1	2	2	12	10	1	1
Kishmanja	5	1	1	1	1	16	14	2	1
Chilmarabad	33	5	30	2	2	24	17	1	1
Yarkhoon Lasht	35	5	5	1	1	15	12	2	1
Ishkarwarz	12	2	2	2	2	24	18	5	5
Power	60	4	1	4	1	9	9	1	1
Chargheri Aliabad	80	1	1	1	1	9	9	1	1
Unauch	85	9	9	5	5	5	5	3	3

Table 39: Availability of Key Health Services at Village Level (10 Years Ago vs Now)

	ANC		Skilled birth Attendant		Immunisation Services		Lady Health Work	
Village	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**
Kand Bala	No	No	No	No	No	No	No	No
Chikar	No	No	Outside village	Outside village	No	No	No	Yes
Lashkargaz	No	No	Yes	No	Yes	Yes	No	No
Garel	No	No	Yes	No	Yes	Yes	No	No
Garamchasma	No	No	No	Yes	Yes	Yes	No	Yes
Kankhun	No	No	No	Yes	No	No	Yes	Yes
Chitisar	No	No	Yes	No	Yes	Yes	Yes	Yes
Shust	No	No	Yes	Yes	Yes	Yes	No	Yes
Dubargar	No	No	Yes	No	No	No	Yes	Yes
Yaghdan	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kand Payeen	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Kishmanja	No	No	Yes	No	No	No	No	No
Chilmarabad	No	No	Yes	Yes	No	No	No	No
Yarkhoon Lasht	No	No	Yes	Yes	No	No	Yes	Yes
Ishkarwarz	No	No	Yes	Yes	No	No	No	No
Power	No	No	Yes	No	Yes	Yes	Yes	Yes
Chargheri Aliabad	No	No	Yes	No	Yes	Yes	Yes	Yes
Unauch	No	No	Yes	Yes	No	Yes	Yes	Yes

Table 40: Availability of Medicines, Equipment, and Patient Trends

Village	Essential Medicines Now	Basic Equipment Now	Change in Patient Visits (Last 10 Years)
Kand Bala	Usually available	Yes	Increased somewhat
Chikar	Usually available	Yes	Increased somewhat
Lashkargaz	No local health point	No	Increased significantly
Garel	Usually available	Yes	Decreased somewhat
Garamchasma	No local health point	Yes	Increased significantly
Kankhun	Usually available	Yes	Increased significantly
Chitisar	Usually available	Yes	Increased significantly
Shust	Usually available	Yes	Increased significantly
Dubargar	Usually available	No	Increased significantly
Yaghdan	Usually available	Yes	Increased significantly
Kand Payeen	Usually available	No	Increased significantly
Kishmanja	No local health point	No	Increased significantly
Chilmarabad	Usually available	Yes	Increased significantly
Yarkhoon Lasht	Usually available	Yes	Increased significantly
Ishkarwarz	Usually available	Yes	Increased significantly
Power	Usually available	Yes	Increased significantly
Chargheri Aliabad	Usually available	Yes	Increased significantly
Unauch	Usually available	Yes	Decreased somewhat

Table 41: Civil Administration, Justice, and Security Services (One Way Travel Time in Hours)

	Civil Registration		Police & Legal Services		Courts & Lawyers	
Village	10 yrs ago	Now	10 yrs ago	Now	10 yrs ago	Now
Kand Bala	12	12	3	3	12	12
Chikar	24	24	24	18	24	18
Lashkargaz	72	24	72	24	72	24
Garel	72	36	72	24	72	24
Garamchasma	24	12	24	12	24	12
Kankhun	12	10	12	10	12	10
Chitisar	10	10	10	10	10	10
Shust	9	9	9	9	9	9
Dubargar	11	11	11	11	11	11
Yaghdan	9	9	9	9	9	9
Kand Payeen	12	10	12	10	11	9
Kishmanja	16	14	16	14	16	14
Chilmarabad	18	14	18	14	18	14
Yarkhoon Lasht	15	12	15	12	15	12
Ishkarwarz	24	18	24	18	18	15
Power	5	5	5	5	5	5
Chargheri Aliabad	5	5	9	9	5	5
Unauch	13	9	13	9	13	9

Table 42: Financial, Social, and Utility Services (One Way Travel Time in Hours)

	Financial Services (Bank/ATM)		Social Protection Services (BISP/PBM/Zakat)		Utility and Postal Services	
Village	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**
Kand Bala	12	6	10	6	12	12
Chikar	24	18	18	24	24	18
Lashkargaz	72	72	24	72	24	72
Garel	72	24	36	12	72	36
Garamchasma	24	12	24	12	24	12
Kankhun	12	10	12	10	12	10
Chitisar	10	10	10	10	10	10
Shust	4	4	9	9	9	9
Dubargar	3	2	11	11	11	11
Yaghdan	9	3	9	9	9	9
Kand Payeen	11	3	11	9	11	9
Kishmanja	16	14	14	12	16	14
Chilmarabad	8	5	18	14	18	12
Yarkhoon Lasht	15	4	15	12	15	12
Ishkarwarz	12	10	18	12	15	12
Power	5	1	5	3	1	1
Chargheri Aliabad	5	3	5	3	5	3
Unauch	9	9	13	9	13	9

Table 43: Financial, Social, and Utility Services (One Way Travel Time in Hours)

	Agriculture & Livestock Services		Education Office		Passport & Immigration	
Village	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**
Kand Bala	12	12	12	12	12	12
Chikar	24	18	24	18	24	18
Lashkargaz	24	72	24	72	24	72
Garel	72	24	72	24	72	24
Garamchasma	24	12	24	12	24	12
Kankhun	12	10	12	10	12	10
Chitisar	4	4	10	10	12	12
Shust	13	13	9	9	13	13
Dubargar	11	11	11	11	11	11
Yaghdan	9	9	9	9	12	9
Kand Payeen	11	9	11	9	12	10
Kishmanja	16	14	16	14	24	20
Chilmarabad	18	14	18	14	18	14
Yarkhoon Lasht	15	12	15	12	15	12
Ishkarwarz	15	12	15	12	15	12
Power	9	9	5	5	9	9
Chargheri Aliabad	9	5	9	5	9	5
Unauch	13	9	9	9	13	13

Table 44: Changes in local economic activities

	Shops		Wool/Handicraft Producers (Women)		Wool/Handicraft Producers (Men)		New Small Businesses (Last 10 yrs)	Buying Market Time (hrs)		Selling Market Time (hrs)	
Village	10 yrs ago	Now	10 yrs ago	Now	10 yrs ago	Now		10 yrs ago	Now	10 yrs ago	Now
Kand Bala	0	0	0	0	0	0	0	2	2	0	0
Chikar	0	0	1	1	0	1	0	0	2	1	18
Lashkargaz	0	2	0	1	1	1	2	21	15	0	72
Garel	0	1	0	2	1	2	1	15	10	0	2
Garamchasma	2	4	0	3	3	0	0	24	12	6	2
Kankhun	0	2	0	0	0	0	2	16	10	16	10
Chitisar	2	8	20	0	6	0	6	12	10	12	10
Shust	6	25	9	0	5	0	19	32	24	32	24
Dubargar	1	7	0	0	0	0	5	12	12	12	12
Yaghdan	3	10	6	0	1	0	7	12	12	12	12
Kand Payeen	0	1	20	0	5	0	1	12	10	12	10
Kishmanja	1	1	3	0	1	0	0	24	20	24	20
Chilmarabad	0	3	10	0	3	0	3	24	18	24	18
Yarkhoon Lasht	1	2	5	20	8	0	0	15	12	15	12
Ishkarwarz	0	1	7	0	1	0	1	15	12	15	12
Power	4	10	8	0	0	0	4	9	9	9	9
Chargheri Aliabad	5	10	6	0	0	0	10	9	5	9	5
Unauch	3	8	2	0	10	0	5	13	13	13	13

Table 45: Changes in Tourism Levels and Estimated Tourist Numbers by Village

Village Name	Change in Tourist Numbers Compared to 10 Years Ago	Estimated Number of Tourists in the Past 12 Months(excluding festival visitors)
Kand Bala	No tourists then or now	0
Chikar	Increased slightly	200
Lashkargaz	Increased significantly	250
Garel	Increased significantly	200
Garamchasma	Increased significantly	200
Kankhun	Increased significantly	150
Chitisar	Increased slightly	100
Shust	Increased significantly	250
Dubargar	Increased significantly	0
Yaghdan	Decreased	10
Kand Payeen	Increased significantly	25
Kishmanja	Decreased	0
Chilmarabad	Increased significantly	100
Yarkhoon Lasht	Increased significantly	150
Ishkarwarz	Increased significantly	20
Power	Increased significantly	50
Chargheri Aliabad	Increased significantly	20
Unauch	Decreased	0

Table 46:Changes in Public Transport Fares to Key Destinations (PKR, One Way) – 10 Years Ago vs Now

	Union Council		Tehsil HQ		District HQ		Chitral City		Peshawar	
Village	10 yrs ago	Now	10 yrs ago	Now	10 yrs ago	Now	10 yrs ago	Now	10 yrs ago	Now
Kand Bala	300	700	600	1000	1000	1500	1000	2000	2000	45000
Chikar	20000	1500	3000	3000	5000	3000	10000	6000	15000	10000
Lashkargaz	22000	100000	800	3000	800	4000	1500	4500	2500	15000
Garel	300	600	1000	3000	1500	3000	1800	4000	8000	12000
Garamchasma	500	1000	1000	2500	1000	2500	2000	3000	10000	15000
Kankhun	1000	500	1200	2000	1500	2200	1800	2500	12000	17000
Chitisar	150	500	500	1000	800	1800	800	1800	2500	4500
Shust	200	500	400	1000	500	2000	500	2000	3800	10000
Dubargar	100	600	400	1000	1100	2100	2100	2100	3000	10000
Yaghdan	300	600	500	1000	1200	2000	1200	2000	2500	4500
Kand Payeen	100	1000	200	1500	450	2000	450	2000	5000	15000
Kishmanja	300	1500	600	1600	1800	3000	1800	3000	8000	15000
Chilmarabad	600	1500	100	2000	2000	3500	2000	3500	8000	16000
Yarkhoon Lasht	500	800	700	1200	1200	2000	2000	2000	6000	10000
Ishkarwarz	800	1500	1000	1800	1800	3000	1800	3000	6000	12000
Power	100	300	300	500	800	1500	800	1500	2000	4000
Chargheri Aliabad	300	500	500	800	800	1500	800	1500	2000	4000
Unauch										

Table 47:Changes in Daily Labor Wages by Skill Level (PKR) – 10 Years Ago vs Now

	Unskilled Labour Wage/day		Skilled Labour Wage/day	
Village Name	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**
Kand Bala	700	1,500	1,000	2,000
Chikar	700	1,200	1,200	2,500
Lashkargaz	800	1,200	1,200	2,500
Garel	800	1,200	1,200	2,500
Garamchasma	800	1,200	1,200	1,200
Kankhun	800	1,200	1,200	2,500
Chitisar	100	1,200	200	2,000
Shust	300	1,200	700	2,500
Dubargar	120	750	1,200	2,500
Yaghdan	400	1,200	800	2,000
Kand Payeen	400	800	200	2,500
Kishmanja	400	1,200	800	2,500
Chilmarabad	750	1,200	800	2,500
Yarkhoon Lasht	750	1,200	1,200	2,500
Ishkarwarz	750	1,200	1,200	2,500
Power	750	1,200	1,200	2,500
Chargheri Aliabad	750	1,200	1,200	2,500
Unauch	700	1,200	1,200	2,500

Table 48:Changes in Daily Labor Wages by Skill Level (PKR) – 10 Years Ago vs Now

	Tractor Rental (per hour)		Rental Car / Jeep (per day)		Petrol Price (per liter)	
Village Name	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**
Kand Bala	1,500	5,000	N/A	N/A	50	300
Chikar					60	450
Lashkargaz		6,500	25,000	45,000	60	550
Garel			800	3,000	60	450
Garamchasma	2,500	2,000	5,500	45,000	60	450
Kankhun	1,200	5,500	15,000	30,000	65	350
Chitisar	1,400	4,500	10,000	20,000	60	350
Shust		5,000	4,000	40,000	70	350
Dubargar		4,600	8,000	20,000	62	320
Yaghdan	500	4,500	6,000	20,000	60	370
Kand Payeen	500	4,500	5,000	20,000	60	340
Kishmanja		6,000	6,000	25,000	62	282
Chilmarabad		5,600	8,000	20,000	65	350
Yarkhoon Lasht	2,000	5,600	5,000	15,000	60	300
Ishkarwarz			8,000	20,000	60	400
Power	2,000	4,500	4,000	12,000	60	280
Chargheri Aliabad	1,200	4,200	4,000	10,000	62	300
Unauch		5,500	6,000	16,000	62	350

Table 49: Changes in Prices of Essential Food Commodities (PKR/KG) – 10 Years Ago vs Now

	Wheat Flour		Rice		Pulses		Cooking Oil / Ghee		Sugar		Tea		Milk		Beef		Mutton		Chicken		Eggs (Dozen)	
Village	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**
Kand Bala	63	150	70	300	70	400	200	500	70	250	500	1300	50	110	200	1000	500	1400	200	1000	120	480
Chikar	50	150	150	250	60	500	300	600	40	250	500	1400	50	110	400	900	600	1200	600	1000	115	210
Lashkargaz	40	150	100	250	60	250	250	800	40	300	600	1200	50	110	600	900	800	1400	600	900	115	210
Garel	40	80	60	200	40	250	250	600	40	260	600	1500	50	110	500	1000	800	1400	600	1000	60	210
Garamchasma	80	120	60	200	60	250	260	450	40	260	800	1500	50	110	800	1000	900	1400	400	1000	80	210
Kankhun	80	120	60	100	250	260	300	430	70	230	800	1100	50	110	600	900	1000	1400	600	1000	60	200
Chitisar	80	138	70	300	200	260	300	500	30	250	100	1300	50	110	450	900	500	1400	300	900	40	280
Shust	125	158	60	260	50	450	190	470	35	250	500	1300	50	110	400	900	800	1500	300	1000	60	280
Dubargar	45	95	60	260	40	400	150	420	55	200	800	1200	50	110	500	900	600	1400	150	1200	40	260
Yaghdan	125	138	60	250	40	260	150	430	60	240	600	1300	50	110	400	900	500	1400	300	900	60	280
Kand Payeen	48	155	50	250	40	500	110	450	30	230	300	1400	50	110	100	900	400	1400	110	900	40	280
Kishmanja	30	163	100	300	80	500	350	600	120	300	800	1500	50	110	400	1000	500	1400	400	1500	120	300
Chilmarabad	35	170	80	350	65	400	250	600	60	300	750	1500	50	110	400	1000	500	1400	300	900	80	300
Yarkhoon Lasht	25	125	60	200	40	400	250	500	40	240	800	1300	50	110	400	900	500	1400	300	900	80	280
Ishkarwarz	33	170	230	350	70	400	280	600	100	300	800	1400	50	110	400	900	500	1400	300	900	80	280
Power	30	150	80	250	50	300	230	450	40	230	450	1400	50	110	400	1100	500	1400	300	900	60	250
Chargheri Aliabad	30	150	100	230	80	250	230	400	40	230	700	1400	50	110	400	900	600	1400	320	1000	70	180
Unauch	30	145	100	300	80	500	125	500	80	220	600	1300	50	110	400	900	600	1400	300	1000	80	280

Table 50: Changes in Asset Values, Land Prices, Rentals, and Livestock Prices (PKR) – 10 Years Ago vs Now

	Agricultural Land/Kanal		Residential Plot/Kanal		Shop Rental/Kanal		/Cow/Yak		/Goat		/Sheep	
Village	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**	**10 yrs ago**	**Now**
Kand Bala	50,000	100,000	100,000	150,000	300	600	40,000	150,000	80,000	25,000	8,000	25,000
Chikar	20,000	60,000	15,000	45,000	1,000	2,000	7,000	150,000	6,000	22,000	8,000	30,000
Lashkargaz	30,000	60,000	20,000	60,000	500	1,500	60,000	160,000	12,000	22,000	12,000	25,000
Garel	20,000	60,000	10,000	15,000	500	2,000	50,000	200,000	10,000	25,000	11,000	24,000
Garamchasma	30,000	90,000	15,000	40,000	600	1,200	45,000	150,000	12,000	22,000	13,000	25,000
Kankhun	200,000	400,000	60,000	100,000	600	1,200	60,000	120,000	11,000	18,000	12,000	15,000
Chitisar	50,000	500,000	100,000	300,000	400	1,000	7,000	130,000	5,000	20,000	4,000	15,000
Shust	60,000	1,000,000	30,000	600,000	300	3,000	30,000	150,000	5,000	20,000	5,000	15,000
Dubargar	60,000	200,000	80,000	360,000	300	1,000	25,000	125,000	10,000	18,000	8,000	3,000
Yaghdan	50,000	300,000	10,000	100,000	300	2,000	30,000	130,000	11,000	18,000	8,000	15,000
Kand Payeen	75,000	400,000	35,000	70,000	300	1,500	30,000	130,000	5,000	15,000	1,000	10,000
Kishmanja	20,000	80,000	10,000	50,000	300	1,500	12,000	220,000	12,000	22,000	12,000	22,000
Chilmarabad	10,000	60,000	8,000	25,000	300	1,500	30,000	160,000	12,000	21,000	15,000	22,000
Yarkhoon Lasht	40,000	150,000	20,000	60,000	500	1,500	35,000	125,000	10,000	15,000	12,000	15,000
Ishkarwarz	30,000	60,000	20,000	40,000	500	1,500	35,000	160,000	10,000	19,000	13,000	20,000
Power	300,000	700,000	200,000	400,000	400	1,500	30,000	130,000	11,000	35,000	8,000	14,000
Chargheri Aliabad	300,000	800,000	200,000	450,000	400	1,500	30,000	130,000	12,000	35,000	9,000	12,000
Unauch	80,000	200,000	30,000	60,000	400	1,000	11,000	35,000	12,500	35,000	18,000	20,000

ANNEX E: Household Survey Summary Tables

Table 51: Demographic Structure of Surveyed Households and Population in the sample households Dec 2025

Indicator	Core Project Area	Peripheral Zone	Wider Yarkhun	Total
Coverage				
Number of villages	7	5	5	**17**
Households surveyed	180	120	99	**399**
Average household size (persons)	9	7	6	**7**
Adults per household	5	4	4	**4**
Population				
Total population (No.)	1,545	807	566	**2,918**
Female population (%)	51.6%	51.0%	52.8%	**51.6%**
Male population (%)	48.4%	49.0%	47.2%	**48.4%**
Female : Male ratio	1.07	1.04	1.12	**1.07**
Age Structure (% of total population)				
0–14 years	38%	34%	30%	**35%**
15–29 years	32%	31%	31%	**31%**
30–60 years	26%	31%	35%	**29%**
60+ years	4%	4%	4%	**5%**
Dependency ratio*	0.72	0.61	0.52	**0.67**
People with disability (Female)	50	45	4	99 (7%)
People with disability (Male)	70	63	5	138 (9%)
*Dependency ratio = (Population aged 0–14 + 60+) ÷ Population aged 15–59.				

Table 52: Key Gender-Disaggregated Education Indicators in the project area, Dec 2025

Indicator	Core Area	Peripheral Zone	Wider Yarkhun	Total
Female literacy rate (16+yrs)	22%	46%	66%	**38%**
Male literacy rate (16+yrs)	57%	71%	86%	**67%**
Gender gap in literacy (pp)	**-35**	**-25**	**-20**	**-29**
Girls (5–16yrs) attending school	63%	83%	95%	**75%**
Boys (6–16yrs) attending school	83%	87%	93%	**86%**
Gender gap in enrolment (pp)	**-20**	**-4**	**2**	**-11**
Girls out of school (5–16)	37%	17%	5%	**25%**
Boys out of school (5–16)	17%	13%	7%	**14%**
Gender gap in OOSC (pp)	**-20**	**-4**	**2**	**-11**

Table 53: Comparison of Reasons for Educational Exclusion – Adults vs Children

Reason	Adults (16+) %	Children (5–16) %	Difference (pp)	Analytical Remarks
Percent of adults and children who never attended or dropped out of school	73%	20%	**+53**	High adult exclusion reflects past structural deficits in access and opportunity. Lower but persistent child exclusion indicates current challenges related to affordability, learning quality, and retention despite improved enrolment.
School too far / unsafe travel	29%	7%	**+22**	A dominant historical access constraint for adults; its reduced importance for children reflects expanded school coverage over time.
Could not afford education costs	26%	21%	**+5**	A continuing constraint across generations, indicating that financial barriers remain a current risk to enrolment and retention for children.
Livestock/herding responsibilities	12%	9%	**+3**	Historically limited adult schooling due to livelihood demands; still a current pressure on children in households dependent on labour-intensive livelihoods.
Not interested / poor performance	13%	15%	**–2**	More prominent among children, pointing to current learning quality and retention issues rather than access barriers.
Family/cultural restrictions	7%	5%	**+2**	Social norms constrained adults' education in the past, especially women; reduced impact on children suggests gradual normative change, though risks remain.
Early marriage	3%	1%	**+2**	Largely a historical barrier with declining influence among today's school-age children.
Illness / disability	1%	6%	**–5**	Minimal impact historically, but a current exclusion risk for children, highlighting gaps in inclusive education and health support.
No school beyond current level	2%	1%	**+1**	Reflects past limitations in education pathways, particularly in remote areas; less relevant for children due to improved system coverage.
Other / not specified	1%	5%	**–4**	Higher among children, suggesting multiple, context-specific current barriers not fully captured by standard categories.

Table 54:Household Perceptions of Changes in Access to Education Compared to 10 Years Ago in the sample households

Indicator	Core Project Area	Peripheral Zone	Wider Yarkhun
Perceived change in access to education:			
Access much easier now	83%	69%	29%
Access somewhat easier now	7%	20%	47%
No change	6%	2%	21%
Access more difficult now	3%	9%	2%
Main drivers of improved access (% of HHs reporting improvement):			
Better roads reduced travel time to school	42%	15%	15%
Safer travel for children	19%	14%	21%
School quality improved	11%	15%	11%
More awareness / value for education	9%	11%	19%
Easier for girls to attend school	6%	10%	14%
Other drivers (income, NGO support, transport cost)	13%	35%	20%
School still too far	26%	10%	21%
Travel still too expensive	16%	10%	25%
Safety concerns remain	21%	5%	19%
Improved road did not help school route	19%	14%	21%
Cannot afford education costs	5%	52%	3%
Other constraints (awareness, labour, culture)	13%	9%	11%
Number of HHs reporting education expenses	83 → 148	88 → 109	72 → 78
Average annual education cost per HH (PKR)	28,941 → 50,930	18,058 → 61,539	67,590 → 123,278

Table 55: Changes in Maternal and Child Health Access, Utilisation, and Healthcare Costs in the sample households

Indicator	Core Project Area	Peripheral Zone	Wider Yarkhun
Maternal health (last birth in past 5 years)			
HHs with women of reproductive age (15–49 yrs)	170	100	69
HHs reporting a birth in last 5 years	126	77	30
Place of last delivery			
Institutional delivery (AKHS / Govt / SBA)	8%	66%	87%
Home delivery (with or without TBA)	92%	33%	13%
Child health – vaccination (under 5 years)			
HHs with children under 5	143	80	35
All children fully vaccinated	99%	66%	97%
Some / none vaccinated	1%	34%	3%
Main healthcare challenges (top constraints, % HHs)			
Distance to qualified doctors	36%	26%	20%
Transport cost	8%	20%	28%
Cost of treatment & medicines	7%	18%	29%
Lack of female healthcare providers	20%	14%	4%
Household healthcare costs & coping (last 12 months)			
HHs reporting healthcare expenses (No.)	127	119	97
Average annual healthcare cost (PKR)	29,370	46,584	54,833
Used savings for healthcare	22%	37%	45%
Sold assets/livestock	27%	16%	14%
Borrowed money	20%	25%	13%
Perceived change in healthcare access due to project			
Access improved significantly	79%	63%	19%
Access improved somewhat	17%	28%	46%
Main drivers of improved healthcare access (% HHs)			
Reduced travel time to facilities	37%	24%	44%
Safer travel for sick family members	23%	11%	12%
Faster emergency access	11%	18%	2%
Ability to reach better hospitals	13%	17%	13%
No improvement	**4%**	**9%**	**34%**
Main constraints where no improvement reported			
Health facility still too far	18%	29%	32%
Transport still too expensive	25%	29%	28%
Improved road did not help route	18%	21%	29%
No qualified doctors available	25%	4%	5%

Table 56: Working Status and Occupational Profile of Household Members (15+ Years), by Area and Gender, Dec 2025

Working Status	Core Project Area		Peripheral Zone		Wider Yarkhun		Grand Total		
	F	M	F	M	F	M	F	M	Total
Population all over 15 years	438	509	260	272	186	211	884	992	1,876
Homemaker / Household care	25%	1%	67%	5%	58%	2%	44%	3%	22%
Working outside the household	67%	79%	7%	71%	11%	67%	37%	74%	57%
Livestock herding	93%	52%	33%	4%	24%	6%	86%	30%	48%
Unskilled daily wage labour	1%	22%	0%	45%	0%	23%	1%	28%	20%
Business owner / Shopkeeper / Trader	0%	2%	6%	5%	10%	13%	1%	5%	4%
Crop farming	3%	4%	6%	4%	5%	4%	3%	4%	3%
Daily Wage Labor	0%	0%	0%	1%	0%	0%	0%	0%	0%
Government employee	1%	9%	6%	6%	38%	16%	4%	10%	8%
Private company/NGO employee	1%	4%	39%	12%	19%	20%	4%	9%	7%
Skilled labour	0%	3%	6%	23%	0%	20%	0%	12%	8%
Tourism services	0%	2%	0%	0%	0%	0%	0%	1%	1%
Other	1%	2%	6%	1%	5%	0%	1%	1%	1%
Not Working	9%	20%	26%	24%	31%	31%	18%	23%	21%
Student	84%	71%	61%	55%	71%	43%	70%	59%	63%
Child not in school/not working	0%	0%	0%	3%	0%	3%	0%	2%	1%
Unable to work due to disability/illness	5%	4%	12%	22%	0%	3%	6%	9%	8%
Unemployed and seeking work	11%	22%	12%	8%	26%	35%	17%	22%	20%
Retired / elderly	0%	3%	9%	8%	3%	15%	5%	8%	7%
Other	0%	0%	6%	5%	0%	0%	2%	1%	2%

Table 57:Summary of Livelihood and Income Profile of Sample households

Indicator	Core Project Area	Peripheral Zone	Wider Yarkhun	Overall Interpretation (Relevance)
Dominant livelihood (single most important source, now)	Livestock (76%)	Daily wage labour (58%)	Salaried/skilled work (46% combined)	Confirms distinct livelihood profiles, justifying area-specific intervention design
Households relying on livestock as main income	76%	9%	6%	High dependence in core area validates focus on livestock, access, and resilience
Households relying on daily wage labour	13%	58%	18%	High vulnerability in peripheral zone supports income diversification and skills
Share of skilled + salaried employment (main source)	8%	24%	46%	Indicates uneven access to stable employment, relevant for targeting
Average annual household cash income (PKR)	359,844	194,783	460,212	Income disparities confirm need-based geographic targeting
Multiple income sources per household (evidence)	High	Moderate	Moderate	Livelihoods are diversified but fragile, reinforcing relevance of integrated support
Key structural constraints (baseline)	Market access, isolation	Labour dependence	Skills & markets	Project focus aligns with context-specific constraints

Table 58: Summary of Livelihood and Income Change in the sample households

Indicator	Core Project Area	Peripheral Zone	Wider Yarkhun	Overall Interpretation (Impact)
Households reporting income improvement	93%	82%	66%	Indicates substantial positive income effects, strongest in core area
Income improved significantly	77%	64%	8%	Depth of impact highest where interventions were most concentrated
Change in reliance on livestock (10 yrs → now)	↓ 87% → 76%	↓ 13% → 9%	↓ 10% → 6%	Evidence of gradual livelihood diversification
Change in daily wage labour (10 yrs → now)	↑ 8% → 13%	↓ 72% → 58%	↓ 39% → 18%	Reduction in distress labour, especially outside core area
Increase in skilled + salaried employment	Modest	Moderate	Strong	Suggests structural upgrading of livelihoods over time
Main pathway of income improvement	Roads & transport	Roads & access	Roads & reduced costs	Infrastructure is the primary transmission channel
HHs reporting no income improvement (No.)	13	22	34	Non-impact largely due to access and relevance gaps, not harm
Main reason for no impact	Access gaps	Relevance gaps	Access gaps	Points to implementation reach, not design failure

Table 59: Household Well-Being and Economic Stress 10 years ago in the sample households

Indicator (10 years ago / baseline)	Core Project Area	Peripheral Zone	Wider Yarkhun	Relevance Interpretation
HHs unable to meet basic needs	15%	13%	24%	High baseline deprivation, especially in wider Yarkhun, justified need for intervention
HHs meeting needs with difficulty	77%	58%	68%	Widespread economic stress confirms relevance of livelihoods & infrastructure focus
HHs meeting needs comfortably	8%	28%	8%	Very limited economic security prior to intervention
HHs reporting food insufficiency (No.)	88	49	25	Food insecurity a significant baseline concern
Avg. days/month with food shortage	8	17	17	Chronic food stress, particularly outside core area
Dominant constraints (qualitative)	Isolation, access	Partial access, costs	Jobs, inflation	Context-specific vulnerabilities validate differentiated project design

Table 60: Summary of Changes in Household Well-Being and Economic Conditions in sample households

Indicator	Core Project Area (10 yrs ago → Now)	Peripheral Zone (10 yrs ago → Now)	Wider Yarkhun (10 yrs ago → Now)	Impact Interpretation
HHs meeting essential needs comfortably *(food, heating, medicine, clothing)*	8% → 80%	28% → 32%	8% → 76%	Living conditions improved markedly, with transformative gains in the core and wider areas.
HHs meeting needs with difficulty	77% → 19%	58% → 65%	68% → 22%	Economic stress reduced sharply in the core and wider areas; persistent vulnerability remains in the peripheral zone.
HHs unable to meet basic needs	15% → 1%	13% → 3%	24% → 2%	Extreme deprivation has been largely eliminated across all areas.
HHs reporting household economy "better now"	89%	81%	91%	Strong and widespread perception of economic improvement compared to ten years ago.
HHs reporting "no change"	8%	10%	1%	A small minority report stagnation, mainly in the peripheral zone.
HHs reporting economy "worse now"	3%	9%	8%	Negative outcomes are limited and linked to cost pressures rather than livelihood collapse.
Main drivers of change	Roads, access, livestock income	Mixed livelihood gains	Skills, jobs, diversification	Transition from isolation-driven poverty to connectivity- and livelihood-driven economic change, with area-specific pathways.

Table 61: Household Travel to Access Public and Governance Services (Last 12 Months) in the sample households

Impact Indicator	Core Project Area(n = 180)	Peripheral Zone(n = 120)	Wider Yarkhun(n = 99)
Households that travelled to access at least one public service	47% (84 HHs)	54% (65 HHs)	79% (78 HHs)
Households that did not travel for any listed service	53%	46%	21%
Administrative & identity services			
CNIC / NADRA registration or documents	41%	33%	40%
Birth or death registration	1%	3%	6%
Social protection services (BISP, Zakat, Bait-ul-Maal)	12%	6%	2%
Financial services			
ATM / cash machine	1%	1%	28%
Banking (savings, withdrawals)	1%	5%	14%
Microfinance / loan services	0%	3%	10%
Education-related services			
School/college admission or certificates	7%	5%	4%
Examination / board offices	<1%	2%	1%
Livelihood & sectoral services			
Job application points	1%	1%	10%
Veterinary / livestock services	1%	8%	0%
Agriculture department (seeds/fertiliser)	<1%	0%	0%
Governance & legal services (episodic use)			
Court / Patwari / revenue office	0%	0%	6%
Police station / FIR / legal matters	0%	3%	5%

Table 62:Changes in Household Living Conditions and Facilities

Impact Domain / Indicator	Core Project Area (10 yrs ago → Now)	Peripheral Zone (10 yrs ago → Now)	Wider Yarkhun (10 yrs ago → Now)
Housing quality (Semi-Pucca / Pucca)	0% → 3%	2% → 31%	11% → 49%
Open defecation (no toilet)	98% → 6%	54% → 1%	23% → 0%
Toilet inside house	0% → 0%	9% → 53%	19% → 79%
Shared outside toilet	2% → 94%	37% → 46%	58% → 21%
Piped drinking water to house	1% → 82%	28% → 96%	49% → 99%
Households with always sufficient drinking water	6% → 34%	18% → 58%	10% → 57%
Water quality tested and found safe	1% → 58%	19% → 89%	53% → 99%
No treatment of drinking water	100% → 81%	20% → 32%	60% → 60%
Regular handwashing after toilet use	49% → 84%	63% → 91%	99% → 100%
After cleaning children	54% → 83%	48% → 49%	56% → 72%
After handling animals	53% → 75%	46% → 53%	47% → 66%
Before eating / cooking	73% → 96%	99% → 98%	99% → 100%
Access to electricity (any source)	56% → 95%	100% → 100%	99% → 100%
Use of clean cooking fuels (electricity / gas)	0% → 1%	0% → 0%	0% → 35%
Use of dung cakes for cooking	73% → 94%	14% → 45%	4% → 9%
Use of wood for cooking	27% → 28%	86% → 99%	96% → 100%

Table 63:Household Perceptions of Tourism Impacts (Last 10 Years) in the sample households

Impact Indicator	Core Project Area	Peripheral Zone	Wider Yarkhun
HHs reporting benefits from tourism	48% (86 HHs)	7% (8 HHs)	7% (7 HHs)
Employment or seasonal work from tourism	28%	3%	1%
Provision of tourism services *(accommodation, meals, guiding, transport)*	16%	2%	4%
Sale of local products to tourists *(wool, crafts, food)*	2%	0%	0%
Use of community tourism facilities	1%	0%	0%
HHs reporting negative impacts of tourism	20% (36 HHs)	<1% (1 HH)	2% (2 HHs)
Increase in prices of basic goods	20%	0%	2%