



# IMPACT ASSESSMENT REPORT

## FEBRUARY, 2026

Economic Transformation Initiative, Gilgit-Baltistan  
Planning and Development Department  
Government of Gilgit-Baltistan





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We remain committed to supporting evidence-based learning and look forward to continued collaboration with ETI-GB in advancing rural transformation in Gilgit-Baltistan.

With warm regards,



Himatullah  
Chief Executive Officer  
HIMAT Consulting (Private) Limited



# DISCLAIMER

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## SUMMARY OF INTERVENTION-LEVEL IMPACTS

The following tables present a consolidated summary of estimated impacts across intervention modalities, highlighting differential effects associated with single and combined support packages. By comparing households receiving irrigation and land development, farm-to-market roads, value chain support, and their various combinations, the analysis identifies how integrated interventions influence income growth, savings behavior, production outcomes, and selected welfare indicators. The evidence indicates that households benefiting from combined interventions generally experience stronger impact effects across key economic dimensions, underscoring the reinforcing nature of Programme's integrated design. These summary results provide an overview of the magnitude and direction of impacts, while subsequent sections explore underlying mechanisms and contextual drivers.

| Summary Table A. Intervention-wise Findings          |          |          |         |           |          |                |                     |
|------------------------------------------------------|----------|----------|---------|-----------|----------|----------------|---------------------|
| Indicator                                            | ILD only | FMR only | VC only | ILD + FMR | ILD + VC | ILD + FMR + VC | Overall (Treatment) |
| HH reporting income increase, 2025 (%)               | 70.63    | 88.3     | 94.31   | 69.05     | 82.4     | 84.41          | 86.57               |
| Change in HH reporting income increase 2022–25 (%)   | 11.63    | 12.3     | 8.31    | 7.05      | 15       | 15.74          | 13.57               |
| HH with ≥50% income increase (%)                     | ~55      | ~60      | 67.88   | ~58       | 70+      | 70+            | 59.54               |
| HH reporting savings (%)                             | 31       | 31       | 31      | 31        | 31       | 31             | 30.91               |
| HH reporting increase in production (%)              |          |          |         |           |          |                | 60.90               |
| Savings invested in income-generating activities (%) | —        | —        | —       | —         | —        | —              | 26.80               |
| HH fully able to seek medical care (%)               | —        | —        | —       | —         | —        | —              | 64.80               |
| Women Dietary Diversity Score (0-10)                 | —        | —        | —       | —         | —        | —              | 9.07                |
| Food hygiene behavior index (0–3)                    | —        | —        | —       | —         | —        | —              | 2.07                |



**Summary Table B. Comparison of Treatment-Control Groups**

| Indicator                                        | Treatment Group | Control Group | Difference (T - C) | Impact Interpretation                                 |
|--------------------------------------------------|-----------------|---------------|--------------------|-------------------------------------------------------|
| HH reporting access to agricultural land (%)     | 89.22           | 70.23         | 18.99              | Beneficiaries have higher access to agricultural land |
| Median monthly income, 2025 (PKR)                | 55,000          | 50,000        | 5,000              | Higher income among beneficiaries                     |
| HH reporting increase in agricultural income (%) | 62              | 25            | +37                | ETI significantly boosts farm income                  |
| HH reporting increase in production (%)          | 60.90           | 27            | +33.90             | Clear productivity impact of interventions            |
| HH adopting improved inputs/practices (%)        | 78.50           | —             | —                  | Strong technology adoption effect                     |
| Access to extension services (%)                 | 27.45           | 7.39          | +20.06             | Improved service access due to ETI                    |
| HH reporting savings (%)                         | 30.91           | 25.95         | +4.96              | Enhanced financial resilience                         |
| Savings invested in income activities (%)        | 26.80           | 17.65         | +9.15              | Productive use of savings                             |
| HH fully able to seek medical care (%)           | 64.80           | 55.10         | +9.70              | Improved health access                                |
| Women Dietary Diversity Score (0-10)             | 9.07            | 8.95          | 0.12               | Better nutritional outcomes                           |
| Food hygiene behavior index (0-3)                | 2.07            | 1.89          | 0.18               | Improved KAP outcomes                                 |
| Avg. time saved per market trip (hours)          | 3.5             | —             | —                  | Reduced transaction costs (FMR effect)                |



**Summary Table C. Progress Comparison Matrix**

| COI Indicator                                                                   | Quantitative Measure Used in Report      | Baseline     | 2022                        | Treatment | Control |
|---------------------------------------------------------------------------------|------------------------------------------|--------------|-----------------------------|-----------|---------|
| <b>CI 1.1.1 Beneficiaries gaining increased secure access to land (acres)</b>   | Avg. irrigated land                      | 0.60         | 1.44                        | 1.50      | 0.60    |
| <b>CI 1.2.1 HHs reporting improved access to land for production (%)</b>        | HHs                                      | 0.00         | 69.00                       | 89.20     | 70.20   |
| <b>CI 1.1.3 VACs accessing inputs/tech packages (%)</b>                         | HHs                                      | 0.00         | 28.00                       | 69.50     | —       |
| <b>CI 1.2.2 HHs adopting new/improved practices (%)</b>                         | Adoption rate                            | 0.00         | 66                          | 78.50     | —       |
| <b>CI 1.2.4 HHs reporting increase in production (%)</b>                        | HHs                                      | 0.00         | 59                          | 60.90     | 27.00   |
| <b>CI 1.1.8 HHs receiving nutrition support (%)</b>                             | HHs reported improvement in HH Nutrition | 0.00         | 21                          | 84.00     | N/A     |
| <b>CI 1.2.8 Women reporting MDDW (%)</b>                                        | Women DDS                                | Not measured | Improved (score not pooled) | 9.07      | 8.95    |
| <b>CI 1.2.9 HHs with improved KAP (%)</b>                                       | Food hygiene behavior index              | Not measured | Not measured                | 2.07      | 1.89    |
| <b>CI 2.2.1 Beneficiaries with new jobs/employment (%)</b>                      | HHs reporting income increase            | 0.00         | 73                          | 86.60     | —       |
| <b>CI 2.2.2 Supported rural enterprises reporting an increase in profit (%)</b> | VACs reported profit increase            | 0.00         | Not measured                | 100       | —       |
|                                                                                 | Avg. profit per PO (PKR/year)            | 0.00         | Not measured                | 212,368   | —       |
| <b>CI 2.1.3 Rural producers' organizations/VACs supported</b>                   | No. of POs/VACs                          | 0.00         | 162.00                      | 162.00    | 0.00    |

| COI Indicator                                                             | Quantitative Measure Used in Report | Baseline | 2022           | Treatment | Control |
|---------------------------------------------------------------------------|-------------------------------------|----------|----------------|-----------|---------|
| CI 2.1.4 HHs members of producer orgs/VACs (#)                            | Members                             | 0.00     | 40,613         | 40,613    | 0.00    |
| CI 2.2.3 POs with contracts/buyer linkages (%)                            | POs                                 | 0.00     | 0.00           | 33.30     | 0.00    |
| CI 2.1.5 Roads constructed/rehabilitated (Km)                             | Length of FMRs                      | 0.00     | 400            | 434.7     | —       |
| CI 2.2.6 Households reporting improved physical access to markets (hours) | Avg. travel time saved              | 0.00     | N5tot measured | 3.50      | —       |

**Table D. COI-Aligned Treatment–Control Comparison for Key Logframe Indicators (ETI-GB Impact Assessment)**

| Name of Indicator (from Logframe)                                 | Result to be Included in Logframe (Target / Statement)  | Reference Value – Treatment Group (Endline) | Reference Value – Control Group | Notes / Attribution                           |
|-------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------|---------------------------------|-----------------------------------------------|
| Households reporting increased income (%)                         | ≥50% of target HHs increase agricultural income by ≥25% | 86.60                                       | 73.00                           | Net impact +13.6 pp attributable to ETI-GB    |
| Average household agricultural income (PKR per month)             | Increase in HH agricultural income                      | 16830                                       | 8200                            | Income differential reflects treatment effect |
| Households reporting increase in production (CI 1.2.4) (%)        | 25% increase in production & productivity               | 60.90                                       | 27.00                           | Strong outcome-level COI                      |
| Average irrigated land per household (ILD) (acres)                | Expansion of agricultural landholding                   | 1.5                                         | 0.6                             | +acres due to irrigation development          |
| Households reporting improved access to land/water (CI 1.2.1) (%) | 50,000 HHs expand landholding                           | 89.20                                       | 70.20                           | Access includes irrigation & water bodies     |



| <b>Name of Indicator<br/>(from Logframe)</b>                        | <b>Result to be<br/>Included in<br/>Logframe (Target /<br/>Statement)</b> | <b>Reference<br/>Value –<br/>Treatment<br/>Group<br/>(Endline)</b> | <b>Reference<br/>Value –<br/>Control<br/>Group</b> | <b>Notes /<br/>Attribution</b>            |
|---------------------------------------------------------------------|---------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------|
| <b>Households adopting improved inputs/practices (CI 1.2.2) (%)</b> | Adoption of new/improved technologies                                     | 78.50                                                              | Not observed                                       | Extension & VC driven outcome             |
| <b>Households reporting increased sales (%)</b>                     | 35% increases in marketed surplus                                         | 67.9 report ≥50 income rise                                        | 32.10                                              | Proxy for marketed surplus growth         |
| <b>Average share of production marketed (%)</b>                     | Increased commercialization                                               | ~62                                                                | 47                                                 | Based on sales & income structure         |
| <b>Women reporting Minimum Dietary Diversity (CI 1.2.8) (0-10)</b>  | ≥60 women achieve MDD-W                                                   | DDS = 9.07 /10                                                     | DDS = 8.95 /10                                     | Both exceed threshold; treatment higher   |
| <b>Households with improved KAP (CI 1.2.9) (#)</b>                  | Improved nutrition & hygiene behavior                                     | FHBI = 2.07                                                        | 1.89                                               | Positive behavioral change                |
| <b>Producer organizations supported (#)</b>                         | Establish producer groups & associations                                  | 162 POs supported                                                  | 0                                                  | Institutional strengthening               |
| <b>Producer organizations with formal contracts (CI 2.2.3) (%)</b>  | 220 FO-buyer contracts                                                    | 33.3 of POs                                                        | 0                                                  | Partial achievement; contracts functional |
| <b>Average annual profit per producer organization (CI 2.2.2)</b>   | Increased enterprise profitability                                        | PKR 212,368 / year                                                 | Not applicable                                     | Strong VC outcome                         |
| <b>Households reporting improved market access (CI 2.2.6) (%)</b>   | Improved physical access to markets                                       | 91.3 (Agree + Strongly Agree)                                      | Not applicable                                     | FMR Impact Index                          |
| <b>Average time saved per market trip (hours)</b>                   | Reduced transaction costs                                                 | 3.5                                                                | –                                                  | Infrastructure-driven efficiency          |
| <b>Households with savings (%)</b>                                  | Improved resilience                                                       | 30.90                                                              | 26.00                                              | Income → savings pathway                  |
| <b>Households able to seek medical care when needed (%)</b>         | Improved well-being                                                       | 64.80                                                              | 55.10                                              | Welfare spillover effect                  |

| Summary Table E. COI Impact Scorecard (ETI-GB)                  |                                         |               |                                    |                                        |                                      |                                |                   |
|-----------------------------------------------------------------|-----------------------------------------|---------------|------------------------------------|----------------------------------------|--------------------------------------|--------------------------------|-------------------|
| Indicator Code / Name                                           | Indicator Definition (Log-frame / COI)  | Baseline      | Log-frame Target                   | Reference Value Treatment Group (2025) | Reference Value Control Group (2025) | Net Effect / Attribution       | Assessment Status |
| <b>CI 1.1.1 – Secure access to land</b>                         | Average irrigated land per HH (acres)   | 0.60 acres/HH | Expansion of irrigated landholding | 1.5 acres/HH                           | 0.60 acres/HH                        | +0.9 acres attributable to ETI | Exceeded          |
| <b>CI 1.2.1 – Improved access to land (%)</b>                   | HHs reporting improved land access      | 0.00          | 50,000 HHs expand access           | 89.20                                  | 70.20                                | +19.0 pp due to ETI-GB         | Exceeded          |
| <b>CI 1.1.3 – VACs accessing improved inputs (%)</b>            | HHs accessing inputs via VACs           | 0.00          | Increased institutional access     | 69.50                                  | Not observed                         | Institutional effect of VACs   | Achieved          |
| <b>CI 1.2.2 – Adoption of improved practices (%)</b>            | HHs adopting improved agri practices    | 0.00          | ≥50.00% HHs adopt                  | 78.50                                  | Negligible                           | Extension + VC driven adoption | Exceeded          |
| <b>CI 1.2.4 – Increased agri production (%)</b>                 | HHs reporting increased production      | 0.00          | ≥25.00% increase                   | 60.90                                  | 27.00                                | +33.9% pp attributable         | Exceeded          |
| <b>Logframe Income Indicator – Income incidence (%)</b>         | HHs increasing agri/rural income by ≥25 | 0.00          | ≥50% HHs                           | 86.60                                  | 73.00                                | +13.6% pp net impact           | Exceeded          |
| <b>Logframe Income Indicator – Median HH income (PKR/month)</b> | Average monthly HH income               | Not measured  | Increased income                   | 55,000                                 | 50,000                               | +10% income premium            | Achieved          |
| <b>Average agricultural income (PKR/month)</b>                  | Monthly agri income per HH              | 3,750         | Increase vs baseline               | 16,830                                 | 8,200                                | +105% treatment premium        | Exceeded          |
| <b>Average agricultural</b>                                     | Annual agri                             | 45,000        | ≥25% increase                      | 201,960                                | 98,400                               | +105% treatment                | Exceeded          |



| Indicator Code / Name                           | Indicator Definition (Log-frame / COI)    | Baseline      | Log-frame Target          | Reference Value Treatment Group (2025) | Reference Value Control Group (2025) | Net Effect / Attribution     | Assessment Status  |
|-------------------------------------------------|-------------------------------------------|---------------|---------------------------|----------------------------------------|--------------------------------------|------------------------------|--------------------|
| income (PKR/year)                               | income per HH                             |               |                           |                                        |                                      | premium                      |                    |
| CI 2.2.6 – Improved market access (%)           | HHS reporting reduced travel time / costs | Not meas-ured | Improved access           | 91.30                                  | N/A                                  | FMR-driven access gains      | Achieved           |
| CI 2.2.6 – Time saved per trip (hours)          | Avg. reduction in market travel time      | –             | Reduced transaction costs | 3.5 hours                              | –                                    | Infrastructure effect        | Achieved           |
| CI 2.1.3 – Producer organizations supported (#) | Functional VACs / POs established         | 0             | Establish POs             | 162 VACs                               | 0                                    | Institutional strengthening  | Achieved           |
| CI 2.1.4 – HHS affiliated with POs (#)          | HH members of VACs / POs                  | 0             | Increased membership      | 40,613 HHS                             | 0                                    | Scale effect of institutions | Achieved           |
| CI 2.2.3 – POs with buyer contracts (%)         | Formal FO–buyer linkages                  | 0.00          | 220 contracts             | 33.3 of POs                            | 0                                    | VC partially operational     | Partially Achieved |
| CI 2.2.2 – PO profitability (PKR/Year)          | Avg. annual profit per PO                 | 0.00          | Increased profits         | PKR 212,368 / year                     | N/A                                  | Strong VC outcome            | Exceeded           |
| CI 1.2.8 – Women dietary diversity (0-10)       | MDD-W score                               | Not meas-ured | ≥60.00 women              | DDS 9.07 /10                           | 8.95/10                              | Positive nutrition effect    | Achieved           |
| CI 1.2.9 – Nutrition & hygiene KAP              | Food hygiene behavior index               | Not meas-ured | Improved KAP              | FHBI 2.07                              | 1.89                                 | Behavioral change            | Achieved           |
| Welfare – Medical access (%)                    | HHS able to seek care when needed         | Limited       | Improved access           | 64.80                                  | 55.10                                | Welfare spillover            | Achieved           |
| Goal-level – Poverty reduction (%)              | HHS below poverty line (MPI)              | 34.60         | ≥15.00 reduction          | 28.23                                  | 29.77                                | Large poverty exit           | Achieved           |
| Resilience – HHS with savings (%)               | HHS reporting savings                     | Low           | Improved resilience       | 30.90                                  | 26.00                                | Income → savings pathway     | Achieved           |

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## LIST OF ABBREVIATIONS

| Abbreviation | Full Form                                           |
|--------------|-----------------------------------------------------|
| AICS         | Italian Agency for Development Cooperation          |
| AKRSP        | Aga Khan Rural Support Programme                    |
| COI          | Core Outcome Indicators                             |
| DDS          | Dietary Diversity Score                             |
| ETI-GB       | Economic Transformation Initiative Gilgit-Baltistan |
| FHBI         | Food Hygiene Behavior Index                         |
| FGD          | Focus Group Discussion                              |
| FMR          | Farm-to-Market Roads                                |
| GB           | Gilgit-Baltistan                                    |
| GBRSP        | Gilgit-Baltistan Rural Support Programme            |
| GGOB         | Government of Gilgit-Baltistan                      |
| HHS          | Households                                          |
| IFAD         | International Fund for Agricultural Development     |
| ILD          | Irrigation and Land Development                     |
| KAP          | Knowledge, Attitude and Practices                   |
| KII          | Key Informant Interview                             |
| Logframe     | Logical Framework                                   |
| MDD-W        | Minimum Dietary Diversity for Women                 |
| MPI          | Multidimensional Poverty Index                      |
| O&M          | Operations and Maintenance                          |
| P&DD         | Planning and Development Department                 |
| PCGS         | Partial Credit Guarantee Scheme                     |
| PO           | Producer Organization                               |
| ToC          | Theory of Change                                    |
| TORs         | Terms of Reference                                  |

## LIST OF ABBREVIATIONS

|        |                                                     |
|--------|-----------------------------------------------------|
| VAC    | Village Agriculture Cooperative                     |
| VC     | Value Chain                                         |
| VCD    | Value Chain Development                             |
| WUAs   | Water User Associations                             |
| AICS   | Italian Agency for Development Cooperation          |
| AKRSP  | Aga Khan Rural Support Programme                    |
| COI    | Core Outcome Indicators                             |
| DDS    | Dietary Diversity Score                             |
| ETI-GB | Economic Transformation Initiative Gilgit-Baltistan |
| FHBI   | Food Hygiene Behavior Index                         |
| FGD    | Focus Group Discussion                              |
| FMR    | Farm-to-Market Roads                                |
| GB     | Gilgit-Baltistan                                    |

# EXECUTIVE SUMMARY

## Purpose and Methodology

This impact assessment provides robust, multi-source evidence that the Economic Transformation Initiative – Gilgit-Baltistan (ETI-GB) has contributed to substantial and broadly shared improvements across the majority of its logframe and Core Outcome Indicators (COI). The assessment was designed to rigorously test programme results and validate its theory of change in one of Pakistan's most geographically constrained and climatically fragile regions.

A quasi-experimental mixed-methods design was employed, combining quantitative household survey data from 804 treatment and 786 control households with qualitative evidence drawn from Focus Group Discussions and Key Informant Interviews across all programme districts. Treatment-control comparisons allow attribution of observed differences to programme exposure, while qualitative insights contextualize and explain the pathways through which change occurred.

The findings demonstrate that ETI-GB's integrated approach; linking productive infrastructure, value chain development, institutional strengthening, and human capital investments has generated measurable and interrelated improvements in agricultural production, income, wellbeing, and poverty reduction.

## Productive Asset Expansion: The Foundation of Transformation

The most foundational achievement of ETI-GB lies in the expansion of the productive asset base available to beneficiary households. Irrigation and land development interventions converted previously barren and water-scarce land into irrigated, cultivable farmland, increasing average irrigated holdings from 0.60 acres (at baseline) to 1.50 acres—more than doubling productive capacity per household.

In the high-mountain context of Gilgit-Baltistan, where less than 2 percent of land is cultivable and water scarcity constitutes the principal binding constraint, such expansion represents structural transformation rather than incremental improvement. Access to agricultural land was reported by 89.2 percent of treatment households compared to 70.2 percent among non-beneficiaries, confirming that land development functioned as the precondition for subsequent gains in production and income.

The evidence validates the programme's foundational logic: expanding the productive asset base is the essential first step toward sustainable rural economic transformation in fragile mountain economies.

## From Subsistence to Surplus: Production and Productivity Gains

ETI-GB investments in irrigation, inputs, and farmer training were associated with significant increases in agricultural productivity. 60.9 percent of treatment households reported increased production compared to 27.0 percent among control households—a net treatment effect of nearly 34 percentage points, exceeding the programme's 25 percent logframe target.

These gains were not driven by a single input but by a coherent combination of expanded irrigated area, improved seed varieties, fertilizer use, strengthened agronomic practices, and coordinated value chain support. Within the Value Chain component, 86.3 percent of supported households reported increased production volumes, with many achieving substantial or very large gains.



Qualitative evidence confirms a broader behavioral shift: communities that previously produced primarily for household subsistence are now generating marketable surpluses, planning production cycles around demand, and investing in productivity-enhancing inputs. This transition from subsistence orientation to surplus generation represents one of the most significant qualitative transformations observed across programme districts.

### **Income Growth and Livelihood Strengthening**

Income outcomes represent one of the strongest dimensions of ETI-GB's results. 86 percent of beneficiary households reported income increases, an improvement from 73 percent recorded in the 2022 mid-term study, and nearly 60 percent of beneficiary households reported gains of 50 percent or more. The following summarizes the key treatment–control income differences:

Average monthly agricultural income among treatment households reached PKR 16,830, compared to PKR 8,200 among control households, and represents substantial growth from the 2014 baseline of PKR 3,750. Income gains were broadly distributed across intervention types and districts rather than concentrated among a small subset of beneficiaries.

Beyond income levels, the allocation of additional earnings reflects improvements in household wellbeing and forward-looking investment behavior. Additional income was directed toward children's education (64.8 percent), healthcare (48.0 percent), housing improvement (37.4 percent), and improved nutrition (31.2 percent). 31 percent of treatment households reported savings during the past year, compared to 26 percent among control households, and 26.8 percent reinvested savings into income-generating activities.

These patterns indicate not only higher incomes but improved financial resilience and the emergence of a reinvestment cycle that strengthens the sustainability of gains.

### **Market Access and the Next Structural Frontier**

Farm-to-Market Roads addressed one of the most binding structural constraints in Gilgit-Baltistan: geographic isolation. Beneficiaries reported average time savings of 3.5 hours per market trip, and the Farm-to-Market Roads Impact Index reached 91.3 percent. Reduced travel times, lower transport costs, and improved physical accessibility were consistently cited across districts.

Commercialization effects are evident in higher engagement across marketing channels among treatment households and the emergence of cooperative-based marketing mechanisms. The findings confirm that physical connectivity functions as a core economic enabler: without accessible roads, productivity gains cannot translate into sustainable income growth.

However, as agricultural surpluses increase, the evidence suggests that connectivity alone is no longer the primary bottleneck. Discussions during the dissemination workshop and qualitative interviews indicate that the absence of formal, regulated wholesale market infrastructure within Gilgit-Baltistan is emerging as the next structural constraint. While roads facilitate access to existing markets, the region lacks structured auction platforms and aggregation facilities comparable to those in other provinces.

As commercialization deepens, particularly in horticulture and high-value crops, investment in organized wholesale market infrastructure may represent the next logical evolution of the programme's productive infrastructure strategy, accelerating the infrastructure-to-livelihood cycle.

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## Institutional Strengthening and Participatory Governance

ETI-GB's establishment of 162 Village Agriculture Cooperatives (VACs), with 40,613 members across ten districts, has created a structured platform for collective production, marketing, and service delivery. Beyond economic coordination, VACs serve as governance mechanisms enabling participatory decision-making, collective price negotiation, quality control, and engagement with external stakeholders.

Qualitative evidence confirms that Social Mobilization Teams, Water User Associations, and cooperative committees strengthened local ownership and transparency. In districts where regular meetings, financial records, and inclusive participation were maintained, trust and collective action were significantly stronger.

VACs operate within a broader public-private-community development architecture involving line departments (Agriculture, Irrigation, Livestock), local government structures, prominent regional NGOs, and private buyers. This multi-layered partnership model represents a promising institutional innovation for rural development in mountain contexts.

At the same time, institutional maturity varies across districts. Differences in leadership capacity, financial management, documentation practices, and inclusion require differentiated post-project mentoring and governance strengthening to consolidate gains.

## Nutrition, Wellbeing, and Poverty Reduction

Programme impacts extended beyond economic indicators. Improvements in women's dietary diversity, food hygiene practices, nutrition knowledge, and healthcare access demonstrate that income and production gains translated into broader wellbeing improvements.

81.6 percent of beneficiary households perceived improvement in child health and nutrition, and 64.8 percent reported full ability to access medical care when needed (compared to 55.1 percent among control households). Multidimensional Poverty Index analysis confirms measurable poverty reduction, with the poverty headcount declining to 28.23 percent among treatment households—below both control households and the provincial benchmarks.

These findings demonstrate that ETI-GB contributed to multidimensional improvements in household wellbeing in a structurally constrained mountain environment.

## Emerging Challenges and Areas Requiring Attention

While overall performance is strong, several structural challenges require continued attention:

- The slow pace and complexity of land development in contexts where secure land tenure arrangements are incomplete.
- The risk of plant disease transmission through the unchecked import of uncertified planting material.
- Variability in cooperative governance capacity across districts.
- The need to formalize operation and maintenance arrangements for irrigation and other shared infrastructure.
- Emerging constraints in wholesale market absorption as surpluses increase.

Addressing these issues will require continued engagement from ETI-GB and coordinated action by the Government of Gilgit-Baltistan.

## Overall Assessment and Replicability

The overall approach and methodology of ETI-GB are sound and empirically validated. The assessment team finds that the programme's integrated design, which combined productive asset expansion, value chain development, institutional strengthening, and human capital investment, has operated as an effective theory of change in a remote, high-altitude context.

The model demonstrates that integrated, asset-based, market-oriented rural development can generate sustained and broadly shared economic transformation in marginalized mountain regions. Based on the strength of quantitative and qualitative evidence, the assessment team endorses the ETI-GB model with confidence and concludes that it holds strong potential for replication and adaptation in other geographically isolated and economically constrained settings within Pakistan and comparable regions internationally.

ETI-GB stands as a compelling example of how coordinated investment in infrastructure, institutions, and livelihoods can translate into durable transformation in fragile rural economies.

# INTRODUCTION AND BACKGROUND

## 1. Programme Overview

The Economic Transformation Initiative, Gilgit-Baltistan (ETI-GB) is a flagship development programme of the Government of Gilgit-Baltistan, supported by the International Fund for Agricultural Development (IFAD) and the Italian Ministry of Foreign Affairs and International Cooperation, through the Italian Agency for Development Cooperation (AICS). The programme aims to improve incomes, reduce poverty and malnutrition across Gilgit-Baltistan, with a total investment of USD 133.72 million (IFAD USD 67.00 million, AICS USD 21.12 million, GoGB USD 23.63 million, and beneficiary contribution USD 21.97 million). ETI-GB was originally approved for seven years, starting from 2015 to 2022, at USD 120.15 million, and was later extended to 2029 with the approval of the Executive Committee of the National Economic Council (ECNEC) in March 2025. The programme aims to benefit 100,000 rural households through three mutually reinforcing components: economic infrastructure development, support services for value chain development, program management, and policy support.

## 2. Rationale and Objectives of the Impact Assessment

To systematically assess the outcomes and emerging impacts of ETI-GB, an impact assessment study was conducted in 2025. The primary purpose of the assessment was to examine changes in the socio-economic conditions and living standards of beneficiary households and to assess the extent to which these changes can be attributed to ETI-GB interventions.

The assessment also aimed to capture beneficiaries' perceptions of project-induced change and to generate lessons that can inform future programme design, scaling, and policy engagement in Gilgit-Baltistan and similar mountain contexts. Data collection for the study was carried out between October and November 2025, and the findings presented in this report are based on a detailed analysis of quantitative and qualitative data collected during this period.

## 3. Programme Components and Intervention Design

ETI-GB adopts an integrated approach to rural economic transformation by combining investments in productive infrastructure with improved market access and institutional strengthening. The programme's core intervention areas include Irrigation and Land Development (ILD), Farm-to-Market Roads (FMRs), and rural bridges, which together aim to enhance agricultural productivity, connectivity, and livelihoods across Gilgit-Baltistan. Under the ILD component, 88 schemes have been completed, resulting in the development of 42,238 acres of command area and directly benefiting 30,506 households. These investments have significantly expanded irrigated land, improved water availability, and strengthened the productive base of rural households. To improve physical connectivity and access to markets and services, ETI-GB has completed 92 FMR schemes, covering a total length of 434.7 kilometers. These road investments have enhanced mobility and market integration for an estimated 15,476 households, reducing transport costs and post-harvest losses while improving access to inputs, markets, and essential services. In addition, the programme has completed 13 rural bridge schemes, with a cumulative bridge length of 388.15 meters. These bridges have played a critical role in improving year-round connectivity, particularly in remote and geographically constrained areas, facilitating safer movement of people and goods and strengthening linkages between villages and markets.

Complementing physical infrastructure, 162 value chain development initiatives have been implemented across Gilgit-Baltistan, reaching 40,613 households. These interventions support



producer organizations, improve access to quality inputs, promote nursery and orchard development, and strengthen market linkages, with particular attention to women and disadvantaged groups.

#### **4. Integrated Approach, Participatory Governance & Contribution (Rural Transformation)**

ETI-GB has been designed as an integrated rural development programme aimed at addressing the structural constraints that shape livelihoods in the mountainous context of Gilgit-Baltistan. Given the region's fragile ecology, dispersed settlements, limited infrastructure, and market isolation, rural transformation requires coordinated interventions rather than isolated investments. ETI-GB responds to this challenge through a comprehensive design that simultaneously addresses water availability, land productivity, physical connectivity, institutional capacity, and market access. Integrating irrigation and land development, farm-to-market roads, value chain support, and community-level institutional strengthening, the programme seeks to create an enabling environment for sustained agricultural growth, income diversification, employment generation, and inclusive rural development.

A central pillar of ETI-GB's approach is its participatory and community-led implementation model. The programme incorporates VACs, Scheme Management Teams (SMTs), and other community-based structures into processes of planning, coordination, implementation oversight, and local governance. This institutional architecture is intended to ensure that investments are aligned with local priorities, that communities remain directly engaged in implementation processes, and that transparency and accountability are embedded within programme delivery mechanisms. In the geographically complex and institutionally diverse setting of Gilgit-Baltistan, such governance arrangements are particularly significant. Participatory implementation structures are designed not only to facilitate efficient delivery of infrastructure and livelihood interventions, but also to strengthen local ownership, stewardship of public assets, and long-term sustainability. Embedding community institutions within programme operations, ETI-GB aims to reinforce local capacities and promote resilience beyond the immediate lifecycle of project support.

The impact assessment presented in this report examines the extent to which these objectives are being realized and explores the pathways through which ETI-GB interventions contribute to socio-economic change in Gilgit-Baltistan.

# METHODOLOGY

## 1. Design of Impact Assessment

The impact assessment applies a quasi-experimental design to assess the extent to which observed changes in household welfare, agricultural performance, and market engagement can be attributed to the ETI-GB. Given the nature of the programme, comprising large-scale, area-based infrastructure interventions such as irrigation and land development, farm-to-market roads, and associated value chain support, random assignment was neither feasible nor appropriate. The assessment therefore relies on a treatment-control comparison framework to establish a credible counterfactual.

Treatment households were selected from villages where ETI-supported interventions had been completed and were operational at the time of the study. Control households were drawn from villages with comparable agroecological conditions, livelihood systems, and market access constraints, but without exposure to ETI interventions. The conceptual logic of this design, including the relationship between ETI inputs, intermediate outcomes, and longer-term impacts, is illustrated in the impact assessment conceptual framework presented in Figure 1.

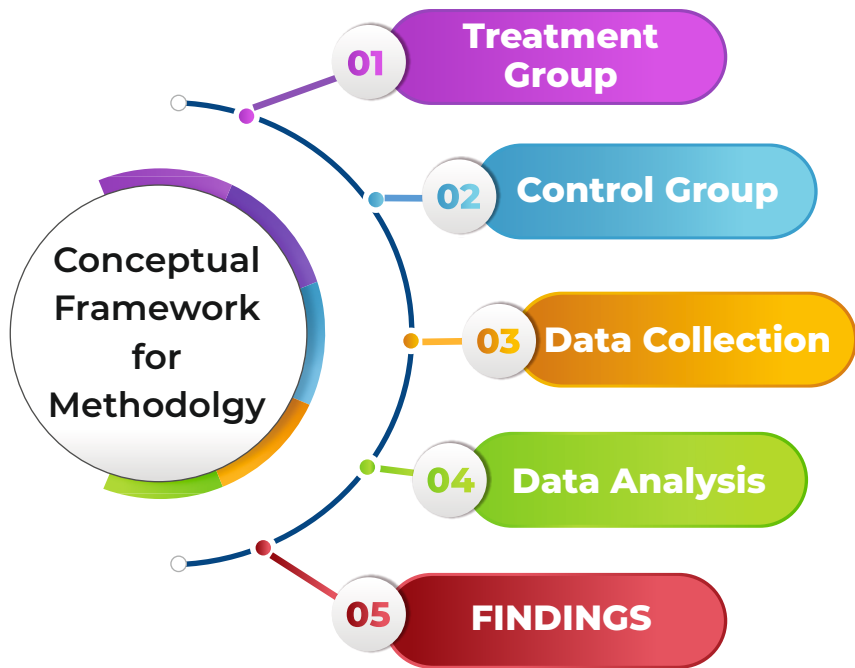


Figure 1. Conceptual Framework

The use of control groups provides a reference point for distinguishing programme effects from broader trends affecting Gilgit-Baltistan, including climatic variability, migration patterns, price fluctuations, and parallel investments unrelated to ETI. Without a valid comparison group, changes in income, productivity, food security, or mobility could not be confidently attributed to ETI support. By combining treatment-control comparisons with triangulation from qualitative evidence, the assessment strengthens causal inference while remaining consistent with the operational realities of infrastructure-led rural development.

## 2. Sampling Framework

The sampling framework is designed to ensure adequate representation of ETI-GB interventions while enabling statistically and analytically valid comparisons between beneficiary and non-

beneficiary populations. The approach follows the parameters defined in the inception report and reflects the geographical spread, intervention diversity, and implementation status of ETI-supported activities at the time of data collection.

District selection focuses on areas where ETI-supported irrigation and land development schemes, farm-to-market roads, and value chain interventions are operational or functionally active. The selected districts capture variation in agroecological conditions, livelihood systems, and market access contexts across Gilgit-Baltistan. Within each selected district, treatment villages are identified using official programme records confirming that interventions are completed and in use. Control villages are selected from neighboring or comparable areas within the same districts that share similar agroecological characteristics, production systems, and market access conditions but have not received ETI support. This approach ensures that observed differences between treatment and control groups can reasonably be attributed to programme interventions rather than underlying contextual variation.

Household sampling within villages is conducted using beneficiary registers for treatment communities and complete household listings for control communities. Treatment households are proportionately sampled to reflect actual exposure to irrigation and land development, value chain support, and farm-to-market road influence zones, including households benefiting from single interventions as well as those exposed to multiple ETI components. Control households are randomly selected to mirror, as closely as possible, the demographic and agricultural characteristics of treatment households.

### 3. Study Population

For the purpose of this impact assessment, ETI-GB interventions were grouped into the following categories of project support:

- Irrigation and Land Development (ILD)
- Farm-to-Market Roads (FMR)
- Value Chain Development (VC)

Beneficiary households have received either a single type of support (e.g. ILD only, FMR only, VC only) or a combination of supports (e.g. ILD+FMR, ILD+VC, FMR+VC, or ILD+FMR+VC). As project monitoring systems recorded aggregated beneficiary numbers by component, but not consistently by overlapping intervention types, a consolidated beneficiary profiling dataset of households was used to estimate the distribution of beneficiaries across single and multiple intervention categories. The study population was therefore defined as beneficiary households listed in the official ETI-GB beneficiary records for ILD, FMR, and VC interventions with completed schemes and active production outcomes. In addition, households benefiting from multiple ETI-GB interventions were included in the sample in proportion to their estimated share in the overall beneficiary population to ensure adequate representation of combined intervention effects.

### 4. Sampling Design and Sample Distribution

The impact assessment applies a probability-based, multi-stage sampling design to ensure that households within the defined study population have an equal chance of selection and that treatment–control comparisons are statistically and analytically robust. The sampling design is adapted to the structure and delivery modalities of ETI-GB interventions, which combine area-based infrastructure investments with household- and group-level support across multiple components.

At the first stage, primary sampling units are defined as completed or functionally active ETI-supported schemes and institutions. These include irrigation and land development schemes, farm-to-market road schemes and associated influence zones, and value chain institutions such as Village Agriculture Cooperatives. Primary sampling units are selected using probability proportional to size, based on official ETI-GB records of completed infrastructure schemes and supported value chain initiatives across districts. For value chain interventions, where multiple commodities are supported, disproportionate sampling of primary sampling units is applied to ensure adequate representation of major commodities.

At the second stage, households are selected as ultimate sampling units using a stratified approach. Households are first stratified by intervention exposure, including single-component support and combinations of irrigation and land development, farm-to-market roads, and value chain interventions. Within each intervention stratum, proportional allocation is applied at the district level to ensure geographic representation across Astore, Diamer, Ghanche, Ghizer, Hunza, Skardu, Shigar, Nagar, Gilgit, and Kharmang. Households are then randomly selected from official beneficiary lists within each district, thereby minimizing selection bias and ensuring that each eligible household has an equal probability of inclusion. The distribution of sampled treatment households across districts and intervention exposure categories is presented in Table 1.

|              | Only ILD   |             | Only FMR   |             | Only VC    |             | ILD+FMR   |             | ILD+VC   |             | FMR+VC    |             | ILD+FMR+VC |             | Total      |            |
|--------------|------------|-------------|------------|-------------|------------|-------------|-----------|-------------|----------|-------------|-----------|-------------|------------|-------------|------------|------------|
| District     | N          | %           | N          | %           | N          | %           | N         | %           | N        | %           | N         | %           | N          | %           | N          | %          |
| Astore       | 25         | 17.48       | 44         | 16.60       | 27         | 8.97        | 13        | 30.95       | 0        | 0.00        | 6         | 27.27       | 2          | 9.09        | 117        | 14.55      |
| Diamer       | 58         | 40.56       | 63         | 23.77       | 35         | 11.63       | 4         | 9.52        | 4        | 44.44       | 1         | 4.55        | 9          | 40.91       | 174        | 21.64      |
| Ghanche      | 25         | 17.48       | 58         | 21.89       | 31         | 10.30       | 17        | 40.48       | 0        | 0.00        | 7         | 31.82       | 2          | 9.09        | 140        | 17.41      |
| Ghizer       | 35         | 24.48       | 96         | 36.23       | 30         | 9.97        | 7         | 16.67       | 0        | 0.00        | 1         | 4.55        | 0          | 0.00        | 168        | 20.90      |
| Gilgit       | 0          | 0.00        | 0          | 0.00        | 18         | 5.98        | 0         | 0.00        | 2        | 22.22       | 0         | 0.00        | 4          | 18.18       | 24         | 2.99       |
| Hunza        | 0          | 0.00        | 0          | 0.00        | 46         | 15.28       | 0         | 0.00        | 2        | 22.22       | 1         | 4.55        | 2          | 9.09        | 51         | 6.34       |
| Kharmang     | 0          | 0.00        | 0          | 0.00        | 17         | 5.65        | 0         | 0.00        | 0        | 0.00        | 0         | 0.00        | 0          | 0.00        | 17         | 2.11       |
| Nagar        | 0          | 0.00        | 1          | 0.38        | 32         | 10.63       | 0         | 0.00        | 0        | 0.00        | 0         | 0.00        | 0          | 0.00        | 33         | 4.10       |
| Shigar       | 0          | 0.00        | 3          | 1.13        | 27         | 8.97        | 0         | 0.00        | 1        | 11.11       | 3         | 13.64       | 1          | 4.55        | 35         | 4.35       |
| Skardu       | 0          | 0.00        | 0          | 0.00        | 38         | 12.62       | 1         | 2.38        | 0        | 0.00        | 3         | 13.64       | 2          | 9.09        | 45         | 5.60       |
| <b>Total</b> | <b>143</b> | <b>0.25</b> | <b>265</b> | <b>0.00</b> | <b>301</b> | <b>0.00</b> | <b>42</b> | <b>0.00</b> | <b>9</b> | <b>0.00</b> | <b>22</b> | <b>0.00</b> | <b>22</b>  | <b>0.00</b> | <b>804</b> | <b>100</b> |

For the control group, households are selected from villages within the same districts where no ETI-GB interventions are implemented. Control villages are purposively identified to match treatment villages in terms of agroecological conditions, livelihood systems, and market access characteristics. Within selected control villages, households are randomly sampled using complete household listings. A consolidated overview of treatment and control samples by district is provided in Table 2. This summary demonstrates balance in geographic representation between the two groups and supports the validity of subsequent treatment-control comparisons across the outcome indicators analyzed in the assessment.



| Table 2. Summary of Sampling Distribution |                 |               |               |               |
|-------------------------------------------|-----------------|---------------|---------------|---------------|
| District Name                             | Treatment Group |               | Control Group |               |
|                                           | N               | (%)           | N             | (%)           |
| Astore                                    | 117             | 14.55         | 107           | 13.61         |
| Diamer                                    | 174             | 21.64         | 174           | 22.14         |
| Ghanche                                   | 140             | 17.41         | 139           | 17.68         |
| Shigar                                    | 35              | 4.35          | 33            | 4.20          |
| Ghizer                                    | 168             | 20.90         | 164           | 20.87         |
| Gilgit                                    | 24              | 2.99          | 22            | 2.80          |
| Nagar                                     | 33              | 4.10          | 32            | 4.07          |
| Hunza                                     | 51              | 6.34          | 48            | 6.11          |
| Skardu                                    | 45              | 5.60          | 51            | 6.49          |
| Kharmang                                  | 17              | 2.11          | 16            | 2.04          |
| <b>Total</b>                              | <b>804</b>      | <b>100.00</b> | <b>786</b>    | <b>100.00</b> |

## 5. Data Collection Methods

The impact assessment employed a mixed-methods data collection approach that integrates quantitative and qualitative tools to capture both measurable outcomes and contextual, behavioral, and institutional dimensions of ETI-GB interventions. Data collection was implemented across all sampled districts in accordance with the methodology approved in the inception report and is designed to support triangulation across evidence streams.

Prior to the commencement of fieldwork, a comprehensive three-day enumerator training was conducted to ensure accuracy, consistency, and adherence to research protocols. The training covered a detailed review of the survey instruments, interview techniques, ethical considerations including informed consent procedures, gender-sensitive interviewing approaches, digital data entry protocols (where applicable), and quality assurance mechanisms. Special emphasis was placed on accurate recording of agricultural production, income, and enterprise-related information to minimize measurement errors. Role-playing exercises and mock interviews were conducted to enhance enumerators' familiarity with the questionnaire structure and skip patterns. Following the training, a pilot test of the survey instruments was carried out in a non-sampled community with characteristics similar to the study areas. The pilot testing aimed to assess the clarity, sequencing, timing, and contextual relevance of questions, as well as the functionality of data collection tools. Based on feedback from the pilot exercise, necessary refinements were made to improve question wording, response categories, and field procedures. This preparatory process strengthened data reliability, ensured contextual appropriateness, and enhanced overall data quality prior to full-scale implementation.

Quantitative data were collected through a structured household survey administered to treatment and control households. The survey captured information on household demographics, landholding and land use, access to irrigation, agricultural production and yields, livestock ownership, participation in value chain activities, enterprise engagement, market access, income sources, expenditure patterns, savings behavior, food security, health, and education outcomes. A separate women-focused questionnaire was administered within sampled households to capture gender-specific information, including dietary diversity, food consumption practices, access to health services, women's workload, and participation in economic activities. Additional modules on agriculture, livestock, and enterprise activities collected detailed information on inputs, practices, costs, revenues, and constraints to adoption. These data formed the primary basis for treatment-control comparisons and disaggregated analysis by intervention exposure. Income values are reported in nominal terms and were not adjusted for inflation; therefore, changes over time should be interpreted with prevailing macroeconomic conditions in mind.

Qualitative data was collected to complement and contextualize the household survey findings and to explain observed patterns and variations across districts and intervention types. Ten Focus Group Discussions (FGDs) were conducted in selected project locations representing different districts and intervention combinations. Focus Group Discussions were conducted to examine changes in agricultural production, income and livelihoods, market access and road usability, access to services, gender participation, collective action, institutional arrangements, and perceptions of sustainability. Semi-structured discussion guides were used to ensure consistency across sites while allowing participants to articulate their experiences in their own terms.

Eight Key Informant Interviews (KIIs) were conducted with representatives of relevant government departments and implementing partners, including the Communications & Works Department, Planning and Development Department, Agriculture Extension, Irrigation and Water Management, Cooperative Department, Board of Revenue, and implementing organizations such as AKRSP and GBRSP. These interviews explored institutional roles, coordination mechanisms, implementation processes, policy alignment, operational constraints, and prospects for sustainability and scale-up. Additionally, the KIIs provided insights into how ETI-GB interventions are embedded within provincial development systems and how institutional factors influence outcomes and long-term viability.

Field observations were undertaken in all visited locations to document the physical condition and functionality of irrigation schemes, command areas, farm-to-market roads, nurseries, orchards, enterprise units, and related infrastructure. Observations also covered water distribution practices, operation and maintenance arrangements, exposure to environmental hazards, accessibility to markets and services, and the activity level of community institutions. These observations were systematically recorded and used to verify and contextualize information obtained through surveys, FGDs, and KIIs. Together, the household survey, FGDs, KIIs, MSC stories, and field observations form a coherent body of evidence that enables triangulation across data sources. This integrated approach strengthens the robustness of findings, supports causal interpretation, and ensure that quantitative results are interpreted in light of local realities, institutional dynamics, and implementation conditions.



## GLIMPSES OF STUDY IMPLEMENTATION PROCESS





# KEY FINDINGS

## 1. Income Outcomes – Overview

Before moving into the detailed analysis of production systems and productivity drivers, it is useful to summarize the overall income findings of ETI-GB under a consolidated treatment–control framework. Section 3.1 has demonstrated strong and consistent evidence of income improvement across multiple dimensions, incidence, magnitude, observed income levels, sectoral agricultural gains, and utilization patterns.

At the aggregate level, 86.6 percent of beneficiary households reported an increase in income, substantially exceeding the programme's 50 percent benchmark. Nearly 60 percent of them experienced income growth of 50 percent or more, indicating that income gains were not marginal but substantial in scale. Median monthly income among treatment households reached PKR 55,000, compared to PKR 50,000 among control households. Within the treatment group, median income increased by PKR 14,156 between 2022 and 2025, confirming that perceived income gains are reflected in measurable economic improvements.

Agricultural income shows an even stronger differential. Treatment households report average monthly agricultural income of PKR 16,830 compared to PKR 8,200 among control households—a 105 percent advantage. These gains are directly associated with irrigation expansion, productivity improvements, and value chain integration.

Income utilization patterns further demonstrate welfare and resilience effects. A majority of households allocated additional income toward education (64.8 percent) and health (48 percent), while substantial shares invested in housing, nutritious food, and productive farm or business activities. Savings behavior also indicates emerging financial resilience, with treatment households more likely to allocate savings toward productive reinvestment.

## 2. Analysis of Income

ETI-GB was designed to improve the economic well-being of rural households by increasing incomes, reducing poverty, and contributing to improved nutrition outcomes. The programme's strategy combined investments in agricultural productivity, rural infrastructure, and value chain development, with the expectation that these complementary interventions would expand income-earning opportunities, enhance market access, and strengthen household livelihood security in a geographically constrained mountain context.

This section assesses the extent to which income-related objectives have been achieved. While the programme's core log-frame indicator, requiring that at least 50 percent of beneficiary households and value chain operators increase their agricultural income by a minimum of 25 percent, serves as an important reference point, the analysis extends beyond simple target verification. It examines changes in both overall household income and agricultural income over time, compares findings with baseline and 2022 data, and analyzes treatment–control differentials to assess relative programme effects. In doing so, the section provides a comprehensive evaluation of both the incidence and magnitude of income change associated with ETI-GB interventions.

A mixed-methods approach underpins the assessment to ensure analytical robustness. Quantitative analysis measures the extent and depth of income change across beneficiary and control groups, while qualitative evidence from Focus Group Discussions and Key Informant Interviews is used to interpret mechanisms, contextual variation, and distributional effects. This triangulation enables the analysis to move beyond reported income increases and examine how



gains were generated, how they differ across intervention combinations and household types, and how they contribute to broader livelihood dynamics in rural Gilgit-Baltistan.

### 3. Impact on Overall Household Income

The assessment of overall household income under ETI-GB indicates a strong and widespread pattern of perceived income improvement among beneficiary households. As illustrated in Figure 2, 86.6 percent of supported households reported an increase in their overall income, suggesting that income gains were experienced by a substantial majority of programme participants. This high incidence of reported improvement indicates that income growth was not confined to isolated cases but was broadly distributed across intervention areas.

Beyond incidence, the depth of income change further reinforces the magnitude of perceived gains. Nearly half of beneficiaries (48.70 percent) reported income increases in the range of 50–99 percent, representing the largest category of respondents. An additional 30.35 percent experienced increases between 20–49 percent, while 10.84 percent reported income growth of 100 percent or more. Only 10.12 percent reported increases below 20 percent. When aggregated, close to 60 percent of beneficiary households perceived income growth of 50 percent or more, indicating that a significant share of households experienced sizeable improvements rather than marginal gains.

Taken together, the distribution presented in Figure 2 reflects both high incidence and meaningful magnitude of perceived income change among programme beneficiaries. While self-reported measures must be interpreted with due consideration of perception bias, the consistency and concentration of responses in higher growth categories suggest that ETI-GB interventions were associated with notable improvements in household economic conditions, in line with the programme's income-enhancement objective.

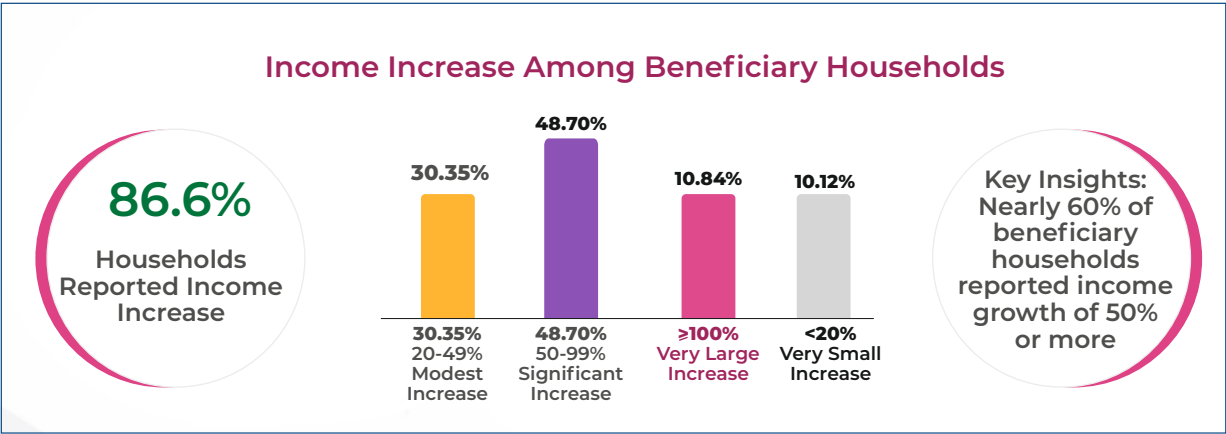


Figure 2. Households reported perceived income increased

To assess changes in household income, sampled beneficiary households were asked whether ETI-GB interventions had contributed to an increase in their overall income and, where applicable, the approximate percentage range of that increase. This approach captures both the incidence of reported income growth and its perceived magnitude, allowing the analysis to distinguish between widespread but modest gains and more substantial improvements. The resulting distribution, presented earlier in Figure 2, provides a structured overview of how income change is perceived across the beneficiary population and forms the basis for deeper comparative analysis over time and across intervention modalities.

While perception-based reporting offers insight into household-level experience, it is important to situate these findings within a temporal and intervention-specific context. Table 3 therefore compares the proportion of households reporting income increases in 2022 and 2025, disaggregated by intervention type. This comparison enables assessment of whether income gains have expanded, consolidated, or varied across different intervention combinations as the programme matured.

| <b>Table 3. Households Reporting Income Increase (2022 vs 2025)</b> |                         |                 |
|---------------------------------------------------------------------|-------------------------|-----------------|
| <b>Category</b>                                                     | <b>2022<sup>1</sup></b> | <b>2025 (%)</b> |
| <b>Overall</b>                                                      | 73                      | 86.57           |
| <b>Intervention Type</b>                                            |                         |                 |
| <b>ILD only</b>                                                     | 59                      | 70.63           |
| <b>FMR only</b>                                                     | 76                      | 88.30           |
| <b>VC only</b>                                                      | 86                      | 94.31           |
| <b>ILD + FMR</b>                                                    | 62                      | 69.05           |
| <b>ILD + VC</b>                                                     | 85                      | 82.47           |
| <b>ILD + FMR + VC</b>                                               | 79                      | 84.41           |

Comparison with the 2022 findings indicates a clear upward trend in the proportion of households reporting income increases by 2025. At the aggregate level, the share of beneficiary households reporting income growth rose from 73 percent in 2022 to 86.57 percent in 2025, suggesting that income gains became more widespread as the programme progressed. This expansion in reported income improvement points to consolidation of programme effects over time rather than a one-time or localized impact.

Disaggregation by intervention modality reveals differentiated performance across components. The strongest results in 2025 are observed among households receiving value chain support only, where the proportion reporting income increases rose from 86 percent to 94.31 percent. Households benefiting from farm-to-market roads also show substantial gains, increasing from 76 percent to 88.30 percent. These patterns underscore the importance of market access and value chain integration in translating production improvements into realized income growth. Integrated intervention packages demonstrate positive though more moderate gains. The ILD + FMR + VC category increased from 79 percent to 84.41 percent, while ILD + FMR rose from 62 percent to 69.05 percent, and ILD only improved from 59 percent to 70.63 percent. Although the scale of change varies across categories, the direction of change is consistently upward, indicating that income gains strengthened across most intervention types over time.

While these findings confirm a broad-based increase in the incidence of reported income growth, it is important to examine whether perceived gains are reflected in measurable income differentials. Figures 3 & 4 therefore compare median monthly income levels between treatment

<sup>1</sup> ETI Impact Assessment Report 2022

and control households and track changes in treatment group income over time, allowing the analysis to move from reported incidence to observed income levels.

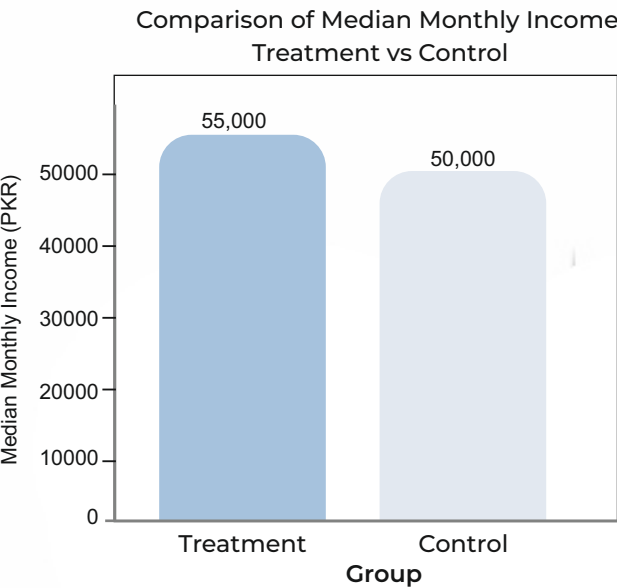


Figure 3. Comparison of Median Monthly Income

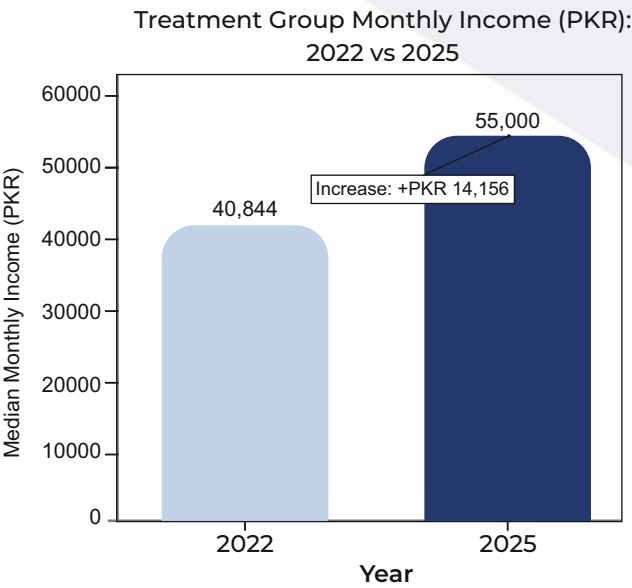
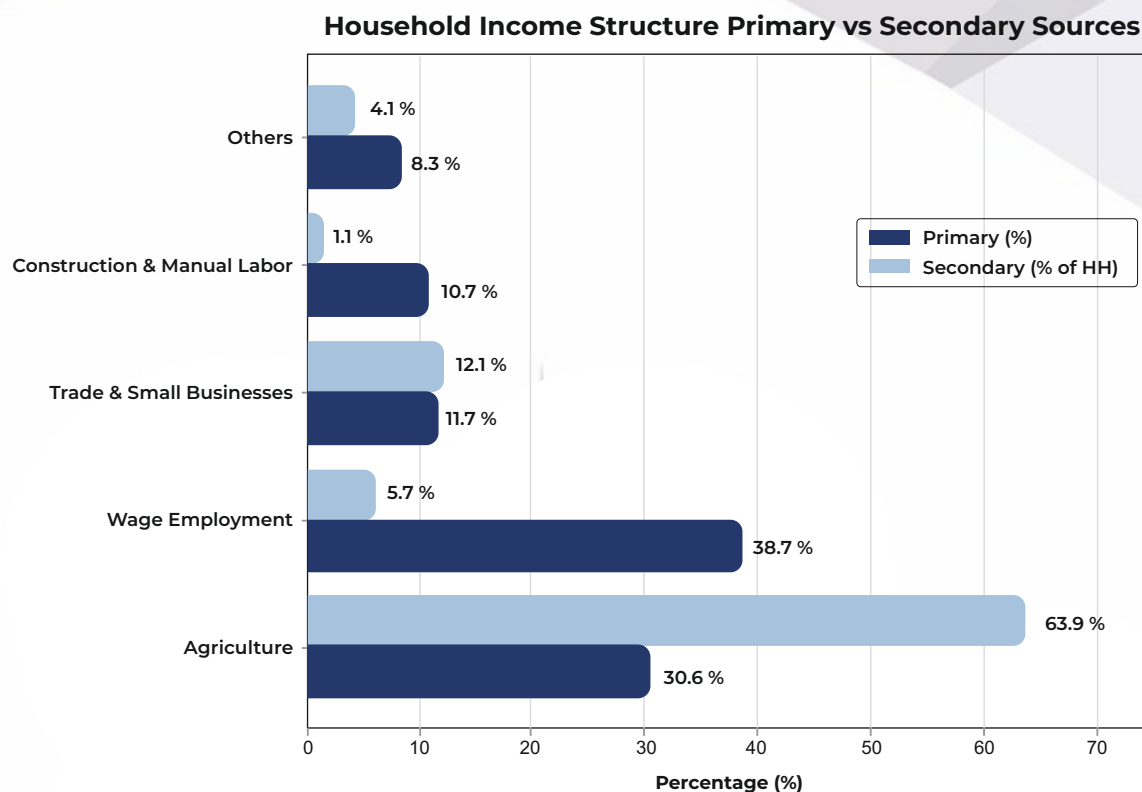


Figure 4. Treatment Group Monthly Income (PKR): 2022 vs 2025

To move beyond reported incidence of income change and assess whether perceived gains correspond to observable income differentials, median monthly income levels were compared across treatment and control groups, as illustrated in Figure 3. The median monthly income among treatment households in 2025 is PKR 55,000, compared to PKR 50,000 among control households. The observed difference of PKR 5,000 indicates a measurable income advantage among beneficiary households relative to comparable non-beneficiaries. While median comparisons do not establish causality in isolation, the treatment–control differential provides supporting evidence that programme participation is associated with higher income levels.

Figure 3 also presents changes in median monthly income within the treatment group over time. Median income increased from PKR 40,844 in 2022 to PKR 55,000 in 2025, representing an absolute rise of PKR 14,156 during the programme period. This upward shift suggests that income improvements are not only widely perceived but are also reflected in measurable growth in income levels among beneficiary households. Taking together with the incidence data presented earlier, the median income analysis supports and strengthens the conclusion that ETI-GB interventions are associated with tangible improvements in household economic outcomes.



*Figure 5. Income Source*

To better understand the structure of household livelihoods and the channels through which income gains occur, the distribution of primary and secondary income sources was examined, as shown in Figure 5. The results indicate a diversified livelihood profile in which wage employment constitutes the largest share of primary income (38.7 percent), followed by agriculture (30.6 percent). Trade and small businesses (11.7 percent) and construction or manual labour (10.7 percent) also contribute meaningfully to primary earnings.

However, the role of agriculture becomes more pronounced when secondary income sources are considered. Agriculture accounts for 63.9 percent of secondary income activities, indicating that it serves as a critical supplementary income base for a large proportion of households. This pattern suggests that improvements in agricultural productivity and market access can generate spillover effects beyond primary earnings, supporting income smoothing, seasonal resilience, and livelihood diversification. Trade also appears as a secondary income source (12.1 percent), reflecting the interconnected nature of rural economic activities.

Qualitative evidence from Focus Group Discussions and field observations helps interpret these patterns. Beneficiaries across several intervention districts reported that irrigation and land development expanded cultivable areas, improved crop reliability, and reduced production risks. Farm-to-market roads were described as facilitating more regular market engagement, while value chain supports improved product quality and price realization in selected areas. At the same time, qualitative findings indicate that the degree of transition toward market-oriented agriculture varies across locations and is strongly influenced by water reliability, land utilization rates, and the maturity of cooperative marketing arrangements. Rather than a uniform structural shift, the evidence suggests an expansion of market participation opportunities, with agriculture increasingly functioning as both a primary and complementary source of cash income.



In addition to production-related gains, ETI-GB interventions have generated employment effects through their participatory and labor-intensive implementation approach. The programme is estimated to have created approximately 6.948 million person-days of employment over its life cycle, providing direct wage income during infrastructure development while also contributing to skill acquisition and local employability. These employment effects represent an additional income pathway that complements agricultural and market-based gains.

Taken together, the evidence indicates that ETI-GB has influenced household income through multiple reinforcing channels, including agricultural productivity, improved market integration, and short- to medium-term employment generation. While the magnitude of these effects varies across districts and intervention combinations, the overall pattern reflects strengthened livelihood diversification and enhanced economic resilience among beneficiary households in Gilgit-Baltistan.

#### 4. Impact on Agricultural Income

Agricultural income trends indicate substantial improvement over time, alongside a clear income differential between beneficiary and non-beneficiary households, as illustrated in Figure 5. At the 2014 baseline, average monthly agricultural income stood at PKR 3,750. By 2022, this had increased to PKR 12,253, more than three times the baseline level, reflecting significant growth during the programme period. By 2025, treatment households report an average monthly agricultural income of PKR 16,830, representing an additional increase of approximately 37 percent compared to 2022. In contrast, control households in 2025 report an average monthly agricultural income of PKR 8,200. The observed difference of PKR 8,630 indicates a substantial treatment-control gap, with beneficiary households earning approximately 105 percent more in agricultural income than comparable non-beneficiaries.<sup>2</sup>

These results exceed the programme's core outcome indicator, which requires that at least 50 percent of beneficiary households and value chain operators increase agricultural income by a minimum of 25 percent. The growth observed between baseline and 2022 alone surpasses this threshold, and the further increase between 2022 and 2025 strengthens the conclusion that the agricultural income target has been achieved. However, while quantitative evidence confirms strong aggregate gains, qualitative findings suggest that the magnitude and sustainability of these improvements vary across locations and depend on enabling conditions such as water reliability, land utilization, and market access.



<sup>2</sup> Income values are nominal and not adjusted for inflation. Elevated inflation during 2022–23 should be considered when interpreting changes over time.

Key Informant Interviews with Agriculture Extension officials, AKRSP representatives, and cooperative leaders indicate that irrigation expansion and land development were central to agricultural income growth. Respondents consistently emphasized that previously uncultivated or low-productivity land was brought under cultivation, enabling diversification into vegetables, fodder, and higher-value crops. One participant in Dahimal, Ghizer, explained:

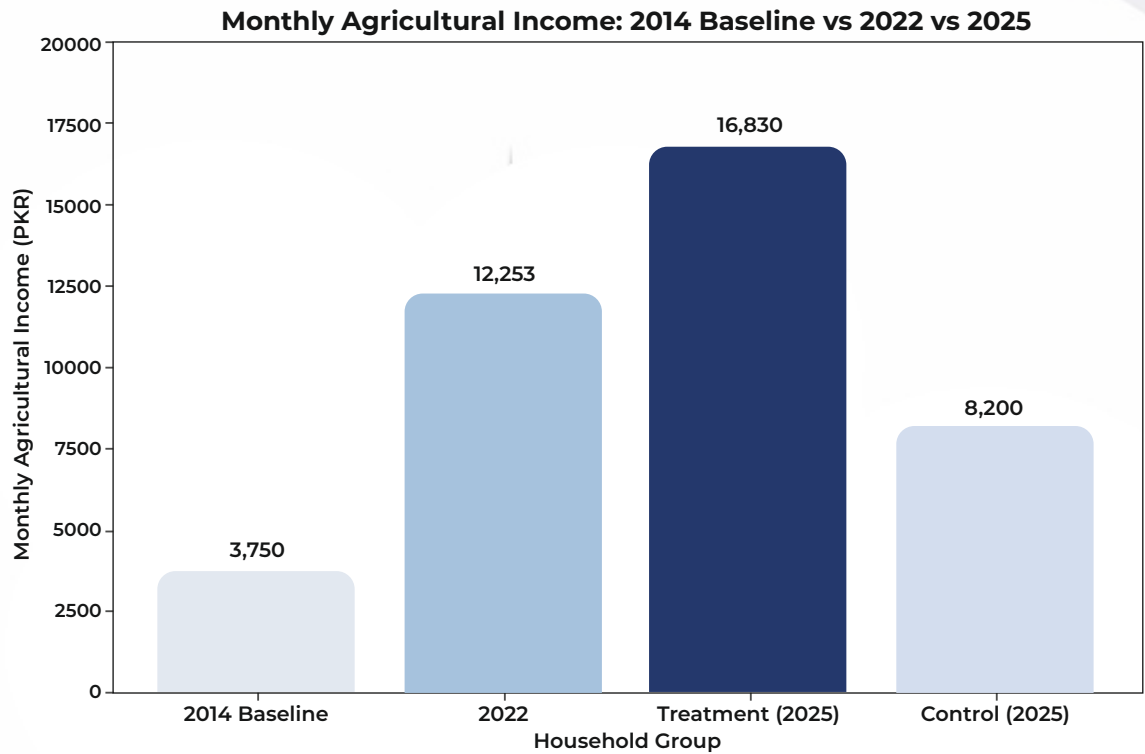


Figure 6. Change in Monthly Agricultural Income

Figure 6. Change in Monthly Agricultural Income.

“  
*if I talk about myself personally, before this (ETI) I was buying PKR 100,000 worth of fodder annually and now I even sell fodder to others and hence my income increases significantly*  
”

Similarly, in Fina, Astore, a beneficiary noted

These accounts illustrate cases where irrigation and land development translated directly into higher agricultural earnings and reduced expenditure on purchased inputs. At the same time, qualitative discussions across districts highlight that gains are uneven. In areas where water supply remains irregular or command areas are not fully cultivated, agricultural income improvements are more moderate, and the full potential of infrastructure investments has yet to be realized.

“  
*Due to ETI interventions, my agricultural income has increased more than threefold, and overall living standards have improved*  
”

Value chain interventions further contributed to income gains in selected fruit- and vegetable-producing areas. FGDs in Hunza, Skardu, and Kharmang reported improved price realization associated with grading, processing, and organized sales through Village Agriculture

Another participant in Passu, Hunza, emphasized the role of training and improved practices:

“

*Earlier apricots were hardly sold at PKR 20–25 per kilo. Through the cooperative, we now sell at PKR 150–250 per kilo.*

**This alone doubled our household income**

”

While such examples demonstrate strong income effects in particular locations, qualitative evidence indicates that collective marketing structures remain stronger in some districts than others, and that market-oriented transition is still consolidating in several areas. Overall, the combined quantitative and qualitative findings suggest that ETI-GB has significantly expanded agricultural income opportunities, with particularly strong effects where irrigation, connectivity, and value chain support converge. The scale of improvement varies across contexts, but the treatment–control differential and upward trend over time confirm a meaningful agricultural income advantage associated with programme participation.

“

*Through trainings provided by ETI we have been able to improve our crop production, and it has helped in marketing and sales of produce in the market. These interventions have helped to increase the income of each beneficiary household and women have been enabled to earn on their own*

”

## 5. Factor Contributing to Income Increase and the Utilization of additional income

Understanding the drivers of income change is essential for assessing the quality and sustainability of ETI-GB's income effects. Survey responses indicate that income growth is primarily associated with productivity gains and improved resource utilization, reflecting the programme's integrated design. As shown in Table 4, the most frequently cited factor is the increase in irrigated area (76.8 percent), underscoring the central role of irrigation and water management interventions. Expanded irrigation has enabled higher cropping intensity, improved yield reliability, and reduced production risks, thereby contributing to more stable and higher farm incomes.

The second most reported factor is an increase in volumes produced (52.0 percent), suggesting that over half of beneficiary households achieved measurable output gains. This is likely to reflect a combination of expanded irrigated area, improved input use, and training support provided under the programme. In addition, 16.0 percent of households reported increased volumes sold, indicating greater market participation beyond subsistence consumption.

**Table 4. Key Factors Contributing to Increase in Income**

| Contributing Factor                                         | Treatment (%) |
|-------------------------------------------------------------|---------------|
| <b>Increase in irrigated area</b>                           | 76.80         |
| <b>Increase in volumes produced</b>                         | 52.00         |
| <b>Better sale prices due to quality</b>                    | 30.40         |
| <b>Increase in volumes sold</b>                             | 16.00         |
| <b>Better sale prices due to bargaining / market access</b> | 16.80         |
| <b>Able to sell when prices are high</b>                    | 7.29          |
| <b>Other factors</b>                                        | 8.00          |

Market-related factors also contributed to income improvements. Approximately 30.4 percent of households attributed gains to better sale prices linked to improved product quality, while 16.8 percent cited stronger bargaining power and improved market access. These findings highlight the role of value chain development and connectivity interventions in enabling producers to capture greater value from their output. A smaller proportion (7.2 percent) reported benefits from being able to sell when prices were high, reflecting improved market timing and information access, while 8.0 percent identified other contributing factors.

While irrigation expansion appears to be the dominant driver, qualitative evidence suggests that income gains are strongest where productivity improvements are complemented by effective market linkages and reliable water supply. In areas where water access remains intermittent or marketing arrangements are less developed, reported income gains tend to be more moderate. Overall, the combined survey and qualitative findings indicate that income growth is driven by a mix of production expansion and market integration, rather than by any single intervention component alone.

#### Main Uses of Additional Income Among Beneficiary Households

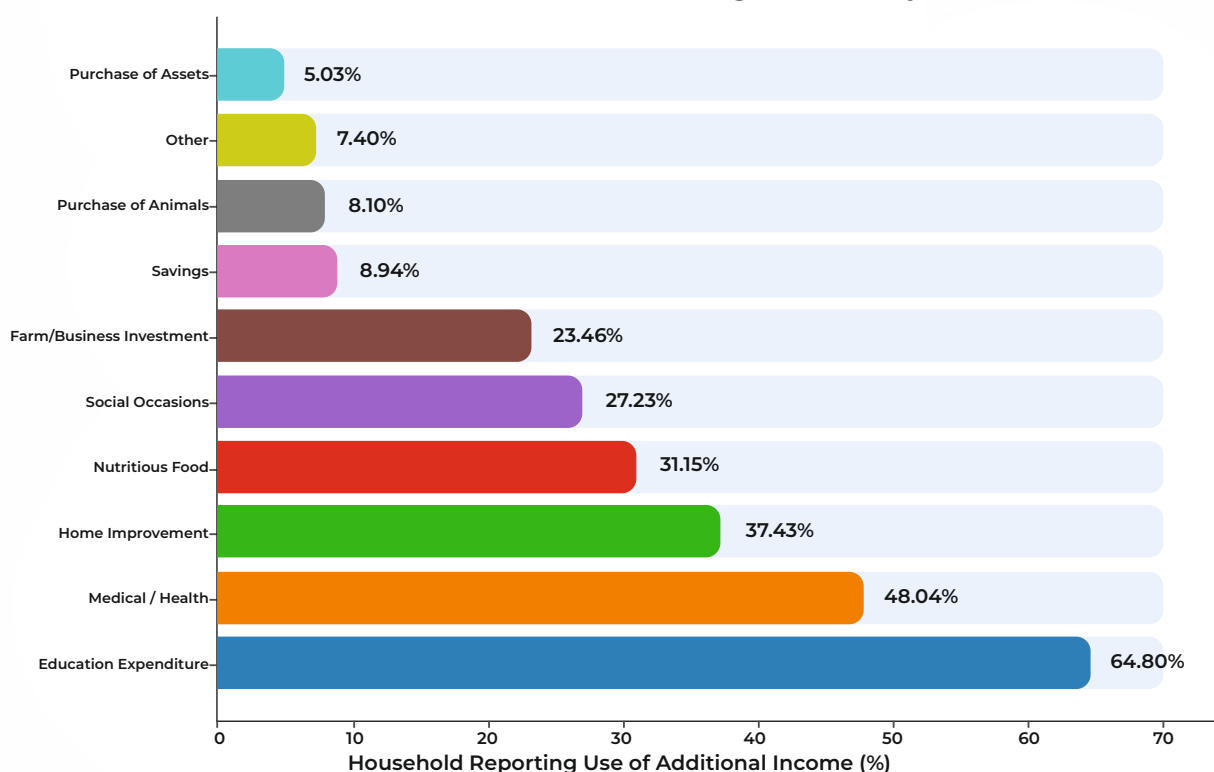


Figure 7. Utilization of additional income by the treatment group

The pattern of expenditure among beneficiary households provides insight into how income gains translate into welfare outcomes, as illustrated in Figure 7. The largest share of households reporting income increases allocated additional resources toward education (64.80 percent), followed by medical and health-related expenses (48.04 percent). These findings suggest that income gains are strongly directed toward human capital development and risk mitigation, reinforcing household capacity to manage health and educational needs.

Improvements in living conditions are also evident. Approximately 37.43 percent of households reported spending on home improvement, while 31.15 percent allocated additional income toward more nutritious food. These expenditure patterns indicate enhanced food security and improved



living standards among a substantial portion of beneficiaries.

Productive reinvestment is present, though at comparatively lower levels. About 23.46 percent reported investing in farm or business activities, and 8.10 percent purchased livestock, suggesting that a segment of households is channeling income gains into livelihood expansion. Meanwhile, 8.94 percent reported saving part of their additional income, indicating emerging financial buffers among some beneficiaries. A smaller proportion reported expenditures on social occasions (27.23 percent), asset purchases (5.03 percent), or other uses (7.40 percent), reflecting diverse household priorities.

Overall, the distribution presented in Figure 6 indicates that additional income is predominantly used for welfare-enhancing and resilience-building purposes rather than short-term consumption alone. While the extent of productive reinvestment varies across households, the spending pattern suggests that income gains associated with ETI-GB interventions are contributing to improvements in education, health, housing conditions, and household stability. This reinforces the broader finding that income effects extend beyond immediate earnings to influence longer-term livelihood security and human development outcomes.

## 6. Saving Trend among Beneficiary Households

Beyond measuring income growth, the assessment examined how additional income is managed by beneficiary households, with particular attention to saving behavior and expenditure priorities. This provides an important indication of whether income gains are translating into enhanced financial stability, investment in human capital, and longer-term household resilience.

As shown in Table 5, 31 percent of treatment households reported saving during the past 12 months. While this indicates that nearly one-third of beneficiaries generated surplus income beyond immediate consumption needs, it also suggests that saving behavior remains uneven across households. Among those who saved, allocation patterns reveal a combination of welfare-oriented and productive uses.

| Table 5. Savings trend among Beneficiary Households            |                     |
|----------------------------------------------------------------|---------------------|
| Savings Indicator                                              | Treatment Group (%) |
| Saved in past 12 months                                        | 31.0                |
| Invest savings in income-generating activities                 | 26.8                |
| Use savings to purchase Agriculture tools/raw materials/inputs | 22.8                |
| Use savings for home improvement                               | 61.2                |
| Savings for children's education                               | 73.6                |
| Savings for emergencies/health                                 | 68.8                |
| Savings for social occasions                                   | 34.4                |
| Other purposes                                                 | 7.2                 |

The largest share of savings is directed toward children's education (73.6 percent), followed by savings for emergencies and health (68.8 percent). These patterns suggest prioritization of human capital development and risk mitigation—critical in high-mountain contexts characterized by climate variability and health vulnerability. A substantial proportion of households (61.2 percent) reported using savings for home improvement, reflecting asset upgrading and improved living conditions. Meanwhile, 34.4 percent allocated savings for social occasions, indicating greater financial flexibility and strengthened social participation.

Productive reinvestment is also evident. About 22.8 percent of households used savings to purchase agricultural tools, raw materials, or inputs, and 26.8 percent invested savings in income-generating activities more broadly. These categories are particularly relevant for assessing sustainability of income gains, as they represent reinvestment into productive capacity rather than short-term consumption alone. While these proportions are smaller than welfare-oriented allocations, they indicate the emergence of a reinvestment cycle among a segment of beneficiaries.

These reinvestment patterns are also closely linked to ETI-GB's Partial Credit Guarantee Scheme (PCGS), which reduced lending risk for participating financial institutions and expanded access to formal credit for rural producers and cooperatives. KILs with partner banks and cooperative representatives indicated that the PCGS mechanism improved loan uptake and enabled farmers to leverage increased incomes for further productive investment. The observed allocation of savings toward agricultural inputs (22.8 percent) and broader income-generating activities (26.8 percent) therefore reflects not only internal reinvestment capacity but also strengthened linkages with formal financial systems. This integration of income growth with improved access to credit enhances the sustainability of agricultural commercialization and supports the transition toward more market-oriented rural enterprises.

Overall, the savings pattern reflects a mixed trajectory of welfare improvement, precautionary financial behavior, and selective productive reinvestment. Education and health remain dominant priorities, but the presence of agricultural and enterprise investment suggests that income gains are, in part, being converted into longer-term livelihood strengthening.

Taken together, the income analysis provides consistent and multi-dimensional evidence of improved economic outcomes among beneficiary households. When assessed against the programme's core log-frame indicator, requiring at least 50 percent of beneficiary households to increase agricultural income by a minimum of 25 percent, the results indicate that this threshold has been met and exceeded. A large majority of households reported income increases, and a substantial share experienced gains of 50 percent or more. Median income levels rose over time within the treatment group and remain higher than those of comparable control households, with a PKR 5,000 median gap observed in 2022 and a PKR 14,156 increase within the treatment group between 2022 and 2025.

Agricultural income trends further reinforce this pattern. Treatment households report agricultural earnings more than double those of control households, reflecting a 105 percent differential. While macroeconomic factors such as inflation should be considered when interpreting nominal values, the treatment–control gap suggests that programme participation is associated with measurable income advantages.

The mechanisms underlying these gains are linked to expanded irrigation, increased production volumes, improved product quality, enhanced market access, and selective value chain

integration. However, qualitative evidence indicates that the depth and sustainability of these gains vary across districts and depend on enabling conditions such as reliable water supply, institutional capacity, and functioning marketing arrangements. Rather than a uniform structural transformation, the evidence suggests a strengthening of market participation and productive opportunity in areas where complementary interventions converge.

Income utilization patterns further indicate that gains are contributing to improvements in education, health, housing conditions, and food security. At the same time, productive reinvestment in agriculture and enterprise, while not universal, signals emerging livelihood expansion among a segment of households. Savings behavior suggests gradual movement toward greater financial planning and resilience building, though the extent of this shift varies across beneficiaries.

Overall, the combined quantitative and qualitative evidence indicates that ETI-GB has contributed to meaningful improvements in household income and agricultural earnings, with particularly strong effects where irrigation, connectivity, and value chain support operate together. The magnitude of impact varies across contexts, but the treatment–control differential and upward income trends provide robust evidence of positive programme effects on rural livelihoods in Gilgit-Baltistan.

## 7. Agricultural Production and Productivity Outcomes

The income gains documented in the preceding section raise a central analytical question: are these improvements underpinned by structural changes in agricultural production systems? In the mountain context of Gilgit-Baltistan, where cultivable land is scarce and water availability is a binding constraint, sustained income growth depends fundamentally on expanding irrigated area, improving productivity per unit of land, strengthening production technologies, and enhancing farmers' skills and market orientation. It is therefore essential to assess whether ETI-GB translated infrastructure investments, input provision, and training support into measurable improvements in agricultural production capacity and productivity at the household level.

This section evaluates ETI-GB's performance in advancing agricultural production and productivity in line with the project's Results Framework and Core Outcome Indicators (COI). It examines progress under output indicators related to secure access to land, access to inputs and technological packages, and participation in production-related training. It then assesses whether these outputs translated into outcome-level changes, including improved access to land for production, adoption of new or improved inputs and practices, and reported increases in agricultural production.



The analysis focuses on key production and productivity dimensions, including expansion of irrigated land following Irrigation and Land Development interventions, changes in cultivated area, adoption of improved seeds, fertilizers, tunnel farming and mechanization, access to extension services, crop diversification, crop-wise production volumes, commercialization rates, and the magnitude of reported production increases. Using a treatment-control comparison framework complemented by qualitative evidence from Focus Group Discussions and Key Informant Interviews, the section assesses whether ETI-GB interventions generated sustained improvements in production systems and contributed to structural transformation within beneficiary farming households.

Using a robust treatment-control comparison framework complemented by qualitative evidence from FGDs and KIIs, the section examines whether ILD, VC support, and farmer training interventions led to measurable improvements in production capacity, productivity per unit of land, and commercialization of high-value crops. In doing so, it moves beyond simple output delivery and evaluates whether ETI-GB effectively converted infrastructure investments, input provision, and capacity-building efforts into sustained, outcome-level gains in agricultural production and structural transformation within beneficiary farming systems.

## **8. Access to Agricultural Land**

Access to productive land constitutes the primary entry point in the agricultural transformation pathway envisaged under ETI-GB. In the high-altitude context of Gilgit-Baltistan, where cultivable land is scarce and irrigation constraints severely limit agricultural expansion, any meaningful improvement in production and income must begin with strengthening households' access to arable and irrigated land. In line with COI indicators related to secure land access and improved access to land for production (CI 1.1.1 and CI 1.2.1), this subsection examines whether ETI-GB interventions, particularly ILD, have expanded the land base available to beneficiary households and altered the structural composition of their agricultural holdings compared to non-beneficiaries.

Table 6 shows a substantial difference in access to agricultural land between ETI-GB beneficiary (treatment) households and non-beneficiary (control) households. Overall, 89.2% of treatment households reported having access to agricultural land, compared to 70.2% of control households, indicating a markedly higher level of land access among project beneficiaries. Disaggregating by land type reveals important structural differences. The findings highlight that ETI-GB has contributed to improved land access and structural transformation in agriculture, primarily through the expansion of newly developed farmland rather than through land rental or redistribution. This enhanced access to cultivable land provides a critical foundation for subsequent gains in agricultural production, crop diversification, and household income among beneficiary households.

The expansion of land access identified becomes more meaningful when examined in terms of irrigated and therefore productive land. In the context of Gilgit-Baltistan, access to land alone does not guarantee higher agricultural output; what determines productivity is the availability of reliable irrigation. The data show (Table 7) that at baseline, beneficiary households cultivated on average only 0.60 acres of irrigated land.



**Table 6. Access to Agricultural Land**

| Land Access / Type          | Treatment Group (%) | Control Group (%) |
|-----------------------------|---------------------|-------------------|
| Access to agricultural land | 89.22               | 70.23             |

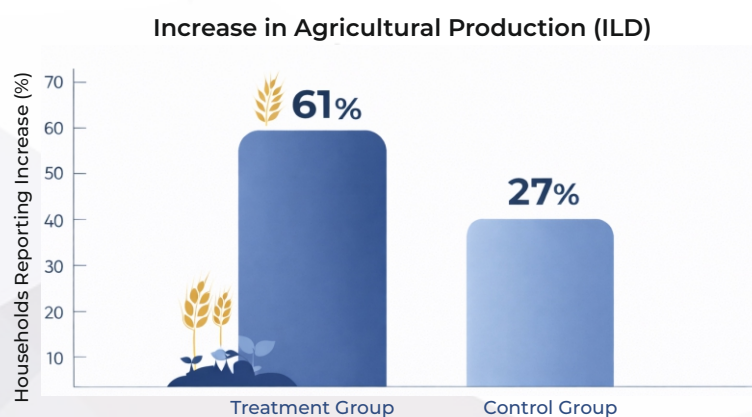
Through the ILD intervention, households gained an additional 0.9 acres of irrigated land, increasing the total average irrigated holding to 1.5 acres per household (Table 7). This represents more than a doubling of irrigated area, indicating a transformational rather than incremental change in productive capacity. The earlier evidence on higher land access among treatment households is therefore substantiated by concrete expansion in irrigated acreage, confirming that ETI-GB facilitated not merely nominal access to land but effective access to cultivable, water-secured farmland.

This increase is particularly significant in a high-mountain setting where less than a small fraction of land is cultivable and water scarcity is the primary binding constraint. By converting barren into irrigated agricultural land, ILD interventions strengthened households' ability to diversify crops, increase cropping intensity, reduce production risks, and engage more actively in market-oriented agriculture. The expansion in irrigated land thus provides the structural foundation for the subsequent production and income gains observed among beneficiary households.

**Table 7. Irrigated Land Before/After ILD Intervention**

| Whole sample | Irrigated Land Before ILD (acres)<br>Baseline value | Additional Irrigated Land through ILD (acres) | Total Irrigated Land after ILD (acres) |
|--------------|-----------------------------------------------------|-----------------------------------------------|----------------------------------------|
|              | 0.60                                                | 0.9                                           | 1.5                                    |

Figure 8 builds directly on this evidence by comparing production outcomes between treatment and control households. The large treatment-control gap in reported production increases demonstrates that the expansion of irrigated land was not an isolated infrastructure outcome but resulted in measurable improvements in production performance. Nearly 61% of ILD beneficiary households reported an increase in agricultural production, compared to only 27% of control households. This large gap between treatment and control groups provides strong evidence that ILD interventions have played a decisive role in improving both production outcomes, beyond what could be attributed to broader trends or external factors affecting all households in the study areas.

*Figure 8. Increase in agricultural production*

FGDs provide strong and consistent evidence that ETI-GB interventions, particularly irrigation development and access infrastructure, enabled households to bring previously barren, abandoned, or underutilized land into productive use. In several locations, participants emphasized that land scarcity was not the primary constraint; rather, the absence of irrigation water and physical access had rendered land unusable. Once water channels were constructed and access improved, large areas of land were reclaimed for cultivation. In Dahimal (Ghizer) and Gohar Abad (Diamer), participants described significant changes, noting that land which had remained uncultivated for decades was converted into productive agricultural plots. Similarly, in Surmo (Ghanche), participants reported that only a small fraction of households were cultivating land prior to the project, whereas after irrigation and road construction, the vast majority of households resumed farming activities. One participant explained that land which had been effectively abandoned due to distance and water scarcity was now actively cultivated by nearly all households.

**“Before the project, most of the land in Broq was unused because it was too difficult to reach and there was no water. Now almost every household is cultivating and our agriculture land increased**  
(FGD Participant, Surmo, Ghanche)

These narratives directly reinforce the quantitative findings on expanded irrigated land and increased access to productive land, demonstrating that land development under ETI-GB resulted in genuine expansion of the agricultural land base rather than marginal adjustments.

Furthermore, this finding is strongly corroborated by KIIs with the Planning & Development Department and the Department of Irrigation & Water Management, who emphasized that ILD interventions addressed a binding structural constraint in Gilgit-Baltistan, where less than 2% of land is cultivable, by converting barren land into productive agricultural zones through technically sound and climate-resilient irrigation schemes

The magnitude of production change is further examined in Table 8, which disaggregates the scale of production increases. This progression, from access, to irrigated expansion, to production increase, to magnitude of increase, clarifies the causal pathway of ILD interventions. Among ILD beneficiaries, a majority experienced moderate to large improvements: 44% reported significant production increases (50–99%), and 10% reported very large increases (doubling or more). In contrast, control households are more concentrated in the modest or very small increase categories, with 17% reporting very small production gains and only 1% experiencing very large increases.



**Table 8. Magnitude of Increase in Production (Among Households Reporting an Increase)**

| Size of Increase             | Production Increase |             |
|------------------------------|---------------------|-------------|
|                              | Treatment (%)       | Control (%) |
| Very small (<20%)            | 4.80                | 17.09       |
| Modest (20–49%)              | 40.80               | 50.63       |
| Significant (50–99%)         | 44                  | 31.01       |
| Very large (=100% / doubled) | 10.40               | 1.27        |

Across all FGDs, participants consistently reported substantial increases in agricultural production following ETI-GB interventions. Increased production was observed across a range of crops,



“

*Earlier, we grew crops only for ourselves because it was too difficult to take them to market. After the road, we can sell regularly, and production has increased many times*

(FGD participant, Fina, Astore)

”

including cereals (wheat, maize), vegetables (tomatoes, potatoes, beans, chilies), fruits (apricots, apples), and fodder. In many cases, participants emphasized a shift from subsistence-oriented production toward surplus generation, with households producing beyond their own consumption needs for the first time. In Fina (Astore), improved farm-to-market roads were repeatedly cited as a key factor enabling higher production by reducing isolation, facilitating transport of inputs, and lowering post-harvest losses. Participants described agriculture transforming into a viable income-generating activity once surplus could reliably reach markets.

Similarly, in Nagarkhas and Passu (Hunza), participants highlighted that vegetables which were previously difficult or impossible to grow, such as tomatoes and capsicum, were now produced consistently and in larger quantities, allowing households to both meet consumption needs and sell surplus.

While expanded irrigated area explains part of the production gains, land expansion alone cannot account for the scale of improvement observed. This raises the analytical question of whether yield-enhancing inputs and improved practices contributed alongside area effects. Table 9 highlights the major drivers of increased agricultural production among ILD beneficiary households. The most prominent factor is the increase in irrigated area (78.4%), indicating that ILD interventions played a foundational role in boosting production. This suggests that expanding access to reliable water was the primary structural constraint, and once addressed, it significantly enhanced agricultural output. The second major contributor is better yields due to fertilizer use (54.4%), showing that input intensification complemented irrigation improvements. This indicates that farmers not only expanded land under irrigation but also adopted yield-enhancing inputs.

Similarly, 43.2% of households attributed production gains to improved seed varieties, reflecting moderate adoption of productivity-enhancing technologies. Improved seeds likely increased crop resilience and output per unit of land. About 32.8% reported improved agricultural practices (e.g., better crop management, timing, spacing), suggesting that knowledge transfer and extension services also played a role, though to a lesser extent compared to physical and input-related factors. Only 5.6% cited other factors, implying that production increases were largely driven by program-related interventions rather than external influences.

| <b>Table 9. Key Factors Contributing to Increase in Agricultural Production (ILD)</b> |                      |
|---------------------------------------------------------------------------------------|----------------------|
| <b>Contributing Factor</b>                                                            | <b>Treatment (%)</b> |
| <b>Increase in irrigated area</b>                                                     | 78.40                |
| <b>Better yields due to improved seed</b>                                             | 43.20                |
| <b>Better yields due to improved practices</b>                                        | 32.80                |
| <b>Better yields due to fertilizer use</b>                                            | 54.40                |
| <b>Other factors</b>                                                                  | 5.60                 |

Having established the production gains under ILD interventions, the analysis then turns VC support to determine whether complementary interventions reinforced and amplified these gains. Table 10 extends the analysis by examining production increases specifically attributed to VC support. The results indicate that VC support has had a substantial and meaningful impact on agricultural production. Overall, 86.27% of households reported an increase in the volume harvested following VC interventions, demonstrating the strong effectiveness of the support package in enhancing farm-level productivity.

| <b>Table 10. Magnitude of Production Change Attributed to VC Support</b> |                  |
|--------------------------------------------------------------------------|------------------|
| <b>Indicator</b>                                                         | <b>Total (%)</b> |
| <b>VC support increased production (volume harvested)</b>                | 86.27            |
| <b>Among households reporting increase:</b>                              |                  |
| <b>Very small (&lt;20%)</b>                                              | 2.42             |
| <b>Modest (20–49%)</b>                                                   | 24.91            |
| <b>Significant (50–99%)</b>                                              | 56.06            |
| <b>Very large (=100%) / doubled</b>                                      | 16.61            |

Among households experiencing an increase, the magnitude of change is largely moderate to high. A clear majority (56.06%) reported a significant increase in production (50–99%), while a further 16.61% achieved a very large increase ( $\geq 100\%$ ), effectively doubling production. In contrast, only a small fraction of households reported modest gains (24.91%) or very small improvements (2.42%). This distribution suggests that VC interventions are not only reaching a large proportion of



beneficiary households but are also generating significant productivity gains, rather than marginal improvements. The dominance of significant and very large increases is consistent with the combined effects of improved inputs, farmer training, and better market linkages under the VC component, reinforcing its role as a key driver of agricultural production growth within the project's causal pathway. This leads naturally to the examination of the mechanisms behind VC-driven gains. Figure 8 disaggregates the contributing factors under VC support, showing that farmer training, improved seeds, and fertilizer use were central drivers. This evidence reinforces the earlier finding that production gains stemmed from both structural improvements (land and irrigation) and technological intensification (skills and inputs). Thus, the analysis moves coherently from ILD-led emerging structural transformation to VC-led productivity enhancement.

#### Key Factors Contributing to Increased Agricultural Production (VC Interventions)

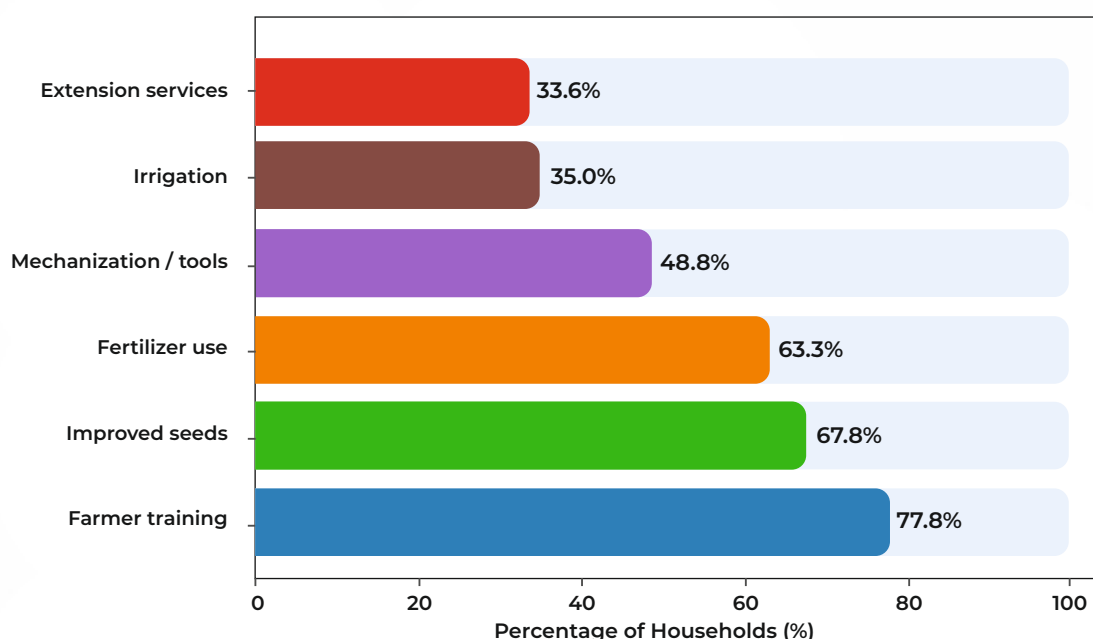


Figure 9. Key Factors Contributing to increased agricultural production under VC-support

The analysis of key factor contribution to increased agricultural production under VC-support (Figure 9) identifies farmer training as the most influential factor contributing to increased agricultural production under VC-supported interventions, cited by 77.85% of households. This underscores the central role of capacity building in enabling farmers to effectively adopt improved practices and optimize input use. Improved seeds (67.82%) and fertilizer use (63.32%) also emerge as major drivers of production gains, reflecting the importance of timely access to quality inputs within the VC package. Secondary but still significant contributions come from mechanization and tools (48.79%), which help reduce labor constraints and improve operational efficiency. In contrast, irrigation (34.95%) and extension services (33.56%) are reported less frequently, suggesting either limited coverage or context-specific constraints in their effectiveness. Overall, the findings indicate that VC interventions generate production gains primarily through a combined pathway of skills development and improved input access, with complementary support from mechanization and infrastructure where available aligning well with the project's IFAD COI causal framework.

| Table 11. Improved practices and access to agricultural inputs-VC |             |
|-------------------------------------------------------------------|-------------|
|                                                                   | Overall (%) |
| <b>Adoption of improved practices / technologies</b>              | 87.76       |
| <b>Access to improved seeds / new varieties</b>                   | 80.60       |
| <b>Access to fertilizers / other inputs</b>                       | 81.19       |
| <b>Crop diversification</b>                                       | 80.60       |

Table 11 further strengthens this narrative by demonstrating high adoption rates of improved practices, input access, and crop diversification. These intermediate outcomes explain how the structural and technological interventions translate into sustained production gains. In other words, adoption and diversification function as the transmission mechanisms linking intervention inputs to productivity outcomes. It shows strong adoption and access outcomes under the Value Chain (VC) interventions. Nearly 88% of beneficiary households adopted improved agricultural practices and technologies, indicating widespread behavioral change and uptake of promoted methods. Access to key inputs is also high, with 81.19% reporting improved access to fertilizers and 80.6% accessing improved seeds or new varieties. Similarly, 80.6% of households reported crop diversification, reflecting a shift toward more resilient and market-oriented production systems. Collectively, these results demonstrate that VC support has effectively translated into broad-based adoption of improved practices and enhanced input access, which are critical intermediate outcomes in the project's causal pathway. The high and relatively even levels across inputs and diversification suggest a well-integrated VC package, reinforcing productivity gains and supporting sustained income growth among beneficiary households.

The qualitative findings from FGDs then deepen this analysis by illustrating how farmers operationalized these changes on the ground—through tunnel farming, orchard management, improved post-harvest handling, and mechanization. These narratives provide contextual

“

***With tunnel farming, we get stable production even from small land. Earlier, crops were damaged, but now yields are much higher***

***(FGD participant, Danyor)***

”



validation of the quantitative patterns and demonstrate that productivity gains were structural and knowledge-driven rather than temporary or externally induced. In Danyor and Passu, tunnel farming emerged as a particularly important driver of productivity. Participants emphasized that tunnels protected crops from pests and weather, stabilized yields, and enabled higher production from small plots of land.

“

***Before, most of our apricots were wasted. Now, with proper drying and sorting, we earn almost double from the same harvest***

***(FGD participant, Churka, Shigar)***

”

In Churka (Shigar), Kuwardo (Skardu), and Singy (Kharmang), productivity gains were strongly

linked to improved orchard management and post-harvest processing, especially for apricots. Participants described how training on spacing, harvesting, drying, and grading significantly reduced losses and increased effective output from the same quantity of raw produce.

| <b>Table 12. Perceived Usefulness of Practices, Inputs, and Technologies</b> |               |
|------------------------------------------------------------------------------|---------------|
| <b>Perception Category</b>                                                   | <b>(%)</b>    |
| <b>Very useful</b>                                                           | 34.00         |
| <b>Useful</b>                                                                | 62.00         |
| <b>Neutral</b>                                                               | 4.00          |
| <b>Not useful at all</b>                                                     | 1.00          |
| <b>Total</b>                                                                 | <b>100.00</b> |

Table 12 closes the causal chain by examining beneficiary perceptions of usefulness. The overwhelmingly positive perceptions reinforce the sustainability of adoption and suggest that productivity gains are likely to persist beyond the project period. This perceptual evidence complements the quantitative treatment–control differentials and strengthens the conclusion that ETI-GB successfully converted land development, input access, and capacity building into sustained production and productivity improvements. A clear majority of households (62%) rated them as useful, while a further 34% considered them very useful, indicating high perceived value and relevance. Only a small share of respondents reported neutral views (4%) or found the interventions not useful (1%). This overwhelmingly positive perception reinforces the high adoption and access rates observed under the VC interventions and suggests a strong likelihood of continued use and sustainability of improved practices. From an IFAD COI perspective, these findings confirm that the interventions are not only technically effective but also well accepted by beneficiaries, strengthening the causal pathway from awareness and access to adoption, productivity gains, and income improvements.

The evidence presented in this section provides strong and internally consistent confirmation that ETI-GB achieved substantive and outcome-level improvements in agricultural production and productivity among beneficiary households. The results indicate that the programme moved beyond output delivery and contributed to measurable improvements in agricultural production systems and market orientation among beneficiary farming households. At the structural level, the expansion of access to agricultural land, particularly irrigated land, emerges as the foundational achievement. Treatment households report significantly higher access to farmland compared to control households, and the average irrigated holding increased from 0.60 acres at baseline to 1.5 acres following ILD interventions. In the high-mountain context of Gilgit-Baltistan, where less than 2% of land is cultivable and water scarcity is the principal binding constraint, this represents a significant expansion in productive capacity rather than a marginal adjustment. By converting barren and underutilized land into irrigated, cultivable plots, the project directly addressed a structural bottleneck in the agricultural system. These changes translated into measurable increases in production. The substantial treatment–control differential in reported increases in agricultural production, alongside the large proportion of beneficiary households experiencing significant (50–99%) or very large ( $\geq 100\%$ ) increases, confirms that ILD interventions generated tangible productivity improvements beyond broader contextual trends. Importantly, the scale of gains suggests not incremental growth but meaningful shifts in output levels. However, the analysis also demonstrates that production gains cannot be attributed solely to land expansion. The decomposition of contributing factors reveals a dual pathway of impact:

- Area effect through expansion of irrigated land; and
- Yield effect through improved seeds, fertilizer use, and better agricultural practices.

The prominence of fertilizer use, improved seed varieties, and enhanced farming practices indicates that beneficiaries intensified production alongside expanding land area. This combination of structural expansion and technological adoption explains the magnitude and sustainability of observed production increases.

The VC component further amplified these gains. With over 86% of VC-supported households reporting increased production volumes, and the majority experiencing significant or very large increases, the evidence confirms that VC support strengthened and deepened productivity outcomes. Farmer training emerges as the most influential driver under VC interventions, underscoring the central role of capacity building in enabling effective input use and improved farm management. High adoption rates of improved practices, access to seeds and fertilizers, and crop diversification reflect strong intermediate outcomes in the project's causal pathway.

Qualitative findings reinforce and contextualize the quantitative evidence. Across districts, beneficiaries consistently reported reclaiming abandoned land, adopting tunnel farming, improving orchard management, reducing post-harvest losses, and shifting from subsistence-oriented production toward surplus generation and commercialization. These accounts confirm that productivity improvements were structural, knowledge-driven, and sustained—rather than temporary responses to short-term incentives.

Perception data further strengthen the sustainability argument. The overwhelming majority of households rated promoted practices and technologies as useful or very useful, suggesting strong ownership and likelihood of continued adoption beyond the project period. This acceptance is critical for long-term impact and confirms alignment between intervention design and beneficiary needs. From a results framework perspective, the findings demonstrate clear achievement across multiple Core Outcome Indicators. Progress under output indicators related to land access, input provision, and training translated directly into outcome-level achievements in improved access to land, adoption of improved practices, and increased agricultural production. The coherence between infrastructure investments, technological uptake, behavioral change, and production outcomes indicates that ETI-GB successfully operationalized its intended theory of change.

In synthesis, ETI-GB's agricultural interventions generated a coherent transformation pathway:

- Evidence of emerging structural transformation through irrigation and land development;
- Technological intensification through improved inputs and farmer training;
- Behavioral change and adoption are reflected in high uptake rates;
- Productivity gains demonstrated through significant increases in output;
- Positive beneficiary perception, supporting sustainability.

Taken together, the quantitative treatment–control evidence, magnitude of production changes, high adoption rates, and consistent qualitative validation provide robust proof that ETI-GB effectively strengthened agricultural production systems in Gilgit-Baltistan. The programme addressed binding structural constraints, enhanced productivity, promoted market orientation, and laid a sustainable foundation for continued income growth among beneficiary households.



## 9. Market Access and Commercialization Outcomes

The preceding section demonstrated that ETI-GB generated substantial gains in agricultural production and productivity through ILDs, FMRs, value chain support, and widespread adoption of improved practices. Beneficiary households expanded irrigated land, intensified input use, diversified crops, and reported significant increases in output. However, increased production alone does not automatically translate into improved livelihoods unless farmers are able to effectively market their surplus at remunerative prices. In Gilgit-Baltistan, where geographic isolation, high transport costs, and weak market linkages historically constrained commercialization, the critical next step in the causal pathway is improved market access. This section therefore examines whether the production gains documented earlier were successfully converted into commercialization outcomes through investments in FMRs, strengthened value-chain linkages, and enhanced organizational capacity. By shifting the analytical focus from “how much was produced” to “how much was marketed and monetized,” the section evaluates whether ETI-GB effectively bridged the gap between productivity growth and income realization, consistent with Core Outcome Indicators CI 2.2.6 and CI 2.2.5. Drawing on household survey data, treatment–control comparisons, enterprise-level profit data, and qualitative evidence from FGDs, the section focuses on outcome-level changes in market participation and commercialization behavior, rather than on infrastructure delivery alone. Findings are synthesized to explain how improved physical connectivity and market linkages enabled households to shift from subsistence-oriented production toward market-oriented agriculture and supported producer organizations in capturing higher value from agricultural activities, consistent with the project's intended impact pathways.

This study reveals that households report an average time saving of 3.5 hours per trip, reflecting a substantial reduction in travel time for accessing markets, services, and input suppliers (Table 13). Such a large time saving is particularly significant in remote and mountainous contexts, where long travel times previously constrained market participation and service access. Across all FGDs, participants consistently emphasized that FMRs dramatically reduced travel time, physical burden, and transport costs, enabling farmers to reach markets that were previously inaccessible. In Dahimal, Surmo, Fina (Astore), and Ghanche, respondents reported reductions from hours or even days of travel to 15–30 minutes, often replacing donkey or manual transport with tractors and vehicles. This qualitative evidence explains the high quantitative share of households using roads for market access.



**Table 13. Time saved due to FMR**

| Indicator                  | Time (in hours) |
|----------------------------|-----------------|
| Average time saved (hours) | 3.50            |

KIIs with P&DD, C&W, and AKRSP provide institutional confirmation of these outcomes, noting that FMRs were explicitly designed to overcome geographic isolation, reduce transaction costs for smallholders, and improve the economic viability of agricultural commercialization in remote valleys. However, KIIs consistently cautioned that sustaining these gains will depend on the institutionalization of operation and maintenance responsibilities, as no dedicated departmental budgets or staffing are currently in place for long-term maintenance of irrigation infrastructure

FGDs provide strong explanatory evidence for the higher levels of market participation and income reported by treatment households. Improved farm-to-market roads dramatically reduced travel time, transport costs, and physical drudgery, particularly for women and elderly farmers. Participants consistently described how improved road access enabled them to sell produce more frequently, transport larger volumes, and access markets that were previously unreachable. In Diامر, Ghanche, and Skardu, communities emphasized that road connectivity transformed agricultural production from a largely subsistence activity into a market-oriented enterprise. This aligns closely with household survey results showing increased volumes sold and higher income among treatment households.

“A participant of FGD at Surmo Ghanche stated that  
*Earlier, we have challenges to go to our Broq. After constructing the road, now it is easy to carry down the grass, crops and all other stuff by tractor and other vehicles. Earlier, we had to carry all these manually, but now we bring them by tractor. Before the road construction, it takes more than one hour to reach there and now easily reach there in fifteen minutes*”

Beyond income, participants also highlighted indirect welfare benefits, such as improved access to health facilities and schools, which help explain observed improvements in health and nutrition indicators.

“*Now one person can manage farming, and children regularly attend school*”

(FGD, Ghanche)

In a focus group discussion, female beneficiaries from Danal Fina, Diامر district, were asked about the impact of the new or upgraded rural road on marketing and transportation costs. They noted that:

“*Now we have easy access to the market, even buyers from the market visit us, so we are cashing [in] our crops and vegetables from home, eventually this reduced our transportation cost up to 75%. In addition, this improved the number of cash crops and enabled us to link our products to better market through well-developed road and appropriate loader vehicles. Now we spend more time with our family and friends*”

**Table 14. Comparison of Agricultural Marketing Methods**

| Marketing Method                   | Treatment Group (FMR) Overall (%) | Control Group Overall (%) | Difference (Treatment - Control) |
|------------------------------------|-----------------------------------|---------------------------|----------------------------------|
| Through middlemen                  | 40.38                             | 22.61                     | 17.77                            |
| Direct contracts with buyers       | 12.91                             | 4.98                      | 7.93                             |
| Family sells directly at market    | 16.21                             | 6.13                      | 10.08                            |
| Family sells directly at farm gate | 10.71                             | 2.68                      | 8.03                             |

| Marketing Method                     | Treatment Group (FMR) Overall (%) | Control Group Overall (%) | Difference (Treatment - Control) |
|--------------------------------------|-----------------------------------|---------------------------|----------------------------------|
| Through farmers' group / cooperative | 3.30                              | 0                         | 3.30                             |
| Other marketing methods              | 5.77                              | 7.28                      | -1.51                            |

Households benefiting from FMRs exhibit markedly stronger engagement with market channels compared to non-beneficiaries (Table 14). The largest gains are observed in sales through middlemen and direct sales at markets and farm gates, reflecting reduced transport constraints and improved physical access to markets. The appearance of cooperative-based marketing among FMR beneficiaries, absent in the control group, further indicates early institutional and collective responses enabled by improved connectivity.

| Table 15. Perceived Impacts of FMR on Production, Income, and Market Access |           |                    |              |                       |
|-----------------------------------------------------------------------------|-----------|--------------------|--------------|-----------------------|
| Indicator                                                                   | Agree (%) | Strongly Agree (%) | Disagree (%) | Strongly Disagree (%) |
| Shift from self-consumption to market sales                                 | 73.15     | 15.34              | 11.51        | 0.00                  |
| Able to produce more due to easier selling                                  | 69.86     | 18.08              | 11.78        | 0.27                  |
| Generate cash income from agriculture                                       | 67.40     | 18.63              | 13.70        | 0.27                  |
| Post-harvest losses reduced due to easier transport                         | 71.23     | 17.53              | 11.23        | —                     |
| Easier for middlemen to buy at farm                                         | 67.40     | 21.92              | 10.14        | 0.55                  |
| Able to start new crops                                                     | 70.41     | 18.63              | 10.96        | —                     |
| More marketing opportunities available                                      | 73.97     | 23.84              | 1.92         | 0.27                  |
| New income-generating activities developed                                  | 75.07     | 23.84              | 1.10         | —                     |
| Easier access to agricultural extension services                            | 78.90     | 14.79              | 6.30         | —                     |
| Easier access to agricultural inputs                                        | 78.90     | 13.97              | 7.12         | —                     |

In Table 15, the overall results indicate a strongly positive perception of FMR intervention among beneficiary households. More than 70% of respondents agree or strongly agree that FMRs have facilitated a shift from self-consumption to market-oriented production, improved production volumes, reduced post-harvest losses, and expanded marketing opportunities. Particularly high

agreement is observed for access to extension services and agricultural inputs (~79%) and the development of new income-generating activities (~75%), underscoring the role of improved connectivity in strengthening both production and market access. These findings are fully consistent with the core outcome indicators on enhanced market participation, income generation, and institutional service access.

The FMR Impact Index is computed as an unweighted average of ten perception-based indicators, each measured as the percentage of respondents reporting “Agree” or “Strongly Agree.” Equal weighting was applied to reflect balanced importance across production, income, and market-access dimensions.

$$FMR\ Impact\ Index = \sum \frac{Composite\ Indicator\ Score}{10}$$

$$FMR\ Impact\ Index = 91.29\%$$

The overall FMR Impact Index of 91.3% indicates a very strong and consistent positive perception of these interventions among beneficiary households. On average, more than nine out of ten respondents report improvements across key dimensions of market access, agricultural production, income generation, and service connectivity. This high index value provides consolidated evidence that FMR investments are effectively addressing structural market constraints and delivering outcomes, particularly those related to smallholder commercialization, income diversification, and improved access to services.

Table 16 presents the average profit per producer organization across districts, providing a standardized measure of enterprise performance. The results reveal substantial variation in profitability among ETI-supported producer organizations in Gilgit-Baltistan. Kharmang records the highest average profit per organization (PKR 361,267), followed by Diamer (PKR 346,683) and Hunza (PKR 264,400). These districts demonstrate relatively stronger enterprise performance, suggesting more favorable cost structures, better market access, or engagement in higher-value economic activities. Moderate levels of profitability are observed in Ghanche (PKR 253,078), Shigar (PKR 166,642), Gilgit (PKR 144,874), and Ghizer (PKR 134,900), indicating stable but comparatively smaller profit margins. In contrast, producer organizations in Skardu (PKR 27,986), Nagar (PKR 27,101), and Astore (PKR 17,714) report very low average profits per organization, highlighting potential constraints related to scale, efficiency, or market integration.

| <b>District</b> | <b>Profit per Organization (PKR)</b> |
|-----------------|--------------------------------------|
| <b>Kharmang</b> | 361,267                              |
| <b>Diamer</b>   | 346,683                              |
| <b>Hunza</b>    | 264,400                              |
| <b>Ghanche</b>  | 253,078                              |
| <b>Shigar</b>   | 166,642                              |
| <b>Gilgit</b>   | 144,874                              |
| <b>Ghizer</b>   | 134,900                              |
| <b>Nagar</b>    | 27,101                               |



FGDs consistently show that improved market access encouraged households to produce with the intention to sell, rather than only for household consumption. In Nagar, Passu (Hunza), and Danyor, participants described a clear behavioral shift: once households were confident that produce could be sold reliably, they invested more effort and inputs into production. In Nagarkhas, participants noted that vegetables previously grown only in small quantities are now cultivated at scale, with regular surplus sold in nearby markets. In Passu, farmers emphasized that reliable prices and access enabled them to plan production cycles around market demand rather than household needs alone. This shift represents a qualitative marker of commercialization, where production decisions are increasingly market driven.

FGDs strongly indicate that value-chain (VC) support, including training, improved inputs, post-harvest handling, and buyer linkages, played a critical role in deepening commercialization. In Kuwardo (Skardu) and Churka (Shigar), participants described how improved grading, drying, and packaging of apricots enabled access to higher-value markets and reduced rejection rates. In Kuwardo, cooperative members reported that collective auctions and buyer agreements increased the volume of produce marketed and reduced post-harvest losses. Participants also discussed forward planning for expansion of chili cultivation under formal MoUs with buyers, indicating growing confidence in market demand and institutional arrangements. These narratives demonstrate that commercialization gains were not limited to selling more produce but also involved selling better-quality produce into more structured markets.

Another recurring theme is the reduction of post-harvest losses and transaction costs, which effectively increased marketed surplus. Participants across Shigar, Kharmang, and Skardu described how improved drying sheets, tarpaulins, and storage practices allowed households to preserve produce and sell it later at better prices, rather than distress-selling immediately after harvest. Reduced transport costs and improved logistics also lowered barriers to market entry, especially for smallholders. FGDs suggest that these reductions were particularly important for women and smaller producers, who previously lacked the capacity to access distant markets independently.

FGDs reveal that improved market access also facilitated greater participation of women in commercialization, particularly in processing and collective sales. In Kharmang and Shigar, women were actively involved in apricot drying, grading, and packaging, with VACs enabling them to link their processed products to buyers. Participants noted that income from these activities was often controlled by women and reinvested in household needs, reinforcing inclusive commercialization outcomes.

Both the quantitative and qualitative evidence demonstrate that ETI-GB has achieved strong and measurable progress toward improved market access and commercialization outcomes. Consistent with the objective that households report improved physical access to markets, processing, and storage facilities (CI 2.2.6), beneficiary households report an average time saving of 3.5 hours per trip when accessing markets and services. Qualitative evidence from FGDs across Astore, Ghanche, Diamer, and Skardu corroborates these findings, with participants reporting reductions from several hours, or even days, of travel to 15–30 minutes, alongside sharp declines in transport costs and physical drudgery. These improvements significantly reduced structural barriers to market participation in remote and mountainous contexts.

Improved physical connectivity translated into clear commercialization gains, supporting the outcome that rural producers' organizations report increased sales and market engagement (CI 2.2.5). Compared to control households, FMR beneficiaries demonstrate substantially higher

engagement across multiple marketing channels, including sales through middlemen (40.4% vs. 22.6%), direct sales at markets (16.2% vs. 6.1%), farm-gate sales (10.7% vs. 2.7%), and direct contracts with buyers (12.9% vs. 5.0%). The emergence of cooperative-based marketing among beneficiary households, absent in the control group, signals early institutional responses enabled by improved connectivity and collective action.

Perception-based indicators further reinforce these outcomes. More than 70 percent of beneficiary households agree or strongly agree that FMRs facilitated a shift from self-consumption to market sales, enabled higher production due to easier selling, reduced post-harvest losses, and expanded marketing opportunities. Particularly high agreement is observed for improved access to agricultural inputs and extension services (approximately 79 percent) and the development of new income-generating activities (approximately 75 percent). These results are summarized in the FMR Impact Index of 91.3 percent, indicating a consistently strong positive effect across production, income, and market-access dimensions.

Commercialization gains are also reflected in the financial performance of ETI-supported producer organizations. Average profits per organization are substantial in several districts, reaching PKR 361,267 in Kharmang, PKR 346,683 in Diamer, and PKR 264,400 in Hunza, suggesting effective market integration and value capture where connectivity and organizational capacity are stronger. Lower profitability observed in districts such as Astore and Nagar highlights remaining constraints related to scale, efficiency, or market depth, underscoring the importance of complementary support beyond infrastructure alone.

Taken together, the evidence confirms that ETI-GB's investments in rural connectivity and market linkages significantly reduced transaction costs, expanded market participation, and strengthened commercialization outcomes for both households and producer organizations. These results demonstrate clear achievement of the intended outcomes under CI 2.2.6 and CI 2.2.5, and position improved market access as a critical enabling pathway through which ETI-GB generated broader income, enterprise, and livelihood impacts.

## 10. Employment, Enterprises, and Value Addition

Building on improved market access and commercialization outcomes, this section examines whether ETI-GB's rural enterprise support translated into employment creation, enterprise development, and value addition beyond primary production. Drawing on enterprise-level data on business types, household engagement, and financial performance, it assesses the scale, inclusiveness, and sustainability of employment generated under ETI-GB in remote mountain economies, assessed against Core Outcome Indicator CI 2.2.1.

**Table 17. Main Types of Rural Businesses Supported**

| Type of Support                       | Main types of business (N) | (%)           |
|---------------------------------------|----------------------------|---------------|
| <b>Trade of Agricultural Products</b> | 8                          | 62.00         |
| <b>Processing (Crop)</b>              | 5                          | 38.00         |
| <b>Total</b>                          | <b>13</b>                  | <b>100.00</b> |

Table 17 presents the distribution of rural enterprises supported under the ETI intervention. The results indicate a clear emphasis on trade-oriented agricultural businesses, which account for 62%

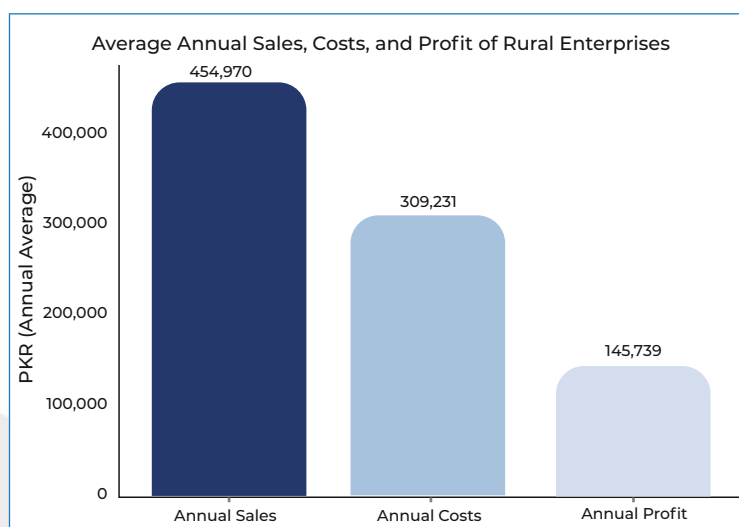
(8 out of 13) of the supported enterprises. These businesses are primarily engaged in the buying, selling, and marketing of agricultural products, reflecting ETI-GB's role in strengthening market linkages, value chain integration, and commercialization of rural production.

In contrast, crop-processing enterprises represent 38% (5 out of 13) of the supported businesses. Although fewer in number, these enterprises are strategically important as they contribute to value addition at the local level, reduce post-harvest losses, and create opportunities for employment and income diversification within rural communities. The distribution suggests that ETI-GB support has been more strongly oriented toward facilitating market access and trade, while also laying an important foundation for local agro-processing activities. This balance indicates a gradual transition from primary production toward higher-value economic activities, enhancing the sustainability and resilience of rural livelihoods.

**Table 18. Managers and Employment Outside the Household**

| Category                              | Household Engagement Outside HH (=1) | (%)   |
|---------------------------------------|--------------------------------------|-------|
| <b>Managers (Females)</b>             | 4                                    | 30.80 |
| <b>Managers (Males)</b>               | 8                                    | 61.50 |
| <b>Managers (Youth)</b>               | 3                                    | 23.10 |
| <b>Employees outside HH (Females)</b> | 2                                    | 15.40 |
| <b>Employees outside HH (Males)</b>   | 7                                    | 53.80 |
| <b>Employees outside HH (Youth)</b>   | 4                                    | 30.80 |

The findings reported in Table 18 indicate that ETI-supported rural enterprises have generated spillover engagement beyond the household, particularly through management and employment linkages. Male participation remains dominant, with 61.5% of households reporting at least one male manager outside the household, compared to 30.8% for females and 23.1% for youth. Similarly, employment effects are more pronounced for adult males (53.8% of households), while engagement of females (15.4%) and youth (30.8%) remains comparatively limited. It is important to note that these figures represent the prevalence of participation across households rather than mutually exclusive shares, as individual households may engage multiple categories simultaneously (e.g., employing both males and youth). Consequently, percentages reflect the breadth of participation across different groups rather than summing up to a fixed total.



*Figure 10. Average Annual Sales and Profit*

The analysis of financial indicators shows (Figure 10) that ETI-supported rural enterprises generate substantial economic activity and positive returns. On average, enterprises report an annual value of sales of PKR 454,970, against annual operating costs of PKR 309,231, resulting in an average annual profit of PKR 145,739. This positive profit margin indicates that supported rural enterprises are, on average, financially viable and capable of generating surplus income for beneficiary households. However, the relatively high variability in sales and costs across enterprises suggests significant differences in scale and performance, likely reflecting variations in enterprise type, market access, and managerial capacity. The presence of enterprises with very low or zero sales alongside high-performing enterprises highlights the need for continued technical support, market linkages, and business development services to improve consistency in outcomes.

The findings on rural enterprise development indicate that ETI has made meaningful progress in promoting market-oriented economic activities beyond primary agricultural production, particularly through trade-based enterprises and selected crop-processing initiatives. The dominance of trade-oriented businesses reflects a pragmatic response to the structural realities of Gilgit-Baltistan, where limited infrastructure, small market sizes, and high transaction costs constrain large-scale processing. At the same time, the presence of processing enterprises, though fewer in number, signals an important step toward local value addition, income diversification, and reduced post-harvest losses, which are critical for strengthening resilience in mountain economies. However, the relatively small number of supported enterprises suggests that the overall scale of enterprise development remains limited, and the observed impacts should therefore be interpreted as demonstrative rather than transformational at the regional level.

The evidence on management and employment linkages beyond the household points to positive spillover effects, particularly in terms of male employment and management roles. Nevertheless, the lower levels of female and youth engagement highlight persistent inclusion gaps, suggesting that enterprise development has not yet fully translated into broad-based employment opportunities for these groups. While qualitative engagement may exist, the quantitative results imply that additional, targeted measures may be required to overcome social, mobility, and skills-related barriers that constrain women's and youth participation in enterprise management and employment.

Financial performance indicators show that ETI-supported enterprises are, on average, profitable, indicating economic viability and the potential for sustained income generation. However, the wide dispersion in sales and profit levels reveals uneven performance across enterprises, with some operating at very small scales. This heterogeneity underscores the importance of continued business development support, including market intelligence, financial management skills, and stronger buyer linkages, to enhance enterprise stability and reduce the risk of stagnation or failure. Overall, while rural enterprise support under ETI demonstrates





promising outcomes in terms of profitability and market engagement, its long-term contribution to inclusive and sustainable livelihood transformation will depend on scaling up successful models, strengthening institutional support, and addressing observed gender and youth participation gaps.

The evidence indicates that ETI-GB has generated positive but modest employment outcomes through rural enterprise development, consistent with the indicator that beneficiaries obtain new jobs or employment opportunities (CI 2.2.1). The analysis draws on data from a sample of 13 ETI-supported rural enterprises, which were selected for detailed assessment and are therefore indicative rather than exhaustive of the programme's enterprise portfolio. These sampled enterprises, primarily trade-oriented (62 percent) and crop-processing activities (38 percent), illustrate the programme's role in promoting market-oriented economic activity beyond primary agricultural production.

This evidence reveals that ETI-GB's rural enterprise support generated positive but modest employment outcomes, consistent with CI 2.2.1. Based on 13 sampled enterprises, primarily trade-oriented (62%) and crop-processing (38%), employment spillovers beyond the household are evident, particularly for adult males (61.5% reporting male managers; 53.8% male employees). Female and youth participation remains limited, pointing to inclusion gaps that require targeted action. Financially, enterprises are viable on average, annual sales of PKR 454,970 against costs of PKR 309,231 yield a profit of PKR 145,739, though wide variation across the sample underscores the need for continued business development support. Scaling these outcomes will require expanding successful enterprise models, deepening market integration, and addressing barriers to women's and youth participation.

## 11. Producer Organizations and Institutional Outcomes

The preceding section demonstrated that ETI-GB's support to rural enterprises generated positive, though modest, employment and income effects, particularly through trade-oriented and crop-processing activities. These enterprises benefited from improved market access, value-chain support, and training, translating commercialization gains into financially viable business activities. However, the sustainability and scaling of enterprise development in remote mountain economies depend not only on individual businesses, but also on the strength of collective institutional mechanisms that aggregate producers, reduce transaction costs, enhance bargaining power, and formalize market linkages. In this context, VACs serve as the institutional backbone of ETI-GB's value-chain strategy. This section therefore examines whether ETI-supported producer organizations functioned as effective collective economic institutions, expanding membership, fostering inclusiveness, strengthening service delivery, forming formal partnerships, and increasing sales performance. By shifting the analytical focus from individual enterprises to collective institutional structures, the section evaluates whether ETI-GB successfully embedded commercialization and enterprise gains within durable producer-led organizations. In particular, the analysis examines whether rural producers' organizations were supported as functional collective institutions (CI 2.1.3), whether supported rural producers became members of rural producers' organizations (CI 2.1.4), whether producer organizations engaged in formal partnerships, agreements, or contracts with public or private entities (CI 2.2.3), and whether rural producers' organizations reported an increase in sales (CI 2.2.5).



This study sampled 84 producer organizations/VACs drawn from ten districts. The analysis of membership affiliation with Village/ Value Chain Associations across districts indicates strong overall participation, with a total of 27,951 members affiliated under ETI-supported structures (Table 19). At the aggregate level, male members constitute the largest share (47.5%), followed by youth (26.9%) and female members (25.6%), suggesting a relatively balanced inclusion of youth alongside adult members, while women's participation, although substantial, remains comparatively lower. District-wise patterns reveal notable variation in the composition of VAC membership.

Diamer accounts for the largest number of affiliated members (6,528), with a strong male dominance (57.5%), while female participation remains limited (9.1%). In contrast, districts such as Gilgit and Hunza exhibit relatively higher levels of female inclusion, where women account for 48.0% and 44.3% of VAC members, respectively, indicating more gender-balanced participation in these districts. Youth participation is particularly prominent in Astore (39.2%), Diamer (33.4%), Shigar (31.0%), and Kharmang (30.0%), reflecting the effectiveness of VACs in engaging younger populations in value-chain-related activities. Districts such as Ghizer and Nagar display more evenly distributed participation across male, female, and youth categories, suggesting inclusive membership structures.

|                    | <b>Number of MALE Members affiliated with VAC</b> |              | <b>Number of FEMALE Members affiliated with VAC</b> |              | <b>Number of YOUTH Members affiliated with VAC</b> |              | <b>Total</b>  |
|--------------------|---------------------------------------------------|--------------|-----------------------------------------------------|--------------|----------------------------------------------------|--------------|---------------|
| <b>District</b>    | <b>Count</b>                                      | <b>%</b>     | <b>Count</b>                                        | <b>%</b>     | <b>Count</b>                                       | <b>%</b>     | <b>Count</b>  |
| <b>Astore</b>      | 971                                               | 34.92        | 720                                                 | 25.89        | 1,090                                              | 39.19        | 2,781         |
| <b>Diamer</b>      | 3,754                                             | 57.51        | 594                                                 | 9.10         | 2,180                                              | 33.39        | 6,528         |
| <b>Ghanche</b>     | 2,444                                             | 51.01        | 1,122                                               | 23.42        | 1,225                                              | 25.57        | 4,791         |
| <b>Ghizer</b>      | 577                                               | 45.50        | 438                                                 | 34.54        | 253                                                | 19.95        | 1,268         |
| <b>Gilgit</b>      | 795                                               | 37.61        | 1,014                                               | 47.97        | 305                                                | 14.43        | 2,114         |
| <b>Hunza</b>       | 1,080                                             | 45.32        | 1,056                                               | 44.31        | 247                                                | 10.37        | 2,383         |
| <b>Kharmang</b>    | 764                                               | 38.24        | 634                                                 | 31.73        | 600                                                | 30.03        | 1,998         |
| <b>Nagar</b>       | 440                                               | 47.67        | 337                                                 | 36.51        | 146                                                | 15.82        | 923           |
| <b>Shigar</b>      | 1,014                                             | 43.48        | 595                                                 | 25.51        | 723                                                | 31           | 2,332         |
| <b>Skardu</b>      | 1,435                                             | 50.65        | 644                                                 | 22.73        | 754                                                | 26.61        | 2,833         |
| <b>Grand Total</b> | <b>13,274</b>                                     | <b>47.49</b> | <b>7,154</b>                                        | <b>25.59</b> | <b>7,523</b>                                       | <b>26.91</b> | <b>27,951</b> |

The district-wise analysis of total sales values indicates (Table 20) substantial variation in the scale of economic activity across ETI-supported producer organizations in Gilgit-Baltistan. Diamer stands out with the highest average annual sales (PKR 11.24 million) and a median of PKR 10.0

million, reflecting the presence of relatively larger or more commercially active organizations and stronger market integration in the district. A second tier of districts with comparatively high average sales includes Astore (PKR 3.14 million), Shigar (PKR 2.76 million), and Nagar (PKR 2.31 million). In these districts, the gap between average and median sales, particularly in Shigar, where the median (PKR 0.7 million) is substantially lower than the average, suggests the presence of a few high-performing organizations alongside many smaller-scale entities, indicating unequal distribution of sales performance. Moderate sales levels are observed in Ghizer (PKR 1.81 million), Hunza (PKR 1.82 million), Skardu (PKR 1.51 million), and Ghanche (PKR 1.27 million). In these districts, relatively lower median values compared to averages point to skewed sales distributions, where a limited number of organizations account for a disproportionate share of total sales. At the lower end of the spectrum, Gilgit (PKR 0.54 million) and Kharmang (PKR 0.62 million) report the lowest average sales, with medians close to or slightly above their averages, suggesting more uniform but low-volume commercial activity.

| <b>District</b> | <b>Average Sales (Million PKR)</b> | <b>Median (Million PKR)</b> |
|-----------------|------------------------------------|-----------------------------|
| <b>Astore</b>   | 3.14                               | 2.25                        |
| <b>Diamer</b>   | 11.24                              | 10.00                       |
| <b>Ghanche</b>  | 1.27                               | 0.70                        |
| <b>Ghizer</b>   | 1.81                               | 0.80                        |
| <b>Gilgit</b>   | 0.54                               | 0.40                        |
| <b>Hunza</b>    | 1.82                               | 0.96                        |
| <b>Kharmang</b> | 0.62                               | 0.66                        |
| <b>Nagar</b>    | 2.31                               | 1.50                        |
| <b>Shigar</b>   | 2.76                               | 0.70                        |
| <b>Skardu</b>   | 1.51                               | 0.55                        |

Table 21 presents the range of services offered by ETI-supported producer organizations, highlighting their multi-functional role in supporting rural livelihoods and value-chain development. Among the services, training emerges as the most frequently reported, accounting for 23.4% of all responses. This underscores the strong emphasis placed by ETI on capacity building and skills development to enhance managerial, technical, and entrepreneurial capabilities of members.

Closely following is access to market and marketing services (21.5%), reflecting the critical role of producer organizations in improving market linkages, aggregation, and commercialization of agricultural products. The provision of purchase of equipment or inputs (18.8%) and crop processing facilities (15.1%) further highlights efforts to support productivity enhancement and value addition at the local level. Credit and loan services (12.6%) indicate a growing role of producer organizations in facilitating access to finance, although this remains less prominent compared to training and market-related services. In contrast, storage facilities (7.1%) and other services (1.5%) are relatively limited, suggesting potential areas for further strengthening, particularly to reduce post-harvest losses and improve supply-chain efficiency.

**Table 21. Main services provided by the cooperative/organization**

| Description                     | N          | (%)           |
|---------------------------------|------------|---------------|
| Access to market and marketing  | 70         | 21.54         |
| Credit/loan                     | 41         | 12.62         |
| Crop Processing facility        | 49         | 15.08         |
| Other                           | 5          | 1.54          |
| Purchase of equipment or inputs | 61         | 18.77         |
| Storage Facility                | 23         | 7.08          |
| Training                        | 76         | 23.38         |
| <b>Grand Total</b>              | <b>325</b> | <b>100.00</b> |

Out of the 84 ETI-supported producer organizations surveyed, 28 organizations (33.3%) reported being engaged in formal partnerships, agreements, or contracts with public or private entities (Table 22). This indicates that approximately one-third of the organizations have established formal institutional linkages, while the majority are still operating without structured partnerships. The extent of engagement in formal partnerships varies considerably across districts. Hunza shows the highest level of engagement, with 100% of surveyed organizations reporting formal partnerships, followed by Gilgit (85.7%) and Nagar (80.0%), suggesting stronger institutional connectivity and market integration in these districts. Ghizer also demonstrates a relatively high level of engagement (66.7%), while Skardu (40.0%) and Astore (28.6%) show moderate levels of partnership formation. In contrast, organizations in Diamer (11.8%) and Shigar (22.2%) report limited engagement in formal partnerships, while Ghanche and Kharmang report no formal partnerships at all. These district-level disparities highlight differences in institutional capacity, access to external actors, and enabling environments for partnership development.

**Table 22. Engagement in formal partnerships with public or private entities**

| District           | Count     | %            |
|--------------------|-----------|--------------|
| Astore             | 2         | 28.57        |
| Diamer             | 2         | 11.76        |
| Ghanche            | 0         | 0.00         |
| Ghizer             | 2         | 66.67        |
| Gilgit             | 6         | 85.71        |
| Hunza              | 6         | 100.00       |
| Kharmang           | 0         | 0.00         |
| Nagar              | 4         | 80.00        |
| Shigar             | 2         | 22.22        |
| Skardu             | 4         | 40.00        |
| <b>Grand Total</b> | <b>28</b> | <b>33.33</b> |



Qualitative insights were gathered through focused group discussions and key informant interviews with members and office bearers of producer organizations, including cooperative societies (VACs), across ETI intervention areas. These discussions explored institutional functioning, changes in farming practices, access to inputs and markets, income effects, women's participation, and sustainability mechanisms. KIIs consistently identified Village Agriculture cooperatives as key institutional mechanisms underpinning these outcomes, enabling farmers to pool produce, access inputs, receive training, and connect with markets. Across Shigar, Skardu, Kharmang, and Hunza, cooperative societies emerged as the first functional institutional platforms that moved communities beyond awareness-raising toward practical value chain engagement. Prior to ETI support, communities reported fragmented and informal practices, with no structured mechanisms for collective marketing, pricing, or quality control. ETI-supported cooperatives introduced organized production, collective aggregation, improved post-harvest handling, and buyer linkages, transforming subsistence-oriented farming into semi-commercial activity.

**“Before ETI, there were only awareness sessions, but no real value-chain work. ETI was the first project that brought practical benefits through the cooperative. Earlier nothing was structured; now we have systems for collection, grading, and selling**

**(FGD participant, Cooperative Society – Shigar)**

FGDs consistently highlighted that cooperatives facilitated access to improved seeds, saplings, drying sheets, tarpaulins, and technical training, resulting in measurable improvements in yield, quality, and prices. Apricot value chains show the strongest evidence: collective drying, sulfur treatment, grading, and auctioning through cooperatives increased prices from PKR 20–40/kg to PKR 235–400/kg. These gains were repeatedly linked to cooperative-led systems rather than individual effort.

**“Earlier, no one would buy our apricots even for 20–25 rupees per kilo. After collective drying and marketing through the cooperative, we sold at 235 to 400 rupees per kilo. This change came only because of the cooperative system**

**(FGD participant, Cooperative Society – Skardu)**

**“If you go to the market alone, you get a low price. When you go through the cooperative, buyers pay more because they trust the quality and the system**

**(FGD participant, VAC/Cooperative – Passu, Hunza)**

**“Earlier, most apricots were wasted, but this year we collected 65,000 kg through the cooperative. Women earned between 20,000 to 80,000 rupees per household. This income helped with food, school fees, and farm inputs**

**(FGD participant, Cooperative Society – Kharmang)**

The analysis of ETI-supported producer organizations provides strong evidence that collective institutional mechanisms have played a pivotal role in enhancing market access, value-chain integration, and income generation in Gilgit-Baltistan. The large scale of membership of nearly 28,000 affiliated members across districts demonstrates the reach and institutional embeddedness of VACs as a platform for collective action. District-level variations in gender and

youth participation highlight both progress and persistent inclusion gaps: while several districts exhibit relatively balanced participation, others, particularly Diamer, remain male-dominated, suggesting that social norms and local contexts continue to shape participation outcomes. These differences underscore the importance of tailoring institutional support to district-specific socio-cultural conditions rather than relying on a uniform model.

Economic performance indicators reveal that producer organizations have generated meaningful commercial activity, but with highly uneven outcomes across districts. The strong concentration of sales and profits in a limited number of districts and organizations indicates that while some producer organizations have successfully transitioned toward commercially viable operations, many continue to operate at small scales with limited market integration. This heterogeneity suggests that ETI-supported producer organizations are at different stages of institutional and economic maturity. High-performing districts appear to benefit from better market connectivity, stronger leadership, and more effective engagement with buyers, whereas low-performing districts face constraints related to scale, infrastructure, and access to reliable markets.

The service portfolio of producer organizations reflects a well-aligned intervention strategy, with a strong emphasis on training and market facilitation. However, the relatively limited provision of storage and processing services points to structural gaps that may constrain further value addition and increase vulnerability to post-harvest losses. Similarly, while one-third of organizations have established formal partnerships, the majority remain outside formal contractual arrangements, indicating that institutional linkages with public and private actors are still nascent. District-level disparities in partnership engagement further suggest that enabling environments and institutional capacity vary widely, affecting the ability of producer organizations to formalize market relationships.

Qualitative evidence strongly reinforces the quantitative findings by illustrating how cooperatives transformed fragmented and informal practices into organized systems of production, quality control, and collective marketing. The dramatic increases in apricot prices and documented income gains, particularly for women, highlight the transformative potential of cooperative-led value-chain systems. At the same time, these success stories also point to the risk of uneven impact, as benefits may concentrate among more active or better-organized cooperatives. Overall, the findings suggest that ETI-supported producer organizations have laid a solid foundation for collective market engagement and income growth, but sustaining and scaling these impacts will require continued institutional strengthening, deeper market partnerships, and targeted efforts to address geographic and gender-based disparities in participation and performance.

The evidence demonstrates that ETI-GB made substantial progress in supporting functional rural producers' organizations (CI 2.1.3) and expanding producer participation in collective institutional structures (CI 2.1.4). Across ten districts, 84 producer organizations/VACs were assessed, with a total membership of 27,951 affiliated producers, indicating strong institutional reach and embeddedness. Membership composition shows meaningful inclusion of youth (26.9%) alongside adult members, while women's participation (25.6%), though substantial, remains uneven across districts, with strong inclusion in Hunza and Gilgit but persistent gender gaps in districts such as Diamer. Clear evidence is also observed against the indicator that rural producers' organizations engage in formal partnerships or contractual arrangements with public or private entities (CI 2.2.3). One-third of surveyed organizations (33.3%) reported active formal partnerships, with particularly strong engagement in Hunza (100%), Gilgit (85.7%), and Nagar (80.0%). At the same time, very low or absent partnership formation in districts such as Ghanche, Kharmang, and

Diamer highlights uneven institutional maturity and enabling environments across the programme area.

Commercial performance indicators confirm progress toward the outcome that rural producers' organizations report an increase in sales (CI 2.2.5), although with significant heterogeneity. Average annual sales exceed PKR 11.2 million in Diamer and range between PKR 2–3 million in districts such as Astore, Shigar, and Nagar, while remaining below PKR 1 million in Gilgit and Kharmanag. The divergence between average and median sales values in several districts indicates that a smaller number of high-performing organizations account for a disproportionate share of total sales, suggesting unequal commercialization outcomes across producer organizations. Service provision patterns further illustrate institutional functionality, with producer organizations primarily delivering training (23.4%), market access and marketing services (21.5%), and input or equipment support (18.8%), directly supporting members' production and commercialization capacity. However, relatively limited provision of storage facilities (7.1%) and processing services (15.1%) points to structural constraints that may limit further value addition and risk mitigation.

Qualitative evidence strongly reinforces these findings, demonstrating how ETI-supported cooperatives transformed fragmented and informal production systems into organized structures for collective aggregation, quality control, and marketing. Reported increases in apricot prices, from PKR 20–40/kg to PKR 235–400/kg, and associated income gains for women and households underscore the transformative potential of cooperative-led value-chain engagement, while also highlighting the risk of uneven benefits across districts and organizations.

In sum, the findings confirm that ETI-GB successfully strengthened producer organizations as collective economic institutions and enabled meaningful gains in market engagement and sales, thereby fulfilling the intent of CI 2.1.3, CI 2.1.4, CI 2.2.3, and CI 2.2.5. At the same time, the wide variation in inclusion, partnership formation, and commercial performance indicates that producer organizations are at different stages of institutional maturity, underscoring the need for continued capacity building, deeper market linkages, and targeted support to address geographic and gender-based disparities.

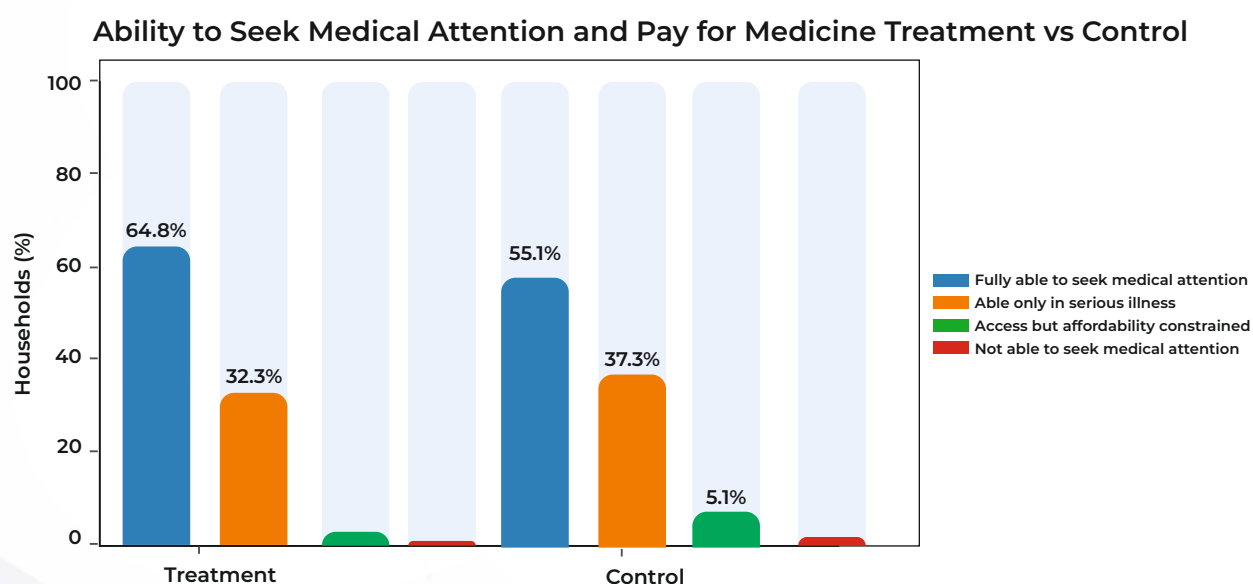
## 12. Health and Food Security

The preceding sections demonstrated that ETI-GB substantially improved agricultural production through irrigation and land development, strengthened commercialization via value-chain support and Farm-to-Market Roads, promoted rural enterprise development, and enhanced collective action through producer organizations. These interventions collectively expanded productive capacity, increased income, diversified livelihoods, and improved market integration among beneficiary households. While these economic outcomes are critical indicators of transformation, their broader development relevance ultimately lies in their ability to enhance household well-being, particularly in terms of health, food security, and nutrition. In remote and high-mountain contexts such as Gilgit-Baltistan, increased agricultural production and income are expected to improve dietary diversity, reduce food insecurity, strengthen access to healthcare, and enhance child nutrition outcomes. This section therefore examines whether the economic gains documented earlier translated into measurable improvements in household health and food security. By analyzing healthcare access, food insecurity patterns, perceived changes in child nutrition, and dietary diversity outcomes, the section evaluates whether ETI's livelihood and market-oriented interventions generated tangible improvements in human well-being consistent with the programme's nutrition-sensitive pathway and Core Outcome Indicator CI1.1.8.

Table 23 and the accompanying figure 11 shows that treatment households have better access to

medical care than control households. A higher share of treatment households (64.8%) report being fully able to seek medical attention when needed, compared to 55.1% among control households. In contrast, control households more often seek care only when illness is severe, indicating delayed or constrained access. Financial barriers to healthcare are also lower among treatment households, with fewer reporting difficulty affording medicines or being unable to access care at all. Overall, the table and figure together indicate that project participation is associated with improved healthcare access and reduced affordability constraints, consistent with IFAD core outcomes on household resilience and well-being.

| <b>Access Category</b>                      | <b>Treatment (%)</b> | <b>Control (%)</b> |
|---------------------------------------------|----------------------|--------------------|
| <b>Fully able to seek medical attention</b> | 64.80                | 55.10              |
| <b>Able only in serious illness</b>         | 32.30                | 37.30              |
| <b>Access but affordability constrained</b> | 1.90                 | 5.10               |
| <b>Not able to seek medical attention</b>   | 0.70                 | 2.50               |
| <b>Not relevant</b>                         | 0.20                 | —                  |
| <b>Total</b>                                | <b>100</b>           | <b>100</b>         |



*Figure 11. Ability of Households to Seek Medical Attention and Pay for Medicine*

Figure 12 compares district-wise food insecurity between control and treatment households, excluding districts where no food insecurity was reported. Across all food-insecure districts (Gilgit, Ghanche, Diamer, Ghizer, and Nagar), the treatment group consistently reports lower levels of food insecurity than the control group. The largest reductions are observed in Ghanche and Diamer, followed by Ghizer and Nagar, indicating a positive association between project interventions and improved household food security outcomes.



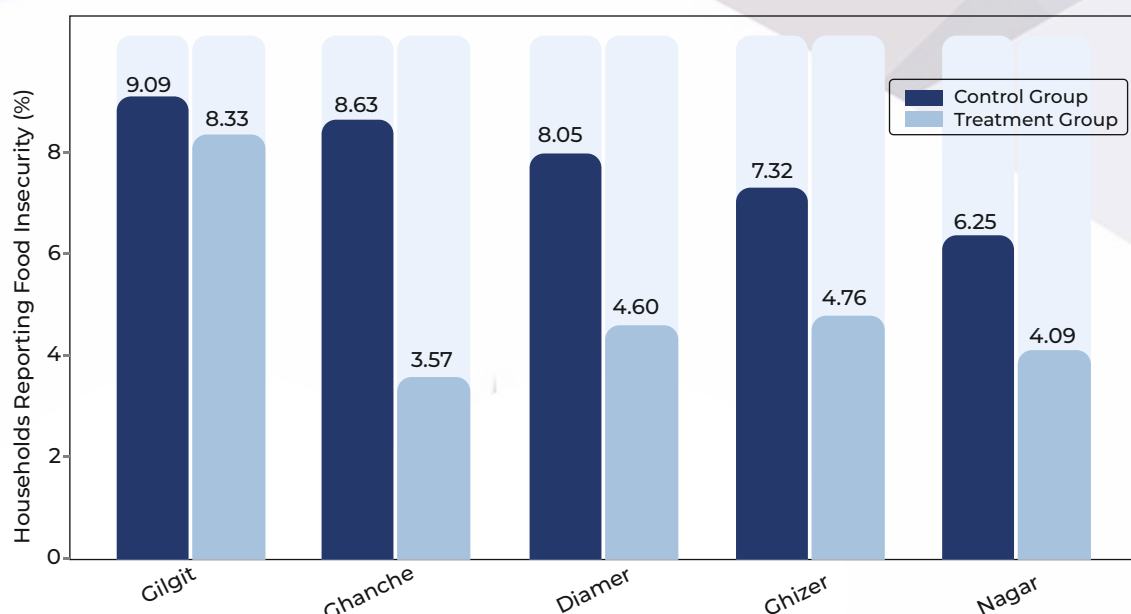


Figure 12. Household reported food insecurity across treatment and control groups

Responses indicate that the project is associated with notable improvements in child health and nutrition. Table 24 and the accompanying figure 13 present beneficiary households' perceptions of changes in child health and nutrition since the start of the project. The results indicate predominantly positive outcomes, with a large majority of households reporting improvements over the project period. Overall, 81.6 percent of households perceive an improvement in child health and nutrition, comprising 66.9 percent reporting some improvement and 14.7 percent reporting major improvement.

Table 24. Perceived Change in Child Health and Nutrition Since Project Start

| Intervention Type | Major Improvement (%) | Some Improvement (%) | No Change (%) | Total (%) |
|-------------------|-----------------------|----------------------|---------------|-----------|
| Percentage Of HH  | 14.68                 | 66.87                | 18.45         | 100.00    |

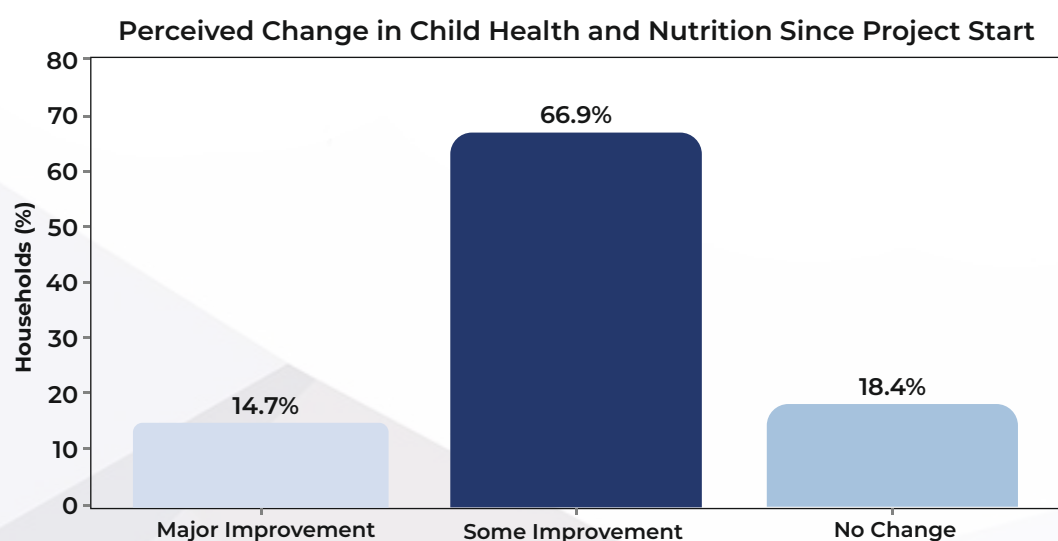


Figure 13. Perceived change in child health and nutrition

This analysis suggests that while improvements have been gradual for most households, a meaningful proportion have experienced substantial gains. These perceptions are consistent with the project's emphasis on improving food security, nutrition awareness, and household incomes, which together contribute to better dietary intake and child well-being. Only 18.4 percent of households report no change in child health and nutrition, indicating that stagnation is limited to a minority of beneficiaries. Overall, the findings provide strong supporting evidence that project-supported interventions are positively influencing child health and nutrition outcomes, as perceived by beneficiary households. These results align with Core Outcome Indicators related to nutrition and household well-being and reinforce the conclusion that integrated livelihood, income, and nutrition-related activities contribute to improved child nutrition outcomes over time.

KIIs with AKRSP and P&DD confirm that women's participation in greenhouse farming, value-chain activities, and nutrition awareness initiatives contributed to these outcomes, while also emphasizing that cultural norms in districts such as Diamer continue to limit women's direct engagement, underscoring the need for context-specific approaches.

FGD participants across intervention areas reported noticeable improvements in the quality and diversity of household diets, which they associated with increased local food production and better market access. In Surmo village of District Ghanche, one participant highlighted a clear shift away from traditional, monotonous diets toward more diversified meals:

**“**  
*The quality of our food has improved. Earlier, people mostly relied on namkeen chai and local roti, but now households are growing different vegetables and preparing a variety of foods. This has brought a visible change in our diet*  
**”**  
 (FGD Participant, Surmo, Ghanche)

Improved physical connectivity was also identified as an important enabler of food diversity and nutritional intake. Participants explained that better access roads facilitated the availability of fresh vegetables and food items, benefiting both producers and consumers. A participant from Fina village in Astore noted:

**“**  
*With improved access roads, fresh vegetables and food items reach markets and households more easily. As a result, food diversity and nutritional intake have improved for both men and women*  
**”**  
 (FGD participant, Fina, Astore)

At the same time, FGDs revealed growing awareness of nutrition and health, alongside recognition of emerging challenges. In Passu (Hunza), a participant emphasized increased understanding of the relationship between diet and health, while also expressing concern over

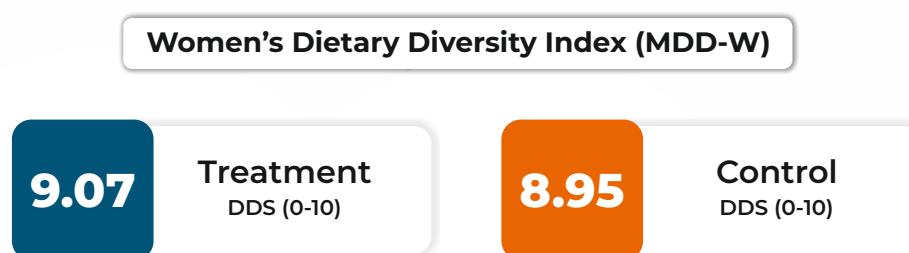
**“**  
*There is growing awareness about nutrition and how food affects our health and diseases. However, the consumption of junk food has also increased, especially among children. I think we need more awareness, so people rely more on healthy, locally produced food*  
**”**  
 (FGD participant, Passu, Hunza)

rising consumption of processed foods, particularly among children:

Composite Dietary Diversity Index (DDS)

The Women's Dietary Diversity Index (MDD-W) was constructed following the FAO-recommended approach using ten standard

food groups, including grains and tubers, pulses, nuts and seeds, milk and milk products, meat/fish/poultry, eggs, dark green leafy vegetables, vitamin A-rich fruits and vegetables, other vegetables, and other fruits. For each food group, women who reported consumption were assigned a value of 1, while non-consumption was assigned 0. The index therefore ranges from 0 to 10, with higher scores indicating greater dietary diversity and improved nutritional adequacy. The composite index presented in the figure reflects the average number of food groups consumed by women in treatment and control households, providing a summary measure of dietary quality and diversity.



*Figure 14. Composite Dietary Diversity Index*

The results indicate (Figure 14) a higher average DDS among treatment households (9.07) compared to control households (8.95), suggesting that ETI beneficiaries have more diverse diets overall. This difference is driven mainly by higher frequent consumption among treatment households of animal-source foods (meat/fish, eggs, milk) and pulses, alongside consistently high consumption of vegetables and fruits in both groups. Overall, the DDS comparison provides supportive evidence that ETI participation is associated with improved dietary diversity, consistent with the project's nutrition-sensitive pathway linking livelihood gains and improved food access to better household diets.

The evidence indicates that ETI-GB has achieved meaningful progress toward the nutrition-related output indicator CI 1.1.8 (households provided with targeted support to improve their nutrition) through integrated livelihood and nutrition-sensitive interventions. Treatment households demonstrate stronger outcomes across multiple dimensions of household well-being, including healthcare access, food security, dietary diversity, and child nutrition. Access to healthcare is notably better among beneficiary households, with 64.8 percent reporting being fully able to seek medical attention when needed, compared to 55.1 percent among control households, alongside fewer reports of affordability and access constraints. Food security outcomes similarly favor treatment households across all food-insecure districts, indicating improved and more stable access to food associated with project participation. Improvements in child health and nutrition are widely reported, with 81.6 percent of beneficiary households perceiving positive change since the start of the project, including 14.7 percent reporting major improvement. Stronger outcomes among households receiving integrated intervention packages (ILD+FMR+VC) highlight the effectiveness of combined livelihood and market-access support in generating nutrition gains. Dietary diversity outcomes further reinforce these findings, with treatment households exhibiting a higher average Composite Dietary Diversity Score (9.07) than control households (8.95), driven by more frequent consumption of nutrient-dense foods. Qualitative evidence complements these results by illustrating improved food quality, increased consumption of vegetables and diverse foods, and growing awareness of nutrition and health practices at the household level. Together, the findings demonstrate that CI 1.1.8 was achieved through a nutrition-sensitive pathway linking increased agricultural production, higher household income, improved market access, and enhanced food choices, resulting in measurable improvements in household health and food security in rural Gilgit-Baltistan.

### 13. Knowledge Attitude and Practices (KAP)

Improvements in agricultural production, market participation, enterprise development, and food security outcomes under ETI-GB reflect important economic and welfare gains at the household level. However, enhanced income and food availability do not automatically translate into improved nutritional outcomes unless they are accompanied by strengthened knowledge, attitudes, and behavioral practices related to diet, micronutrients, and hygiene. In high-mountain contexts such as Gilgit-Baltistan, where dietary habits, information gaps, and traditional practices shape consumption patterns, behavioral change plays a critical role in converting livelihood gains into sustained improvements in nutrition and health. This section therefore examines whether ETI-GB's targeted awareness and nutrition-sensitive interventions contributed to measurable improvements in women's dietary diversity and household-level knowledge, attitudes, and practices (KAP). By assessing Minimum Dietary Diversity for Women (MDD-W), micronutrient awareness, and food hygiene behaviors through treatment-control comparisons, the analysis evaluates whether the programme strengthened nutrition-related behaviors alongside economic gains, consistent with outcome indicators CI1.2.8 and CI1.2.9.

#### Intake of micronutrients

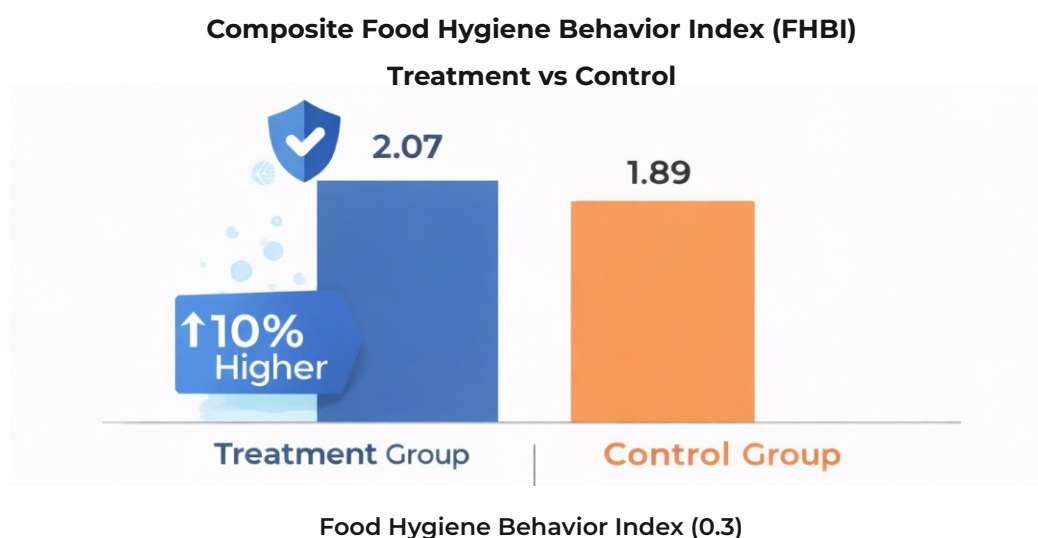
The results indicate (Table 25) generally high adoption of basic nutrition practices, particularly salt use, across both treatment and control groups. Almost all households reported using salt in the preparation of their main meal, with a slightly higher prevalence in the treatment group (96.9%) compared to the control group (94.3%). Use of iodized salt is also widespread in both groups (around 69%), suggesting good market availability; however, a substantial proportion of respondents, over one quarter in both groups, were unable to identify the type of salt used, pointing to persistent gaps in nutrition knowledge.

| <b>Indicator</b>                                            | <b>Treatment Group (%)</b> | <b>Control Group (%)</b> | <b>Difference (T - C)</b> |
|-------------------------------------------------------------|----------------------------|--------------------------|---------------------------|
| <b>Used salt in last cooked meal (Yes)</b>                  | 96.89                      | 94.27                    | 2.62                      |
| <b>Use of iodized salt</b>                                  | 69.03                      | 68.83                    | 0.20                      |
| <b>Do not know type of salt used</b>                        | 28.11                      | 27.26                    | 0.85                      |
| <b>Heard about iron deficiency (anemia)</b>                 | 37.31                      | 34.99                    | 2.32                      |
| <b>Correctly identified lack of iron as cause of anemia</b> | 77.00                      | 66.18                    | 10.82                     |
| <b>Believe vitamin A deficiency is serious</b>              | 34.33                      | 29.01                    | 5.32                      |
| <b>Do not know seriousness of vitamin A deficiency</b>      | 51.62                      | 56.87                    | -5.25                     |



Awareness of iron deficiency (anemia) remains moderate overall but is consistently higher among treatment households. Importantly, the treatment group demonstrates a stronger understanding of the causes of anemia: 77.0% correctly identified lack of iron in the diet as the main cause, compared to 66.2% in the control group, reflecting a notable positive knowledge gain associated with project exposure. Similarly, perceptions regarding vitamin A deficiency show improvement in the treatment group, where a higher share of respondents (34.3%) recognized it as a serious health concern compared to the control group (29.0%), alongside a lower proportion reporting uncertainty. These findings suggest that while basic dietary practices are already well established, the project has contributed more meaningfully to improving nutrition knowledge and awareness, particularly regarding micronutrient deficiencies. The remaining knowledge gaps, especially around identification of iodized salt and micronutrient risks, highlight the need for continued and more targeted nutrition education interventions.

A composite Food Hygiene Behavior Index (FHBI) was constructed using three indicators: handwashing before food handling, checking expiration dates before food preparation, and correct perception of food safety related to washing and peeling fruits and vegetables. Each indicator was scored as one if the recommended practice was followed, resulting in an index ranging from 0 to 3.



*Figure 15. Composite food hygiene behavior index*

The results show that treatment households have a higher average FHBI (2.07) compared to control households (1.89) (Figure 15) indicating better overall food hygiene behavior among project beneficiaries. While hygiene practices are generally strong in both groups, the higher index score among treatment households reflects more consistent handwashing practices and better food safety awareness. This suggests that project-supported nutrition and awareness activities have contributed to modest but meaningful improvements in household food hygiene behavior.

The results demonstrate clear and measurable progress against both the MDD-W and KAP outcome indicators. Women in treatment households report a higher average Dietary Diversity Score (DDS) of 9.07, compared to 8.95 among control households, indicating more diverse diets and improved nutritional adequacy among ETI-GB beneficiaries. This difference is driven by higher consumption of animal-source foods and pulses among treatment households, providing supportive evidence of progress against CI 1.2.8 (MDD-W). Improvements are also observed in household-level nutrition knowledge and practices, consistent with CI 1.2.9 (KAP). Awareness of micronutrient deficiencies is stronger among treatment households, with 77.0 percent correctly

identifying lack of iron as the cause of anemia, compared to 66.2 percent among control households. Perceived seriousness of vitamin A deficiency is also higher in the treatment group (34.3 percent versus 29.0 percent), alongside reduced uncertainty. In terms of behavior, treatment households exhibit better food hygiene practices, reflected in a higher Food Hygiene Behavior Index (FHBI) score of 2.07, compared to 1.89 among control households.

These findings confirm that ETI-GB's nutrition-focused interventions translated into measurable improvements in women's dietary diversity and household nutrition-related knowledge and practices. While some gains remain modest and knowledge gaps persist, particularly regarding iodized salt identification, the consistent treatment-control advantages provide strong evidence that ETI-GB achieved the intended outcomes under CI 1.2.8 and CI 1.2.9, reinforcing the project's nutrition-sensitive impact pathways.

## **14. Access to Agri-Finance and Sustainability: Partial Credit Guarantee Scheme (PCGS)**

The Partial Credit Guarantee Scheme (PCGS) was introduced by ETI-GB as a forward-looking sustainability mechanism to address structural constraints in agricultural finance and to ensure that productivity and income gains achieved through irrigation development, value chain support, and institutional strengthening could be sustained beyond grant-based assistance. The scheme was designed to facilitate farmers' integration into formal financial systems and reduce long-standing barriers to commercial credit in Gilgit-Baltistan. The findings of this study further reinforce the strategic relevance of this intervention. The results indicate that 22.8 percent of beneficiary households are reinvesting their additional income into farm-related activities (Table 5), reflecting a behavioral shift toward productive asset accumulation and enterprise expansion. This reinvestment pattern signals growing commercialization and economic confidence among farmers. However, sustaining and scaling such reinvestment requires reliable and affordable access to formal agricultural finance, precisely the structural gap that the PCGS was designed to address.

Despite substantial improvements in agricultural productivity and institutional organization through ILDT, VC support, and the establishment of VACs, beneficiary farmers continued to face systemic barriers in accessing formal credit. High interest rates, stringent collateral requirements, limited banking outreach in remote mountain regions, and complex documentation procedures have historically excluded smallholders in Gilgit-Baltistan from commercial lending markets. Estimates from the State Bank of Pakistan suggest that the agricultural financing requirement in the region exceeds PKR 7.0 billion, highlighting the magnitude of unmet demand for structured agricultural credit and the risks this gap poses to long-term sustainability.

To address this constraint, ETI-GB operationalized the PCGS through a tripartite partnership with the Gilgit-Baltistan Rural Support Programme (GBRSP) and HBL Microfinance Bank Ltd. The scheme provides tailored agricultural loan products supported by an interest rate subsidy of up to 50 percent and a partial risk-sharing mechanism on defaulted loans. Simplified documentation procedures reduce entry barriers, while VACs act as structured platforms for borrower identification, screening, referral, and repayment monitoring. This model reduces transaction costs for financial institutions, enhances accountability at the community level, and improves credit discipline through collective oversight.

### **Current Performance and Portfolio Overview**

As of 31 December 2025, the PCGS has demonstrated a scale and pace of adoption that

significantly exceeds initial projections. A total of PKR 1.292 billion has been disbursed to 4,232 VAC member farmers across Gilgit-Baltistan, with an outstanding portfolio of PKR 1.15 billion (table 26) — reflecting a portfolio utilization rate of nearly 89 percent and confirming that farmers are actively deploying credit for productive purposes. Notably, the disbursement target set for the year was achieved in just nine months, underscoring the depth of latent demand and the efficacy of the VAC-based delivery model.

The scheme has made meaningful inroads on financial inclusion. Over 50 percent of borrowers are first-time formal credit recipients, classified as 'New to Bank' customers, indicating that the PCGS is effectively converting previously unbanked smallholders into participants in the formal financial system. Women account for 27 percent of the borrower base (1,129 farmers, PKR 304.989 million disbursed), and youth represent 17 percent, demonstrating improved outreach to groups traditionally excluded from commercial credit markets. Individual farmers have accessed an average loan of PKR 300,000, sized appropriately for smallholder input financing and farm expansion needs.

**Table 26. PCGS Loan Disbursement by Region (as of 31 December 2025)**

| Region       | Disbursement (PKR)   | Outstanding (PKR)    | Total Borrowers | Male                  | Female                | Youth               |
|--------------|----------------------|----------------------|-----------------|-----------------------|-----------------------|---------------------|
| Gilgit       | 674,361,000          | 604,785,104          | 2,289           | 1,495                 | 794                   | 356                 |
| Baltistan    | 483,586,000          | 429,008,163          | 1,536           | 1,284                 | 252                   | 310                 |
| Diamer       | 134,340,000          | 121,092,832          | 407             | 324                   | 83                    | 64                  |
| <b>Total</b> | <b>1,292,287,000</b> | <b>1,154,886,099</b> | <b>4,232</b>    | <b>3,103 (73.00%)</b> | <b>1,129 (27.00%)</b> | <b>730 (17.00%)</b> |

Source: ETI-GB PCGS Portfolio Data, December 2025

## 14.1. Scale-Up Potential of PCGS

The total ETI-GB cooperative farmer base across Gilgit-Baltistan stands at 40,614 registered farmers. Against this base, the 4,232 farmers currently served by the PCGS represent a coverage rate of approximately 10.4 percent, a figure that, while reflecting strong early momentum for a scheme operational for less than a year, simultaneously underscores that nearly 90 percent of the eligible farmer base remains outside the formal credit system. Even modest improvements in fund capitalization and institutional outreach would yield substantial gains in coverage.

The table 27 presents three scenarios for progressive scale-up of the PCGS, modeled against the

**Table 27. Scenarios for progressive scale-up of the PCGS**

| Scenario                               | Farmers Reached | Coverage of Base (40,614) | Estimated Credit Volume | Avg. Loan per Farmer |
|----------------------------------------|-----------------|---------------------------|-------------------------|----------------------|
| Current State (Dec 2025)               | 4,232           | 10.4.00%                  | PKR 1.292 billion       | PKR 300,000          |
| Conservative Scale - Up (25% coverage) | 10,154          | 25.00%                    | PKR 3.05 billion        | PKR 300,000          |
| Moderate Scale -Up (50% coverage)      | 20,307          | 50.00%                    | PKR 6.09 billion        | PKR 300,000          |
| <b>Full Potential (80% coverage)</b>   | <b>32,491</b>   | <b>80.00%</b>             | <b>PKR 9.75 billion</b> | <b>PKR 300,000</b>   |

Note: Total ETI-GB cooperative farmer base = 40,614. Average loan size held constant at PKR 300,000 to isolate the coverage effect. 4,232 current borrowers = 10.4% of total base.

estimated total farmer base. These scenarios are not aspirational targets but are grounded in the operational evidence that the scheme achieved its full-year disbursement target in nine months, indicating that demand absorption capacity is not a binding constraint. The principal constraint is fund availability.

Even the conservative scenario, reaching 25 percent of the farmer base, would more than double current outreach and inject an additional PKR 1.76 billion into the rural economy of Gilgit-Baltistan. At the full-potential scenario of 80 percent coverage, the scheme would mobilize PKR 9.75 billion in agricultural credit, approaching 1.4 times the State Bank of Pakistan's estimated regional financing requirement of PKR 7.0 billion. This arithmetic underscores a fundamental point: the PCGS does not require redesign: it requires recapitalization.

## 14.2. Inflation-Adjusted Projections: Maintaining Real Credit Value

A structurally important but frequently overlooked dimension of agricultural credit schemes is the erosion of real loan value over time due to inflation. Pakistan has experienced significant inflationary pressures. In Pakistan although inflationary pressures have moderated since the monetary tightening cycle of 2023–24, food and agricultural input prices, including fertilizers, seeds, pesticides, and farm machinery, continue to rise faster than the general price level. If the average loan size is not periodically adjusted, the PKR 300,000 average loan that was adequate to finance farm inputs in 2025 will purchase a materially smaller basket of agricultural inputs by 2027 and beyond.

The table 28 models the inflation-adjusted loan requirement to maintain constant real purchasing power for borrowing farmers, using two scenarios: a moderate inflation path (10% annually) reflecting a successful monetary stabilization trajectory, and a higher-inflation path (18% annually) consistent with continued macroeconomic stress. Even under the moderate scenario, the real-equivalent loan value rises to PKR 363,000 by Year 2 and PKR 439,000 by Year 4: a 46 percent increase. Failure to adjust loan ceilings accordingly would erode the scheme's effectiveness as a productive financing tool.

| <b>Year</b>      | <b>Inflation-Adjusted Loan<br/>(10% p.a.)</b> | <b>Inflation-Adjusted Loan<br/>(18% p.a.)</b> |
|------------------|-----------------------------------------------|-----------------------------------------------|
| 2025 (Base Year) | 300,000                                       | 300,000                                       |
| 2026 (Year 1)    | 330,000                                       | 354,000                                       |
| 2027 (Year 2)    | 363,000                                       | 418,000                                       |
| 2028 (Year 3)    | 399,000                                       | 493,000                                       |
| 2029 (Year 4)    | 439,000                                       | 582,000                                       |
| 2030 (Year 5)    | 483,000                                       | 687,000                                       |

*Note: Base loan of PKR 300,000 adjusted for compound inflation. Two scenarios are considered: first if inflation rate is 10% per annum and second if inflation rate is 18% per annum*

The policy implication is clear. Loan ceilings under the PCGS should be indexed or reviewed annually against agricultural input price indices rather than kept fixed in nominal terms. A PKR 300,000 loan disbursed in 2025 retains its productive value only if it is raised proportionally. The cost of not doing so is borne not by the financial institution but by the farmer, who must either forgo



inputs, reduce acreage, or return to informal moneylenders to bridge the financing gap, directly undermining the scheme's core objectives.

### **14.3. Sector Diversification: Extending the PCGS Model to High-Potential Income Streams**

The current PCGS operates primarily within the domain of general agricultural production, financing inputs, seeds, fertilizers, and basic mechanization. While appropriate for an initial phase, the institutional architecture already in place is readily adaptable to sectors with substantially higher income-per-farmer potential. Gilgit-Baltistan's agro-ecological endowment and economic structure identify at least five areas where targeted PCGS credit windows would generate significant and near-term welfare gains. The most immediately compelling case is high-value horticulture. The region's temperate climate supports premium cherries, apricots, walnuts, and emerging crops such as almonds, with export potential to Gulf and Central Asian markets. Orchard intensification, however, requires multi-year investment in grafted planting material, drip irrigation, and post-harvest packaging, capital that smallholders cannot self-finance from annual crop income. Medium-term PCGS loans of PKR 500,000 to PKR 1,500,000 aligned to orchard maturation cycles could unlock income gains of PKR 200,000 to PKR 600,000 per farmer annually once orchards reach productive age, with aggregate regional potential exceeding PKR 10 billion annually within a decade given the estimated 25,000 to 30,000 orchard-owning households in GB.

Livestock and dairy represent an equally compelling opportunity. Cattle, yaks, and sheep form a primary asset base for mountain households, yet persistent undercapitalization forces farmers to sell milk and meat at distressed prices to informal traders. PCGS-structured livestock loans of PKR 150,000 to PKR 400,000 for improved-breed animals and basic dairy processing equipment could generate net income increases of PKR 80,000 to PKR 180,000 per household annually, with the short return cycle of dairy production making this well-suited to the scheme's existing loan-tenor structure. Similarly, apiculture and medicinal herb cultivation, both low-input, high-margin enterprises suited to smallholders with access to mountain pastures and forest margins, could be served through smaller PCGS windows of PKR 50,000 to PKR 150,000 with six-to-twelve-month tenors. The low capital barrier makes apiculture especially appropriate for women-only loan products, consistent with the scheme's gender inclusion mandate.

The growing tourism economy of Gilgit-Baltistan also opens a viable pathway for agri-tourism and homestay enterprise financing. Households along the Hunza Valley, Skardu district, and the Karakoram Highway corridor have significant latent potential to monetize farm-stay experiences and locally sourced food enterprises yet lack the PKR 200,000 to PKR 500,000 needed for basic visitor infrastructure. This is a particularly gender-inclusive opportunity, as women are the primary managers of domestic food production and hospitality in mountain communities. Finally, and perhaps most efficiently, extending the PCGS to finance post-harvest and cold storage infrastructure would capture value from production that already exists but is currently lost: estimates suggest that 25 to 40 percent of high-value fruit output in mountain regions is wasted between harvest and market due to inadequate handling. Recovering even a portion of this loss, without any increase in input costs or cultivated acreage, represents one of the highest-return investments available in the regional agricultural system, and directly reinforces the productivity gains that ETI-GB's irrigation development work has already generated.

### **14.4. Expected Economic Benefits of PCGS**

The Partial Credit Guarantee Scheme (PCGS) is projected to deliver wide-ranging economic benefits across individual, household, and systemic levels in Gilgit-Baltistan. At the farm level,

affordable access to formal credit is expected to enable smallholders to expand irrigated acreage, intensify cropping cycles, adopt improved inputs such as seeds, fertilizers, and mechanization, and invest in post-harvest handling, collectively reducing the undercapitalization that has historically constrained mountain agriculture. As farmers transition from subsistence-oriented production toward market-driven agribusiness, access to working capital will allow them to scale operations, aggregate produce through VAC platforms, negotiate improved contracts with traders, and achieve higher price realization and profit margins, reinforcing the commercialization gains already observed under ETI-GB interventions. At the household level, structured credit reduces dependency on costly informal lenders, replacing distress borrowing with productive borrowing and thereby improving income stability, protecting household assets, and supporting long-term poverty reduction. The scheme's targeted outreach to women (27% of borrowers) and youth (17% of borrowers) further strengthens economic inclusion by expanding women's financial agency, supporting youth entrepreneurship, and creating viable local livelihoods that reduce outmigration pressures. At the systemic level, VAC participation in borrower screening and repayment monitoring evolves these community platforms into sustainable financial intermediaries, while the partial risk-sharing mechanism incentivizes financial institutions to deepen agricultural lending in remote areas, laying the groundwork for tailored financial products and reducing long-term dependence on subsidized support. With the scheme currently reaching only 10.4% of the 40,614-strong ETI-GB cooperative farmer base, scaling to even 25% coverage would more than double outreach and inject an additional PKR 1.76 billion into the rural economy, while full-potential coverage of 80% would mobilize PKR 9.75 billion in agricultural credit, approaching 1.4 times the State Bank of Pakistan's estimated regional financing requirement of PKR 7.0 billion.

## **15. Agri-Tech Fellows Programme: Strengthening Human Capital and Innovation**

Recognizing that long-term agricultural transformation requires sustained investments in human capital and knowledge systems, ETI-GB introduced the Agri-Tech Fellows Programme to mainstream agricultural education, innovation, and nutrition awareness within schools and farming communities. Implemented in partnership with the School Education Department, Government of Gilgit-Baltistan, and GBRSP, the programme addresses gaps in youth engagement, agricultural skills, and technology diffusion that constrain the sustainability of rural development outcomes.

Through a competitive selection process, ETI-GB deployed 50 Agri-Tech Fellows across 82 government schools in 10 districts, reaching more than 8,000 students. The fellows delivered structured learning on agricultural entrepreneurship, value chain development, modern production technologies, kitchen gardening, nutrition, and climate-resilient practices. Each fellow was also linked to at least one nearby VAC, where they provided technical support to farmers and disseminated awareness messages on food security and nutrition, thereby strengthening linkages between formal education systems and community-based agricultural institutions. By bridging schools and VACs, the Agri-Tech Fellows Programme enhanced the depth of ETI-GB's institutional and capacity-building interventions, promoted intergenerational knowledge transfer, and reinforced the adoption of improved practices critical for sustaining project outcomes.

## **16. Poverty Analysis**

Poverty reduction constitutes the ultimate goal-level indicator of the Economic Transformation Initiative (ETI) in Gilgit-Baltistan. While the preceding sections documented substantial improvements in agricultural production, irrigated land expansion, technology adoption,

commercialization, enterprise development, and institutional strengthening, these intermediate and outcome-level achievements must ultimately be assessed in terms of their contribution to reducing multidimensional poverty. ETI-GB's theory of change is built on a sequential pathway: irrigation and land development expand productive capacity; value-chain support enhances productivity and commercialization; Farm-to-Market Roads reduce transaction costs and enable market participation; rural enterprises generate employment and diversify income sources; and producer organizations strengthen collective action and value capture. Together, these interventions are expected to increase household income, build assets, enhance resilience, and ultimately reduce poverty.

However, poverty in Gilgit-Baltistan is multidimensional and cannot be adequately captured through income indicators alone. Households often experience overlapping deprivations in education, health, housing quality, sanitation, asset ownership, and access to services. Therefore, to assess whether the documented gains in production, commercialization, and enterprise performance translated into broader welfare improvements, this section employs the Multidimensional Poverty Index (MPI). The MPI framework measures both the incidence (headcount) and intensity (depth) of deprivation, allowing for a comprehensive evaluation of household wellbeing.

Importantly, the poverty outcomes observed in this assessment are compared with the MPI estimates reported in the MICS 2016–17 survey, which serves as the most recent pre-intervention provincial benchmark for Gilgit-Baltistan. By comparing treatment and control households with the MICS baseline context, the analysis situates ETI results within a broader temporal and regional framework. This comparative approach enables assessment of whether ETI-supported households experienced poverty reduction beyond background trends and whether improvements in agricultural productivity, market access, enterprise development, and institutional strengthening collectively contributed to measurable progress toward the programme's overarching goal of poverty reduction.

| <b>Indicator</b>     | <b>Treatment Group</b> | <b>Control Group</b> | <b>MICS-2016-17</b> |
|----------------------|------------------------|----------------------|---------------------|
| <b>Headcount (H)</b> | 28.23%                 | 29.77%               | 34.8                |
| <b>Intensity (A)</b> | 56.34%                 | 56.63%               | 51.5%               |
| <b>MPI</b>           | 0.159                  | 0.168                | 0.179               |

The Multidimensional Poverty Index (MPI) results (Table 29) provide an important assessment of ETI-GB's progress toward its overarching goal of poverty reduction. The table compares treatment households (ETI beneficiaries), control households, and the provincial benchmark reported in MICS 2016–17, thereby situating programme outcomes within both a comparative and historical context. The poverty headcount ratio (H) is 28.23 percent among treatment households and 29.77 percent among control households, compared to 34.8 percent reported in MICS 2016–17. This indicates a noticeable decline in the proportion of multidimensionally poor households relative to the provincial benchmark. The reduction is slightly stronger among ETI-supported households, suggesting that the programme's interventions, particularly in agricultural productivity, commercialization, enterprise development, and institutional strengthening, have contributed to



accelerating poverty reduction beyond broader background improvements. The detailed deprivation score distribution for treatment and control households is presented in Annex-B (Table Annex-B).

The observed decline in poverty incidence reflects the cumulative effects of expanded irrigated land, increased production, improved market participation, higher income levels, and stronger collective institutions documented in earlier sections. These gains likely enabled a meaningful segment of beneficiary households to cross the multidimensional poverty threshold. Given that poverty in high-mountain regions is deeply rooted in structural and geographic constraints, even moderate percentage-point reductions represent substantive progress at the household level.

With respect to poverty intensity (A), both treatment and control groups report similar levels (56.34 percent and 56.63 percent, respectively), compared to 51.5 percent in MICS 2016–17. While intensity remains relatively high, the key finding of this analysis is that the overall MPI value declines to 0.159 for treatment households, compared to 0.168 for the control group and 0.179 in MICS 2016–17. The lower MPI among ETI beneficiaries indicates measurable improvement in multidimensional poverty outcomes. Since MPI combines both incidence and intensity, the reduction primarily reflects the decline in the proportion of households classified as poor.

It is important to recognize that poverty reduction, particularly in structurally constrained mountain economies, is a gradual process that unfolds over time. Economic transformation interventions such as irrigation expansion, value-chain integration, enterprise promotion, and institutional strengthening typically first influence income and production outcomes. Improvements in broader living standards, asset accumulation, and resilience follow progressively. Therefore, while the current findings demonstrate meaningful progress in reducing poverty incidence, deeper and more sustained reductions are likely to materialize over a longer horizon as economic gains consolidate and translate into improved household wellbeing.

Overall, the MPI analysis confirms that ETI-GB has advanced toward its goal-level objective of poverty reduction. The decline in poverty headcount and overall MPI value among beneficiary households reflects positive movement in the intended direction, consistent with the programme's theory of change. Continued support, scaling of successful interventions, and sustained economic growth will be essential to reinforce and deepen these gains over time.





# CONCLUSION

## 1. Overall Impact and Validation of Programme Design

This impact assessment provides consistent and triangulated evidence that the Economic Transformation Initiative, Gilgit-Baltistan has contributed to substantial and broadly shared improvements across the majority of its logframe and Core Outcome Indicators. The analysis is grounded in a quasi-experimental mixed-methods design combining household survey data from 804 treatment and 786 control households with qualitative evidence from Focus Group Discussions and Key Informant Interviews across districts. The convergence of quantitative treatment–control differentials with qualitative testimonies strengthens confidence in attribution and reduces the likelihood that observed changes reflect background economic trends alone.

Across productive assets, agricultural production, income growth, market engagement, institutional development, and household well-being, the direction and magnitude of results consistently favor beneficiary households. The internal coherence between expanded irrigation access, increased production volumes, higher commercialization, and income gains confirms that the programme's intended theory of change operated as designed. Outcomes are strongest where multiple interventions were layered and integrated, demonstrating the importance of sequencing and complementarities rather than isolated investments.

The assessment finds that the overall programme logic, beginning with expansion of productive infrastructure, followed by productivity enhancement, value chain strengthening, market access improvements, and institutional development, is conceptually sound and contextually appropriate for fragile, resource-constrained mountain economies. In a setting characterized by extreme geographic isolation, limited cultivable land, and thin markets, the integrated asset-based and market-oriented approach addressed multiple structural constraints simultaneously.

Based on the strength, consistency, and cross-validated nature of the findings, the assessment team endorses the core design and methodological approach with confidence. While adaptive refinements and targeted improvements are warranted in future phases, the ETI-GB model demonstrates practical viability and policy relevance. The evidence suggests that this integrated rural transformation framework holds significant potential for replication in similarly marginalized and ecologically constrained regions within Pakistan and in comparable high-mountain contexts beyond.

## 2. Expansion of Productive Assets as the Structural Enabler

The most foundational contribution of ETI-GB lies in the expansion of the productive asset base available to rural households. In a high-mountain region where less than two percent of land is cultivable and water scarcity constitutes the principal structural constraint, access to irrigated land is the determining factor for agricultural viability. Irrigation and land development interventions converted previously underutilized and water-scarce terrain into cultivable farmland, increasing average irrigated holdings from 0.60 acres at baseline to 1.50 acres. This represents a substantial enhancement of productive capacity at the household level.

Treatment–control comparisons further confirm the significance of this shift. A markedly higher proportion of treatment households report secure access to agricultural land relative to non-beneficiaries, reinforcing the central role of irrigation expansion in enabling subsequent improvements in production and income. Qualitative evidence indicates that newly irrigated plots were often previously considered uneconomical or marginal, and their conversion altered

household perceptions of agricultural potential and planning horizons.

Importantly, this expansion of productive assets functioned as the enabling condition upon which downstream outcomes were built. Without reliable irrigation access and expanded cultivable land, subsequent investments in improved seeds, fertilizers, training, and value chain support would have generated limited returns. The evidence therefore confirms that asset expansion was not merely an output achievement but a structural precondition for sustained productivity growth and commercialization.

In fragile and geographically constrained mountain economies, where production possibilities are tightly bounded by ecological limits, such asset-based interventions represent a strategic entry point for rural transformation. The results suggest that expanding access to productive land and water resources remains a necessary foundation for any long-term agricultural development strategy in Gilgit-Baltistan.

### **3. Productivity Gains and the Transition to Market-Oriented Agriculture**

Building on expanded access to irrigated land, ETI-GB interventions were associated with measurable improvements in agricultural productivity among beneficiary households. A significantly higher proportion of treatment households reported increased production compared to control households, exceeding the programme's logframe benchmark for production growth. These gains were not attributable to a single input but emerged from the combined effects of irrigation expansion, adoption of improved seeds and fertilizers, enhanced farming practices, and structured training and extension support.

The results indicate that productivity improvements were knowledge-driven as well as asset-based. Households reported greater use of modern inputs, improved cropping intensity, and more systematic planning of cultivation cycles. The value chain component further reinforced this shift, with supported households reporting higher production volumes and improved post-harvest handling practices. The interaction between infrastructure, technology adoption, and training created reinforcing effects that strengthened production systems rather than simply expanding cultivated area.

Qualitative evidence consistently documents a transition from subsistence-oriented production toward more market-aware agricultural behavior. In multiple districts, beneficiaries described producing beyond household consumption needs, planning crop choices based on demand patterns, and investing in quality-enhancing practices to meet market requirements. This shift reflects an evolution in production logic, from survival-oriented farming to surplus generation and commercial engagement.

Importantly, these changes appear structural rather than temporary. The sustained adoption of improved practices and continued cultivation of newly irrigated land suggest that productivity gains are embedded within farming systems. In the context of fragile mountain agriculture, where small plot sizes and ecological constraints limit scale expansion, improvements in productivity per unit of land represent a critical pathway for sustainable income growth.

### **4. Income Growth and Livelihood Resilience**

Income outcomes represent one of the most substantive dimensions of ETI-GB's results. A large majority of beneficiary households reported increases in overall income, and treatment

households recorded substantially higher average agricultural income compared to control households. These gains were not confined to a narrow subset of participants but were broadly distributed across intervention types and districts, indicating that income improvements were systemic rather than isolated.

Beyond the incidence of income growth, the magnitude of reported increases suggests meaningful livelihood strengthening. A significant proportion of beneficiary households experienced substantial percentage increases in income, indicating that productivity gains translated into tangible economic benefits. The comparative advantage observed between treatment and control households further strengthens confidence that income improvements were associated with programme participation.

Importantly, the use of additional income reflects improvements in household resilience and forward-looking behavior. Beneficiary households allocated increased earnings toward children's education, healthcare, improved housing conditions, and more nutritious food consumption. These patterns suggest that income gains contributed to strengthening human capital and improving living standards rather than merely increasing short-term consumption.

Savings behavior further reinforces this trajectory. A higher proportion of treatment households reported saving during the past year compared to control households, and a notable share reinvested savings into income-generating activities and productive assets. This emerging reinvestment cycle indicates growing financial stability and a gradual shift from vulnerability management toward livelihood consolidation.

In fragile mountain economies characterized by climatic risk and market volatility, such diversification of income use, combining consumption smoothing, human capital investment, and productive reinvestment, represents an important indicator of strengthening household resilience.

## **5. Market Connectivity and the Emerging Market Infrastructure Gap**

Farm-to-Market Roads addressed one of the most persistent structural barriers in Gilgit-Baltistan: geographic isolation. Reduced travel times and transport costs significantly improved physical access to markets, services, and buyers. Beneficiaries consistently reported shorter travel durations, lower logistical burdens, and improved marketing frequency. Treatment households demonstrated higher levels of participation across marketing channels compared to control households, indicating that improved connectivity facilitated greater commercialization.

The evidence confirms that physical connectivity functions as a core economic enabler. Without reliable road access, productivity gains generated through irrigation and improved practices cannot translate effectively into market engagement and income growth. The emergence of cooperative-based marketing in programme areas, largely absent in control locations, further demonstrates how improved infrastructure stimulates institutional and commercial responses.

However, as agricultural surpluses increase and commercialization deepens, qualitative evidence and dissemination workshop discussions indicate that physical connectivity alone may no longer represent the primary constraint. Stakeholders increasingly pointed to the absence of structured, regulated wholesale market infrastructure within the region as an emerging bottleneck. While Farm-to-Market Roads connect producers to existing markets, the region lacks organized

wholesale auction platforms capable of supporting transparent price discovery, aggregation at scale, and systematic engagement with larger buyers.

As high-value horticulture and vegetable production expand, the need for formal wholesale facilities becomes more pronounced. Such infrastructure, including regulated auction spaces and aggregation hubs, may need to be considered as a natural extension of the programme's productive infrastructure framework. This reflects a progression in development sequencing: once access and production constraints are addressed, market system capacity becomes the next critical frontier.

The evidence therefore suggests that future rural transformation efforts in Gilgit-Baltistan will likely require strategic strengthening of market institutions alongside continued support for production and connectivity.

## **6. Institutional Strengthening and Participatory Governance Architecture**

Beyond infrastructure and production gains, ETI-GB contributed to the development of structured community-based institutions intended to coordinate production, marketing, and asset management at the local level. The establishment and strengthening of Village Agriculture Cooperatives (VACs), alongside Water User Associations and Social Mobilization Teams, provided an institutional platform for collective action in programme areas. With extensive membership across districts, these structures function as intermediary mechanisms linking producers with markets, service providers, and government agencies.

Qualitative evidence indicates that participatory implementation processes strengthened local ownership and enhanced transparency in decision-making. In districts where cooperatives conduct regular meetings, maintain financial records, and facilitate inclusive participation, members reported increased trust in collective processes and improved coordination in input procurement, marketing, and asset management. Governance practices such as collective price negotiation, quality control mechanisms, and transparent sales procedures reduced transaction costs and improved producer bargaining power.

At the same time, institutional performance varies across locations. Some cooperatives demonstrate effective leadership, formal buyer linkages, and functional management systems, while others face constraints related to financial literacy, documentation practices, and limited post-project mentoring. In certain contexts, inclusion of women and smallholders remains uneven. These differences suggest that participatory governance is not uniform and that institutional maturity remains closely tied to management capacity and continued facilitation support.

Importantly, cooperatives operate within a broader development ecosystem. ETI-GB's institutional model is embedded within partnerships involving provincial line departments, including Agriculture Extension, Irrigation, and Livestock, as well as local government bodies and established regional development organizations. Collaboration with public technical services supported training and input dissemination, while engagement with non-governmental partners strengthened community mobilization processes. Interactions with private buyers and processors, particularly within value chain components, reflect an evolving public-private-community interface in which cooperatives function as bridging institutions.

The long-term sustainability of ETI-GB's institutional gains will depend not only on infrastructure



durability but on continued strengthening of governance relationships, clarity of roles among actors, and consolidation of cooperative management capacity. Sustained engagement with provincial authorities and market actors will be essential to ensure that these institutions mature into self-sustaining platforms capable of maintaining collective action beyond the programme lifecycle.

## **7. Nutrition, Health, and Household Well-Being**

ETI-GB's impacts extend beyond production and income indicators to measurable improvements in household well-being. Treatment-control comparisons indicate positive shifts in women's dietary diversity, food hygiene practices, nutrition awareness, and access to healthcare services. A substantially higher proportion of beneficiary households reported improved ability to seek medical care when needed compared to control households, suggesting that income gains translated into enhanced access to essential services.

The allocation of additional income toward education, healthcare, improved housing conditions, and more diverse food consumption reflects strengthening human capital and living standards. These patterns indicate that income growth was not limited to increased consumption but contributed to broader well-being outcomes at the household level.

Although ETI-GB was not designed as a dedicated nutrition intervention, its integrated agricultural and market-oriented approach has influenced local food availability and access. Increased production of vegetables, fruits, and other marketable crops, combined with improved connectivity, appears to have contributed to greater dietary diversity in beneficiary households. This suggests that asset-based agricultural investments can generate indirect food system benefits when productivity and commercialization are strengthened simultaneously.

At the goal level, Multidimensional Poverty Index analysis confirms measurable progress in reducing deprivation. Treatment households exhibit lower poverty headcount and intensity relative to both control households and provincial benchmarks. In the structurally constrained mountain context of Gilgit-Baltistan, where poverty is deeply intertwined with geographic isolation and limited economic opportunity, these improvements represent substantive progress in enhancing overall household well-being.

## **8. Integrated Design and Validation of the Theory of Change**

Across all outcome areas, the strongest and most consistent results are observed where interventions were delivered in an integrated manner. Households benefiting from complementary combinations of irrigation and land development, farm-to-market connectivity, value chain support, and institutional facilitation consistently demonstrate stronger production, income, and commercialization outcomes than those receiving single-component support. This pattern confirms that integration was not merely a design preference but an operational necessity in a context characterized by multiple, overlapping constraints.

The sequencing of interventions, beginning with expansion of productive assets, followed by productivity enhancement, commercialization support, and institutional strengthening, reflects a coherent and context-responsive theory of change. Asset expansion enabled production growth; production growth created surplus; connectivity facilitated commercialization; and institutional platforms supported coordination and market engagement. The interaction of these components generated reinforcing effects across the rural economy.

The evidence suggests that isolated investments in any one domain would likely have produced

more limited outcomes. In fragile mountain economies where land scarcity, market isolation, institutional weakness, and climatic vulnerability coexist, addressing constraints sequentially and cumulatively appears essential for durable impact. The assessment therefore validates the integrated rural transformation model as an effective framework for complex and geographically constrained settings.

The observed complementarities across components provide an empirical foundation for consolidation and potential replication. While contextual adaptations are necessary, the integrated asset-based, market-oriented, and institutionally anchored approach demonstrates a viable pathway for rural development in similarly marginalized regions.

## **9. Access to Agri-Finance and Sustainability: Partial Credit Guarantee Scheme (PCGS)**

The Partial Credit Guarantee Scheme (PCGS) stands as a strategic sustainability mechanism of ETI-GB, effectively bridging the critical gap in formal agricultural finance. As of December 2025, the scheme disbursed PKR 1.292 billion to 4,232 VAC member farmers, achieving 89 percent portfolio utilisation and meeting its annual target in just nine months. Over 50 percent of borrowers are new to formal banking, with women accounting for 27 percent and youth 17 percent. Importantly, 22.8 percent of beneficiary households are reinvesting additional income into productive farm activities, demonstrating a clear shift toward commercialisation and resilience.

With coverage currently at only 10.4 percent of the 40,614 cooperative farmers, the PCGS exhibits strong latent demand. Inflation-adjusted loan indexing and expansion into high-value sectors such as horticulture, livestock, apiculture, and post-harvest infrastructure will maximise its impact. The scheme successfully completes the ETI-GB theory of change by transforming short-term productivity gains into long-term economic sustainability in Gilgit-Baltistan's mountain economy.

## **10. Forward-Looking Considerations and System-Level Challenges**

While the overall evidence confirms substantial progress, several structural considerations require sustained attention to consolidate and extend gains. As agricultural commercialization deepens and productive assets expand, the nature of binding constraints is evolving from access and production limitations toward institutional and system-level factors.

One area concerns the pace and complexity of irrigation and land development interventions. Qualitative evidence indicates that in certain locations, fragmented ownership patterns, unclear or informal land tenure arrangements, and protracted community negotiations slowed implementation and delayed full utilization of newly developed infrastructure. Secure land tenure and clear documentation remain foundational for maximizing the productivity of irrigated land. Addressing these issues requires coordinated engagement beyond the programme itself, including provincial land administration and regulatory authorities.

A second emerging concern relates to biosecurity risks associated with the increasing importation of uncertified planting material. As horticultural production and commercialization expand, stakeholders expressed apprehension regarding potential disease transmission and crop vulnerability. Strengthening certification systems, phytosanitary enforcement, and nursery regulation will be essential to safeguard productivity gains. This issue extends beyond ETI-GB's operational scope and calls for strengthened provincial oversight and agricultural regulatory capacity.



In addition, the sustainability of infrastructure investments, including irrigation schemes, roads, and cooperative facilities, will depend less on physical durability alone and more on institutional capacity for operation and maintenance. Variability in cooperative governance maturity and water user management structures indicates the need for continued mentoring, financial planning mechanisms, and formalized O&M arrangements to prevent asset underutilization.

Finally, as agricultural surpluses increase, structured wholesale market infrastructure has emerged as a strategic priority. While farm-to-market connectivity addressed physical isolation, the absence of regulated auction platforms and aggregation hubs limits transparent price discovery and large-scale buyer engagement. Future phases of rural transformation may therefore require expanded attention to formal market systems development as a natural extension of productive infrastructure.

Taken together, these considerations do not diminish the programme's achievements but rather signal its progression into a more advanced stage of rural transformation. The evolution of constraints from access deficits to institutional and regulatory challenges reflects structural progress. Addressing these next-generation issues will require continued programme adaptation, strengthen provincial engagement, and coordinate public-private collaboration.





# RECOMMENDATIONS

The following seven recommendations are grounded in the assessment findings and are designed to consolidate gains, address emerging constraints, and guide future programming in Gilgit-Baltistan and similar high-mountain contexts.

## 1. Overall Impact and Validation of Programme Design

- The expansion of irrigated land is the foundational achievement of ETI-GB. Protecting this asset base requires formalized, long-term operation and maintenance (O&M) systems that extend beyond project-dependent arrangements.
- Community-based Water User Associations should be formally registered where feasible, trained in financial planning and maintenance scheduling, and supported to establish maintenance funds. Clear O&M protocols should be documented for all schemes. Provincial departments, particularly Irrigation and Agriculture Engineering, should designate routine technical backstopping functions and allocate dedicated maintenance lines within district budgets.
- Without institutionalized O&M systems, productivity gains risk erosion over time, particularly under increasing climate variability.

## 2. Accelerate the Transition to Structured Wholesale Market Infrastructure

- As agricultural surpluses increase, the principal constraint is shifting from access and production toward market absorption and price discovery. While Farm-to-Market Roads improved connectivity, the absence of regulated wholesale aggregation and auction platforms ("mandis") now limits transparent pricing and bulk marketing by VACs.
- The Government of Gilgit-Baltistan, in partnership with ETI-GB and private actors, should pilot structured wholesale market facilities in high-surplus districts. These facilities should include auction mechanisms, grading and quality control systems, storage, and transparent price reporting.
- Market infrastructure should be recognized as a natural extension of productive infrastructure within the programme's development logic.

## 3. Consolidate and Differentiate Support to Village Agriculture Cooperatives

- VAC performance varies significantly across districts. A differentiated support strategy is therefore required.
- Lower-performing cooperatives should receive intensified governance training, financial management mentoring, and structured business planning support. Higher-performing cooperatives should be supported to form federated or commodity-level associations to achieve economies of scale and strengthen bargaining power.
- Provincial line departments and NGOs should formalize engagement protocols with VACs to embed them within the long-term development architecture.



## 4. Strengthen Agricultural Biosecurity and Planting Material Certification

- With rising horticultural commercialization, the importation of uncertified planting material presents a growing biosecurity risk. Qualitative evidence indicates concern among farmers regarding disease transmission and orchard vulnerability.
- The provincial government should strengthen phytosanitary inspection systems, certify nurseries, and enforce planting material standards. ETI-GB should integrate disease risk awareness into extension programming.
- Protecting plant health is essential to safeguarding productivity gains.

## 5. Secure Land Tenure and Streamline Land Development Processes

- Irrigation and land development interventions face delays in areas with fragmented ownership and unclear tenure documentation. Secure land tenure is a prerequisite for maximizing returns on infrastructure investments.
- The Government of Gilgit-Baltistan should initiate coordinated land documentation and dispute resolution mechanisms in priority programme areas. Future land development planning should integrate tenure verification early in the project cycle to reduce implementation delays.
- This recommendation requires provincial-level policy engagement beyond ETI-GB alone.

## 6. Formalize and Expand the Partial Credit Guarantee Scheme (PCGS)

- ETI-GB, in partnership with the Government of Gilgit-Baltistan, federal authorities, and development finance institutions, should prioritise recapitalisation of the PCGS guarantee fund as an immediate strategic objective. The scheme has conclusively proven its model, achieving its annual disbursement target in nine months, converting over 50 percent of borrowers from unbanked to formal credit participants, and maintaining a near-89 percent portfolio utilisation rate. The binding constraint is fund availability, not demand or institutional capacity, and recapitalisation requires no structural redesign. Investment in the fund will directly and predictably translate into expanded farmer outreach and income impact.
- With 22.8 percent of beneficiary households already reinvesting saving into farm-related activities, a clear behavioural shift toward productive asset accumulation and commercial agriculture is underway. ETI-GB should ensure that this momentum is not lost by expanding affordable and reliable access to formal agricultural finance across the eligible farmer base. Sustaining this reinvestment pattern at scale requires the PCGS to move beyond its current 10.4 percent coverage of the 40,614-strong cooperative farmer base, precisely the structural gap the scheme was designed to address.
- ETI-GB, in collaboration with the State Bank of Pakistan and the Government of Gilgit-Baltistan, should formalise the PCGS as a permanent pillar of the regional agricultural finance architecture rather than a project-level intervention. Progressive expansion toward 50 percent coverage by 2030 would mobilise an estimated PKR 9.8 billion in

agricultural credit annually, generating PKR 17.6 billion in rural income impact and converting the growing commercialisation observed among beneficiaries into a sustained, region-wide economic transformation.

## **7. Institutionalize Nutrition-Sensitive and Inclusive Value Chain Development**

- Income and production gains have contributed to improved dietary diversity and household well-being, but nutrition impacts remain largely indirect. Future programming should embed nutrition-sensitive approaches across agricultural extension and cooperative activities.
- Promotion of nutrient-dense crops, safe food handling practices, and linkages with health services should be mainstreamed. Targeted strategies are also needed to expand women's and youth participation in enterprise management, value addition, and cooperative governance.
- Inclusive commercialization strengthens both equity and long-term resilience.

Together, these seven recommendations reflect the programme's progression from asset expansion to system consolidation. The evidence confirms that ETI-GB's integrated model is sound and contextually appropriate. The next phase of rural transformation in Gilgit-Baltistan will require institutional deepening, regulatory strengthening, and structured market development to sustain and scale the gains achieved.



## ANNEXTURES

**Table Annex-A: Households' Assessment of the Project's Role in Enabling Savings**

| Intervention Category | Major Contribution (%) | Large Contribution (%) | Some Contribution (%) | Small Contribution (%) |
|-----------------------|------------------------|------------------------|-----------------------|------------------------|
|                       | 2022 → 2025            | 2022 → 2025            | 2022 → 2025           | 2022 → 2025            |
| <b>ILD only</b>       | 18 → 21.88             | 32 → 15.63             | 41 → 50               | 9 → 12.50              |
| <b>FMR only</b>       | 38 → 18.37             | 21 → 40.82             | 36 → 36.73            | 4 → 4.08               |
| <b>VC only</b>        | 16 → 30.10             | 27% → 24.27            | 45% → 42.72           | 11 → 2.91              |
| <b>ILD + FMR</b>      | 4 → 20                 | 33 → 13.33             | 44 → 60               | 19 → 6.67              |
| <b>ILD + VC</b>       | 22 → 23                | 30 → 31                | 48 → 100              | 0 → 0                  |
| <b>ILD + FMR + VC</b> | 21 → 28.57             | 42 → 57.14             | 26 → 14.29            | 11 → 0                 |
| <b>Overall</b>        | <b>21 → 25.11</b>      | <b>29 → 26.03</b>      | <b>41 → 44.29</b>     | <b>1 → 4.57</b>        |

**Table Annex-B: TABLE POVERTY PROFILE: DEPRIVATION SCORE DISTRIBUTION**

| Score Band               | Poverty Status      | TREATMENT GROUP |               |            | CONTROL GROUP |               |            |
|--------------------------|---------------------|-----------------|---------------|------------|---------------|---------------|------------|
|                          |                     | n               | %             | MPI Poor   | n             | %             | MPI Poor   |
| <b>Not Deprived</b>      | <b>Not Deprived</b> | <b>65</b>       | 8.19          | 0          | <b>55</b>     | 7.00          | 0          |
| <b>Vulnerable – Low</b>  | <b>Not Deprived</b> | <b>178</b>      | 22.10         | 0          | <b>171</b>    | 21.80         | 0          |
| <b>Vulnerable – Mid</b>  | <b>Vulnerable</b>   | <b>154</b>      | 19.20         | 0          | <b>160</b>    | 20.40         | 0          |
| <b>Vulnerable – High</b> | <b>Vulnerable</b>   | <b>180</b>      | 22.40         | 0          | <b>166</b>    | 21.10         | 0          |
| <b>Poor – Mild</b>       | <b>MPI Poor</b>     | <b>145</b>      | 18.00         | 145        | <b>149</b>    | 19.00         | 149        |
| <b>Poor – Moderate</b>   | <b>MPI Poor</b>     | <b>69</b>       | 8.60          | 69         | <b>71</b>     | 9.00          | 71         |
| <b>Poor – Severe</b>     | <b>MPI Poor</b>     | <b>13</b>       | 1.60          | 13         | <b>14</b>     | 1.80          | 14         |
| <b>TOTAL</b>             |                     | <b>804</b>      | <b>100.00</b> | <b>227</b> | <b>786</b>    | <b>100.00</b> | <b>234</b> |

### 3. Quantitative Survey Tools

#### Survey Questionnaire (Treatment Group)

##### CONSENT FORM

(Impact Assessment of ETI-Interventions in Gilgit-Baltistan)

##### **Basic Information:**

**Project:** Impact Assessment of ETI-Interventions in Gilgit-Baltistan

Country: Pakistan District: \_\_\_\_\_ Village: \_\_\_\_\_

Enumerator Name: \_\_\_\_\_ Interview Date: \_\_\_\_\_

Interview Start Time: \_\_\_\_\_ Interview End Time: \_\_\_\_\_

Household ID: \_\_\_\_\_ Name of Respondent: \_\_\_\_\_

##### **Introduction:**

Good morning/afternoon, Mr./Mrs. \_\_\_\_\_.

We are from HIMAT Consulting Firm, commissioned by the Economic Transformation Initiative–Gilgit Baltistan (ETI-GB) to conduct a study titled “Impact Assessment of ETI-Interventions in Gilgit-Baltistan.”

The ETI-GB program has supported interventions in areas such as Irrigation and Land Development (ILD), Farm-to-Market Roads (FMR), Bridges, Value Chain Development (VACs), and Capacity Building. This survey aims to assess how these interventions have affected rural households in terms of livelihoods, agricultural productivity, market access, and overall well-being. Your household has been selected to participate in this study. The interview will take approximately 30 minutes.

##### **Confidentiality and Rights:**

1. All information you provide will remain strictly confidential.
2. Your answers and identity will never be revealed in reports or publications.
3. Participation is voluntary. You may choose not to answer any question and may stop the interview at any time without any consequences.
4. The objective of this study is to evaluate the effectiveness and impact of ETI-GB interventions on rural livelihoods and development. We kindly request your honest responses.
5. If you have any questions about the study, interview, or your participation, please feel free to contact:

##### **HIMAT Consulting Pvt Ltd**

Email: \_\_\_\_\_

Phone: \_\_\_\_\_



ETI-GB Contact Person: \_\_\_\_\_

You will also be given a copy of this consent form for your records.

**Consent:**

Do you agree to participate in this interview?

1. Yes \_\_\_\_

2. No \_\_\_\_

Do you have any questions before we start? \_\_\_\_\_

**Enumerator Certification:**

I, \_\_\_\_\_, the enumerator responsible for the interview taking place on \_\_\_\_\_, 2025 certify that I have read the above statement to the participant and they have consented to the interview. I pledge to conduct this interview as per the study guidelines and inform my supervisor of any issues during the process.

Signature of Enumerator: \_\_\_\_\_

Signature of Team Leader: \_\_\_\_\_

**Note to Enumerator:**

If the household does not give consent, stop the interview and inform your team leader immediately. Team leaders will record the reason and decide whether partial data collection is possible.

## SECTION A: HOUSEHOLD PARTICIPATION IN PROJECT ACTIVITIES

| A1. Which of the following activities have you benefited from? |                                                                                                                                                  |                      |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <b>A1.i.</b>                                                   | Irrigation and land développement (ILD):<br>1= Yes 2= No                                                                                         | __  (use codes here) |
| <b>A1.ii.</b>                                                  | Farm roads :<br>1= Yes 2= No                                                                                                                     | __  (use codes here) |
| <b>A1.iii.</b>                                                 | Value chain support :<br>1= Yes 2= No                                                                                                            | __  (use codes here) |
| <b>A1.iii. a)</b>                                              | For which commodity?<br>Codes<br>1= Potatoes<br>2=Apricot<br>3= Orchards/nurseries<br>4= Vertical farming<br>5=Dairy<br>6. Other, Please specify | __  (use codes here) |

## SECTION B: HOUSEHOLD PROFILE (ALL RESPONDENTS)

| S.NO       | Questions/Options                                                                                                                                                                                                                                                                               | Indicator Reference no |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>B.1</b> | Respondent:                                                                                                                                                                                                                                                                                     | All                    |
| <b>B2</b>  | Relationship to HH Head<br>1=Head, 2=Spouse, 3=Child, 4=Grandchild,<br>5=Niece/Nephew, 6=Father/Mother, 7=Sister/Brother,<br>8=Son/Daughter-in-law, 9=Brother/Sister-in-law,<br>10=Grandfather/Mother, 11=Father/Mother-in-law,<br>12=Other Relative, 13=Other Non-relative, 14=Other (specify) |                        |
| <b>B3</b>  | Household head Name:                                                                                                                                                                                                                                                                            |                        |
| <b>B4</b>  | HH Head Education<br>1=None, 2= Primary, 3=Middle, 4=SSc, 5=HSSC,<br>6=BA/BSc, 7=MA/MSc, 8=M.Phil 9=PhD,<br>10=diploma/certificate                                                                                                                                                              |                        |
| <b>B5</b>  | Marital Status<br>1=Married, 2=Unmarried, 3=widow, 4=divorced,<br>5=other                                                                                                                                                                                                                       |                        |
| <b>B6</b>  | Age of HH Head                                                                                                                                                                                                                                                                                  |                        |
| <b>B7</b>  | Gender<br>1=Male, 2=Female                                                                                                                                                                                                                                                                      |                        |
| <b>B8</b>  | Total Members                                                                                                                                                                                                                                                                                   |                        |
| <b>B9</b>  | Male                                                                                                                                                                                                                                                                                            |                        |
| <b>B10</b> | Female                                                                                                                                                                                                                                                                                          |                        |
| <b>B11</b> | Under 5 Children                                                                                                                                                                                                                                                                                |                        |
| <b>B12</b> | 5-17years                                                                                                                                                                                                                                                                                       |                        |
| <b>B13</b> | 18-35 Years                                                                                                                                                                                                                                                                                     |                        |
| <b>B14</b> | 35-60 Years                                                                                                                                                                                                                                                                                     |                        |
| <b>B15</b> | 60 and above                                                                                                                                                                                                                                                                                    |                        |

|            |                                                                                       |  |
|------------|---------------------------------------------------------------------------------------|--|
| <b>B16</b> | Are there PWDs in the HH?<br>1. Yes 2. No (Skip to B17)<br>If yes How many?           |  |
| <b>B17</b> | Language at Home<br>B.9. 1. Shina, 2=Burushashki, 3=Wakhi, 4=Khowar, 5=Balti, 6=Other |  |

### SECTION C: POVERTY SCORE (ALL RESPONDENTS)

|            |                                                                                                                                                                                                                                                                                                                                                                                             |                                    |            |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------------|
| <b>C.1</b> | <b>How many people usually live and eat in this house<br/>(Don't include guests)</b>                                                                                                                                                                                                                                                                                                        | <b> ____ <br/>(use codes here)</b> | <b>All</b> |
| <b>C.2</b> | How many people in the household are under the age of 18 or over the age of 65?                                                                                                                                                                                                                                                                                                             | ____                               | All        |
| <b>C.3</b> | What is the highest educational level of the head of the household (completed)?<br>Codes:<br>1= Never attended school<br>2= Less than class 1 to class 5 included<br>3= Class 6 to class 10 included<br>4= Class 11, college or beyond                                                                                                                                                      | __  (use codes here)               | All        |
| <b>C.4</b> | How many children in the household between 5 and 16 years old are currently attending school?<br>Codes:<br>1= There are no children between age 5 to 16 years in the household<br>2= All the children between 5 -16 years are attending school<br>3= Only some of the children between 5 -16 years are attending school<br>4= None of the children between 5 -16 years are attending school | __  (use codes here)               | All        |
| <b>C.5</b> | How many rooms in the house?                                                                                                                                                                                                                                                                                                                                                                | __  (use codes here)               | All        |
| <b>C.6</b> | What kind of toilet is used by the household?<br>Codes:<br>1=Flush connected to a public sewerage, a pit or an open drain<br>2=Dry raised latrine or dry pit latrine<br>3=There is no toilet in the house                                                                                                                                                                                   | __  (use codes here)               | All        |
| <b>C.7</b> | Does the household own at least one refrigerator, freezer or washing machine?<br>1=Yes 2=No                                                                                                                                                                                                                                                                                                 | __  (use codes here)               | All        |
| <b>C.8</b> | Does the household own at least one air conditioner, air cooler, geyser or heater?<br>1=Yes 2=No                                                                                                                                                                                                                                                                                            | __  (use codes here)               | All        |
| <b>C.9</b> | Does the household own at least one cooking stove, cooking range or microwave oven?<br>1=Yes 2=No                                                                                                                                                                                                                                                                                           | __  (use codes here)               | All        |

|             |                                                                      |                                       |     |
|-------------|----------------------------------------------------------------------|---------------------------------------|-----|
| <b>C.10</b> | Does the household own the following engine driven vehicle?          | _  (use codes here)                   | All |
|             | Codes:                                                               |                                       |     |
|             | 1=At least one car / tractor and at least one motorcycle / scooter   |                                       |     |
|             | 2=At least one car / tractor but no motorcycle / scooter             |                                       |     |
|             | 3=No car / tractor but at least one motorcycle / scooter             |                                       |     |
|             | 4=Neither car / tractor NOR motorcycle / scooter                     |                                       |     |
| <b>C.11</b> | Does the household own at least one tv?                              | _  (use codes here)                   | All |
|             | 1=Yes      2=No                                                      |                                       |     |
| <b>C.12</b> | Does the household own the following livestock...?                   | _  (use codes here)                   | All |
|             | Codes:                                                               |                                       |     |
|             | 1=At least one buffalo / bullock AND at least one cow / goat / sheep |                                       |     |
|             | 2=At least one buffalo / bullock BUT NO cow / goat / sheep           |                                       |     |
|             | 3=No buffalo / bullock BUT at least one cow / goat / sheep           |                                       |     |
|             | 4=Neither buffalo / bullock NOR cow / goat / sheep                   |                                       |     |
| <b>C.13</b> | How much agricultural land does the household own? (Kanals):         | <input type="text"/> (use codes here) | All |
|             | Codes:                                                               |                                       |     |
|             | Less than 10 Kanals                                                  |                                       |     |
|             | 10-50 Kanals                                                         |                                       |     |
|             | Above 50 Kanals                                                      |                                       |     |

## SECTION D: INCOME AND SAVINGS (ALL RESPONDENTS)

| <b>D.1      What is the Primary household's income source?</b> |                                                  | _  (use codes here) |     |
|----------------------------------------------------------------|--------------------------------------------------|---------------------|-----|
|                                                                | Codes:                                           | _  (use codes here) | All |
|                                                                | 1=Farming                                        |                     |     |
|                                                                | 2=Livestock breeding                             |                     |     |
|                                                                | 3=Agricultural worker (e.g. agriculture)         |                     |     |
|                                                                | 3=Wood and wood products                         |                     |     |
|                                                                | 4=Handicraft                                     |                     |     |
|                                                                | 5=Petty trade                                    |                     |     |
|                                                                | 6=Trade and other small businesses               |                     |     |
|                                                                | 7=Civil servant                                  |                     |     |
|                                                                | 8=Construction worker                            |                     |     |
|                                                                | 9=Private sector employee                        |                     |     |
|                                                                | 10=Pension or other benefits                     |                     |     |
|                                                                | 11=Aid/assistance                                |                     |     |
|                                                                | 12=Other (Specify)<br>(_____)                    |                     |     |
| <b>D.2</b>                                                     | What is the secondary household's income source? | _  (use codes here) |     |
|                                                                | Codes:                                           |                     |     |



|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                              |       |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-------|
|               | 1=Farming                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                              | All   |
|               | 2=Livestock breeding                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                              |       |
|               | 3=Agricultural worker (e.g. agriculture)                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                              |       |
|               | 3=Wood and wood products                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                              |       |
|               | 4=Handicraft                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                              |       |
|               | 5=Petty trade                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                              |       |
|               | 6=Trade and other small businesses                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                              |       |
|               | 7=Civil servant                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                              |       |
|               | 8=Construction worker                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                              |       |
|               | 9=Private sector employee                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                              |       |
|               | 10=Pension or other benefits                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                              |       |
|               | 11=Aid/assistance                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                              |       |
|               | 12=Other<br>(Specify:_____)                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                              |       |
| <b>D.3</b>    | How many other family members contribute to the family income?                                                                                                                                                                                                                                                                                                                                                                                             |                                                                              | All   |
| <b>D3. i</b>  | Number of children below 16 years:                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                              |       |
| <b>D3. ii</b> | Number of youths aged 16-25 years:                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                              |       |
| <b>D3.iii</b> | Number of adults:                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                              |       |
| <b>D4.</b>    | What is the average monthly (or yearly) cash income of your household?                                                                                                                                                                                                                                                                                                                                                                                     | All                                                                          |       |
| <b>D4.i</b>   | Yearly income (in PKR):                                                                                                                                                                                                                                                                                                                                                                                                                                    | _____<br>PKR/year                                                            |       |
| <b>D4. ii</b> | Or Monthly income (in PKR):                                                                                                                                                                                                                                                                                                                                                                                                                                | _____<br>PKR/month                                                           |       |
| <b>D5.</b>    | What are your MONTHLY expenditures (for food, clothing, education, health, etc.)? :                                                                                                                                                                                                                                                                                                                                                                        | _____<br>PKR/month                                                           |       |
| <b>D6.</b>    | Did your participation in ETI-GB activities help you increase your family's income?<br>1=Yes 2=No (Go to D7)                                                                                                                                                                                                                                                                                                                                               | __  (use codes here)                                                         | 1.2.1 |
| <b>D6.i)</b>  | If yes, how large was this increase?<br>Codes:<br>1-Very large (+100% or doubling of income)<br>2=Significant (+50-99%)<br>3=Modest (+20-49%)<br>4=Very small (less than 20%)                                                                                                                                                                                                                                                                              | __  (use codes here)                                                         | 1.2.1 |
| <b>D6.ii)</b> | For which main purposes have you used this additional income?<br>Codes:<br>1=Purchase more food or more nutritious food<br>2=Investment in the farm/business<br>3=Education expenditures<br>4=Purchase of assets (bicycle, moto, car, etc.)<br>5=Purchase of animals<br>6=Home improvement (furniture, construction/renovation, etc.)<br>7=Medical treatment, health expenses<br>8=Social occasions (wedding, funerals, etc.)<br>9=For savings<br>8=Others | __  (use codes here)<br><br> _____ <br>(use codes here, select top two only) | 1.2.1 |

|                |                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                   |     |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----|
| <b>D7.</b>     | Have your household been able to accumulate savings in the past 12 months?<br>1=Yes 2=No (Go to E1)                                                                                                                                                                                                                                                                                                                 |                                                                                                                   |     |
| <b>D7.i)</b>   | If so, how much have you been able to save in the past 12 months/1 year?                                                                                                                                                                                                                                                                                                                                            | _____ PKR in past 1 year                                                                                          |     |
| <b>D7. ii)</b> | For which main purposes will you use your savings?<br>Codes:<br>1=Investment in an income-generating activity<br>2=Purchase of tools/raw material/agricultural inputs<br>3=Home improvement (furniture, construction/renovation, etc.)<br>4=Children's education/school expenditures<br>5=To pay for emergencies (health issues)<br>6=For social occasions (wedding, funerals, etc.)<br>7=Others<br>(Specify:_____) | <div> <div>_____ (use codes here)</div> <div>_____ (use codes here)</div> <div>(Two answers maximum)</div> </div> | All |
| <b>D7.iii)</b> | Has your participation in project activities contributed to enhance your ability to make savings?<br>1=Yes 2=No (Go to E1)                                                                                                                                                                                                                                                                                          | _____ (use codes here)                                                                                            |     |
| <b>D7.iv)</b>  | If so, how large was project contribution (to your ability to make savings)?<br>Codes:<br>1=The project was a major contributor<br>2=The project had a large contribution<br>3=The project had some contribution<br>4=The project had a small contribution                                                                                                                                                          | _____ (use codes here)                                                                                            | All |

## SECTION E: HEALTH AND EDUCATION (ALL RESPONDENTS)

|            |                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                 |  |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--|
| <b>E1.</b> | <b>BEFORE</b> your participation in project activities, were you always able to seek medical attention and pay for medicine when you, your spouse or your children, were sick?<br>Codes:<br>1=Yes<br>2=Yes, but only if anyone was seriously sick<br>3=Yes, but we could not usually afford to pay for medicine<br>4=No, we could not afford to pay doctor or medicine<br>5=No, there was no doctor or clinic nearby | (Only one answer)<br><br>_____ (use codes here) |  |
| <b>E2.</b> | <b>SINCE</b> your participation in project activities, are you now always able to seek medical attention and pay for medicine when you, your spouse or your children, are sick?<br>Codes:<br>1=Yes<br>2=Yes, but only if anyone is seriously sick                                                                                                                                                                    | _____ (use codes here)                          |  |

|            |                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                             |  |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|--|
|            | 3=Yes, but we cannot usually afford to pay for medicine<br>4=No, we cannot afford to pay for doctor or medicine<br>5=No, there is no doctor or clinic nearby<br>6= I don't think that this question is relevant<br>7= Others                                                                                                                                                                           |                                                                                             |  |
| <b>E3.</b> | Since your participation in project activities, what has the change in the health situation of your family members?<br>Codes:<br>1=Significant improvement<br>2=Some improvement<br>3=No change, situation is the same (Go to E6)<br>4=The situation is worse than before (Go to E6)                                                                                                                   | _  (use codes here)                                                                         |  |
| <b>E4</b>  | If the health situation of your household has improved, has the project contributed to this positive change?<br>1 Yes                      2 No (Go to E6)                                                                                                                                                                                                                                             | _  (use codes here)                                                                         |  |
| <b>E5</b>  | How did the project contribute to improving the health situation of your household?<br>Codes:<br>1=We can afford better sanitation/toilets in the house<br>2=We now have access to safe water and children get less sick<br>3=We can now afford to pay for medicine or doctors<br>4= We eat more nutritious food and are more healthy<br>5=We have better living conditions<br>7=Other(Specify: _____) | (3 answers maximum)<br> _  (use codes here)<br> _  (use codes here)<br> _  (use codes here) |  |
| <b>E6</b>  | PRIOR to your participation in project activities, did all your school-aged GIRLS attend school?<br>Codes:<br>1=Yes, all my daughters<br>2=No, only some of them<br>3=No, none of my daughters<br>4. Don't have Daughters                                                                                                                                                                              | _  (use codes here)                                                                         |  |
| <b>E7.</b> | PRIOR to your participation in project activities, did all your school-aged BOYS attend school?<br>Codes:<br>1=Yes, all of my sons<br>2=No, only some of them<br>3=No, none of my sons<br>4. Don't have sons                                                                                                                                                                                           | _  (use codes here)                                                                         |  |
| <b>E8</b>  | Since your participation in project activities, what has the change in the schooling situation of your children?<br>Codes:<br>1=Significant improvement (i.e., all sons and daughters going to school)<br>2=Some improvement (i.e., more are going to school)<br>3=No change, situation is the same (Go to F1)<br>4=The situation is worse than before (Go to F1)                                      | _  (use codes here)                                                                         |  |
| <b>E9</b>  | If there has been an improvement, has the project contributed to this change?                                                                                                                                                                                                                                                                                                                          | _  (use codes here)                                                                         |  |

|            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                      |  |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--|
|            | 1 =Yes                      2 =No (Go to F1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | here)                                                                                |  |
| <b>E10</b> | <p>How did the project contribute to improving the schooling situation of your children?</p> <p>Codes:</p> <p>1=We can now afford to pay for school fees</p> <p>2=Children no longer need to help me in the field/at work</p> <p>3=Children no longer need to work outside of the family</p> <p>4=Children now eat better and can study better</p> <p>5=Children now have space or electricity to study</p> <p>6=I now understand the importance of education for children</p> <p>7=I now understand the importance of education for girls</p> <p>8=It is now safer to go to school due to better roads or safety conditions</p> <p>9=Other (Specify: _____)</p> | <p>(2 answers maximum)</p> <p> __  (use codes here)</p> <p> __  (use codes here)</p> |  |

## SECTION F: NUTRITION

| F1: Nutrition Background |                                                                                                                                                                                                                           |                           |                |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------|
| <b>F1.1</b>              | Has any member of the Household participated in any project-supported activity designed to help improve nutrition?                                                                                                        | 1: Yes – (                | 1.2.8<br>1.2.9 |
| <b>F1.2.</b>             | <p>In the past 12 months, have you faced one or more periods of food insecurity (<i>i.e., not able to secure three nutritious meals/day for all family members?</i>)</p> <p>1=Yes (go to next)      2=No (Go to F1.4)</p> | __  (use codes here)      | 1.2.8          |
| <b>F1.2.i)</b>           | If so, how many weeks?                                                                                                                                                                                                    | _____ weeks during 1 year | 1.2.8          |
| <b>F1.3.</b>             | <p>Before your participation in project activities, did you face periods of food insecurity?</p> <p>1=Yes (go to next)      2=No (Go to F1.4)</p>                                                                         | __  (use codes here)      | 1.2.8          |
| <b>F1.3.i)</b>           | If so, how many weeks per year?                                                                                                                                                                                           | _____ weeks per year      | 1.2.8          |
| <b>F1.4</b>              | How many children under 5 years live in your household?                                                                                                                                                                   |                           |                |
| <b>F1.4.i</b>            | <p>In the last 3 months, how often has your child been sick (fever, cough, diarrhea, weakness)?</p> <p>1 = Very often</p> <p>2 = Sometimes</p> <p>3 = Rarely</p> <p>4 = Never</p>                                         |                           |                |



|                 |                                                                                                                                                                                                                                                                                   |  |  |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| <b>F1.4.ii</b>  | How many times per day does your child usually eat?<br>1 = Once<br>2 = Twice<br>3 = Three times<br>4 = More than three times                                                                                                                                                      |  |  |
| <b>F1.4.iii</b> | What types of food does your child usually eat on a normal day? <i>(Multiple answers allowed)</i><br>1 = Grains (wheat, rice, maize)<br>2 = Pulses or beans<br>3 = Vegetables<br>4 = Fruits<br>5 = Meat, fish, or eggs<br>6 = Milk or dairy products<br>7 = Snacks or sweets only |  |  |
| <b>F1.4.iv</b>  | In the last 12 months, has your household faced food shortage that affected child feeding?<br>1 = Yes<br>2 = No                                                                                                                                                                   |  |  |
| <b>F1.4.v</b>   | Since the project started, have you noticed any improvement in your child's health or nutrition (better appetite, fewer illnesses, better growth)?<br>1 = Major improvement<br>2 = Some improvement<br>3 = No change<br>4 = Worse than before                                     |  |  |

| <b>F2: DIET DIVERSITY (for Women)</b>                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                           |       |
|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------|
| <b>F2.1</b>                                                                     | Is there a woman aged 15-49 in this household who can answer a few nutrition questions?                                                                                                                                                                                                                                                                                                                                                                                                       | 1: Yes – 0: No<br>If No, skip question F3 | 1.2.8 |
| <b>F2.2</b>                                                                     | Questions only for women 15-49 years old.<br>Can I ask you about the food you consumed yesterday from early morning to the time you went to sleep in your home or elsewhere? Please tell me what you ate and drank from early morning after you woke up in the morning to the time you went to bed at night. For each item mentioned, record "Yes" if the amount consumed was more than one spoonful or handful (approximately more than 15 grams), and "No" if it was less than that amount. |                                           | 1.2.8 |
| <b>1. . Any food made from grains and any white roots or tuber or plantains</b> | Such as chapati, paratha, rice, porridge (daliya), makai bread, barley or buckwheat dishes, potatoes, or turnips?                                                                                                                                                                                                                                                                                                                                                                             | 1: Yes<br>0: No                           | 1.2.8 |

|                                                           |                                                                                                                                                                 |                   |       |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------|
| <b>2. Any beans or peas such as:</b>                      | Lentils (masoor, moong, mash, chana dal), dried peas or beans (lobia, white/red beans), or foods made from these (such as besan pakora or pulse soup)           | 1: Yes –<br>0: No | 1.2.8 |
| <b>3. Any nuts or seeds, like:</b>                        | Walnuts, almonds, apricot kernels, pine nuts, peanuts, or seeds (such as sesame, sunflower, flax) or foods made from them (e.g., nut/seed paste or chutney).    | 1: Yes<br>0: No   | 1.2.8 |
| <b>4. Any milk or milk products, such as:</b>             | Fresh milk (cow, yak, goat, or sheep), yogurt (dahi), buttermilk (lassi), or local cheese (paneer), but not including butter, cream, or ice cream               | 1: Yes –<br>0: No | 1.2.8 |
| <b>5. Any meat, poultry and fish products, such as:</b>   | Beef, , lamb, goat, , chicken, Fresh or dried fish,                                                                                                             | 1: Yes<br>0: No   | 1.2.8 |
| <b>6. Any eggs:</b>                                       | Eggs from poultry                                                                                                                                               | 1: Yes<br>0: No   | 1.2.8 |
| <b>7. Any dark green leafy vegetables, such as:</b>       | Spinach ((palak), turnip leaves (shaljam patta), cabbage leaves (band gobi), or wild foraged greens such as tumuro, or other locally available saag             | 1: Yes<br>0: No   | 1.2.8 |
| <b>8. Any vitamin A rich fruits, vegetables and roots</b> | Pumpkin ( <i>kaddu</i> ), carrots, mulberries, Apricot                                                                                                          | 1: Yes<br>0: No   | 1.2.8 |
| <b>9. Any other vegetables</b>                            | Tomatoes, onions, cauliflower, cabbage, okra, capsicum, turnip, radish, peas, beans, garlic, cucumber, pumpkin, bottle gourd, coriander, mint, or green chilies | 1: Yes<br>0: No   | 1.2.8 |
| <b>10. Any other fruits</b>                               | Apples, apricots, cherries, mulberries, peaches, pears, plums, grapes, pomegranates, sea buckthorn, or market fruits such as bananas, oranges, and mangoes.     | 1: Yes<br>0: No   | 1.2.8 |

| <b>F3: Food Intake</b> |                                                                                                               |                          |                          |                          |       |
|------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|-------|
| <b>F3.1</b>            | How often does your household eat the following food items?                                                   | Often Code:1             | Rarely Code:2            | Almost never Code:3      |       |
| <b>F3.1.i)</b>         | Meat, fish:                                                                                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1.2.8 |
| <b>F3.1.ii)</b>        | Eggs:                                                                                                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |       |
| <b>F3.1.iii)</b>       | Milk:                                                                                                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |       |
| <b>F3.1.iv)</b>        | Pulses:                                                                                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |       |
| <b>F3.1.v)</b>         | Vegetables:                                                                                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |       |
| <b>F3.1.vi)</b>        | Fruits:                                                                                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |       |
| <b>F3.2</b>            | How often was your household eating the following food items BEFORE your participation in project activities? | Often Code:1             | Rarely Code:2            | Almost never Code:3      |       |

|                  |                                                                                                                                                                                                                                                                                                           |                     |   |   |       |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---|---|-------|
| <b>F3.2.i)</b>   | Meat, fish:                                                                                                                                                                                                                                                                                               | _                   | _ | _ | 1.2.8 |
| <b>F3.2.ii)</b>  | Eggs:                                                                                                                                                                                                                                                                                                     | _                   | _ | _ |       |
| <b>F3.2.iii)</b> | Milk:                                                                                                                                                                                                                                                                                                     | _                   | _ | _ |       |
| <b>F3.2.iv)</b>  | Pulses:                                                                                                                                                                                                                                                                                                   | _                   | _ | _ |       |
| <b>F3.2.v)</b>   | Vegetables:                                                                                                                                                                                                                                                                                               | _                   | _ | _ |       |
| <b>F3.2.vi)</b>  | Fruits:                                                                                                                                                                                                                                                                                                   | _                   | _ | _ |       |
| <b>F3.3</b>      | Was there any change in the food security situation of your family since your participation in project activities (and what change)?<br>Codes:<br>1=Yes, it has improved<br>2=Yes, it has become worse<br>3=No, it is the same, we are still food INSECURE<br>4=No, it is the same, we remain food SECURE | _  (use code here)  |   |   | 1.2.8 |
| <b>F3.4</b>      | What was project contribution to this improvement?<br>Codes:<br>1=The project was the primary contributor<br>2=The project made a major contribution<br>3=The project made a moderate contribution<br>4=The project made a minor contribution                                                             | _  (use codes here) |   |   | 1.2.8 |

## SECTION G: KAP

| G1: Sanitation, Food safety and hygiene (ALL RESPONDENTS) |                                                                              |                                                                                                                                                                                                                                                                   |                         |         |
|-----------------------------------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------|
| <b>G1.1</b>                                               | What is your main source of drinking water?                                  | 1: Public tap/standpipe –<br>2: Piped connection to house (or neighbour's house) –<br>3: Surface water (lake, pond, dam, river) –<br>4: Protected spring –<br>5: Unprotected spring –<br>6: Bottled water, -<br>7: Tanker truck –<br>8 Other–<br>9: I Don ´t know | [_____] (use code here) | 1.2.9.A |
| <b>G1.2</b>                                               | What kind of toilet facility does your household usually use?                | 1: Household latrine/toilet<br>2: Communal latrine –<br>3: Open defecation –<br>4: Plastic bag –<br>5 :Other –<br>8: I Don't know                                                                                                                                 | [_____]                 |         |
|                                                           | (A latrine used by more than one household is considered communal or shared) |                                                                                                                                                                                                                                                                   | (use codes here)        |         |
| <b>G1.3</b>                                               | Do you wash your hands immediately before handling food?                     | 1: Never – 2: Rarely – 3: Sometimes – 4: Most of the Times – 5: Always                                                                                                                                                                                            | [_____] (use code here) | 1.2.9.C |

|             |                                                                                                                       |                                                                        |                          |         |
|-------------|-----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|--------------------------|---------|
| <b>G1.4</b> | Do you check the expiration date of ingredients before using them in food preparation?                                | 1: Never – 2: Rarely – 3: Sometimes – 4: Most of the Times – 5: Always | [_____] (use codes here) | 1.2.9.C |
| <b>G1.5</b> | Do you use food after the expiration date if it has no visible change in quality aspect?                              | 1: Never – 2: Sometimes – 3: Always                                    | [_____] (use codes here) | 1.2.9.C |
| <b>G1.6</b> | Washing fruit and vegetables under running water and peeling them is enough to make these foods safe for consumption. | 1: True – 2: False – 3: I Don't Know                                   | [_____] (use codes here) | 1.2.9.C |

## G2: Intake of Micronutrients

|             |                                                                                                                                                                                                                                                   |                       |         |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------|
| <b>G2.1</b> | Did you use salt to cook the main meal eaten by members of your family last night?<br>1= Yes 2= No 3=I don't know                                                                                                                                 | [__] (use codes here) | 1.2.9.D |
| <b>G2.2</b> | What kind of salt did you use?<br><br>1: Iodized – 2: Not iodized – 3: No salt at home – 4: I Don't know                                                                                                                                          | [__] (use codes here) | 1.2.9.D |
| <b>G2.3</b> | Have you heard about iron deficiency (anemia)?<br>1: Yes - 2: No – 3: I Don't know                                                                                                                                                                | [__] (use codes here) | 1.2.9.D |
| <b>G2.4</b> | What causes anaemia?<br>1: Lack of iron in the diet and/or insufficient intake of quantities<br>2: Sickness/infection (malaria, hookworm infection, other infection such as HIV/AIDS)<br>3: Heavy bleeding during menstruation<br>4: I Don't know | [__] (use codes here) | 1.2.9.D |
| <b>G2.5</b> | How serious/dangerous do you think it is to lack vitamin A in your body?<br>1: Serious – 2: Not serious - 3: I don't know                                                                                                                         | [__] (use codes here) | 1.2.9.D |

## G3: Food cultural practices (ALL RESPONDENTS)

|             |                                                                                                   |                                                                                                                                                                          |         |
|-------------|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| <b>G3.1</b> | Do you discuss with other family members and share decisions on healthy diets and good nutrition? | 1: Yes - 2: No                                                                                                                                                           | 1.2.9.F |
| <b>G3.2</b> | Which types of foods do you believe should not be consumed by pregnant women?                     | SELECT ALL THAT APPLY<br>1: Vegetables such as Potatoes<br>2: Protein rich foods such as Egg/Fish<br>3: Fruits such as Apple<br>4: Should consume all<br>5: I don't know | 1.2.9.F |



|             |                                                                                                                                                                                |                                                                                                                                                                                                                                                   |         |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| <b>G3.3</b> | Which types of foods do you believe should not be consumed by lactating mothers?                                                                                               | SELECT ALL THAT APPLY<br>1: Vegetables such as Potato<br>2: Protein rich foods Egg/Fish<br>3: Fruits Apple<br>4: Should consume all<br>5: I don't know                                                                                            | 1.2.9.F |
| <b>G3.4</b> | Which types of foods do you believe should not be consumed by young children (the assumption is that they are clean and safe for consumption and consumed in adequate amounts) | SELECT ALL THAT APPLY<br>1: Vegetables such as Potatoes<br>2: Protein rich foods such as Egg/Fish<br>3: Fruits such as Apple<br>4: Should consume all<br>5: I don't know                                                                          | 1.2.9.F |
| <b>G3.5</b> | Do you process any food at the household level to ensure additional food availability in case of shortages?                                                                    | SELECT ONE:<br>1: Yes, with traditional method<br>2: Yes, with basic technologies<br>3: Yes, with traditional method and basic technologies<br>4: No, I do not process any food                                                                   | 1.2.9.F |
| <b>G3.6</b> | What is the main method you use to cook fenugreek (Methi)?                                                                                                                     | SELECT ONE<br>CONTEXTUALIZE <ul style="list-style-type: none"> <li>1. Boil and discard water</li> <li>2. Boil and use the water</li> <li>3. Wash and eat them raw</li> <li>4. Steaming</li> <li>4. Shallow frying</li> <li>6. Deep fry</li> </ul> | 1.2.9.F |

## SECTION H: IRRIGATION AND LAND DEVELOPMENT (ILD)

|                                                                                                    |                                                                          |                                               |                                 |                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>H 1</b> Are you a beneficiary of the irrigation and land development (ILD) work of the project? |                                                                          | [_____] (use codes here)                      | <b>1.2.1</b>                    |                                                                                                                                                                                                    |
| 1=Yes 2=No ( Go to Section I)                                                                      |                                                                          |                                               |                                 |                                                                                                                                                                                                    |
| <b>H2</b>                                                                                          | Do you own or have access to any land for agriculture?<br><br>1=Yes 2=No | [_____] (use codes here)                      | <b>1.2.1</b>                    |                                                                                                                                                                                                    |
| <b>H3 – Household Land Access</b>                                                                  |                                                                          |                                               |                                 |                                                                                                                                                                                                    |
|                                                                                                    | Land Type                                                                | Does the household have access? (1=Yes, 0=No) | If Yes, Estimated Size (Kanals) | How did your household acquire/get access to the plot?<br>1: Inherited – 2: Purchased or leased – 3: Allocated by government – 4: Allocated by local leader - 5: Rented in – 6: Share-cropped – 7: |

|                         |                                                                                                                                                        |                     |                                                                                                                                                        |                                                                        |       |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-------|
|                         |                                                                                                                                                        |                     |                                                                                                                                                        | Borrowed for free –<br>8: Cleared and<br>occupied –: other,<br>specify |       |
| <b>1</b>                | Home garden                                                                                                                                            |                     |                                                                                                                                                        |                                                                        | 1.2.4 |
| <b>2</b>                | Own farmland (IFAD<br>intervention)                                                                                                                    |                     |                                                                                                                                                        |                                                                        |       |
| <b>3</b>                | Own farmland (old)                                                                                                                                     |                     |                                                                                                                                                        |                                                                        | 1.2.1 |
| <b>4</b>                | Rented land                                                                                                                                            |                     |                                                                                                                                                        |                                                                        |       |
| <b>5</b>                | Shared land                                                                                                                                            |                     |                                                                                                                                                        |                                                                        |       |
| <b>6</b>                | Communal<br>pasture/grassland                                                                                                                          |                     |                                                                                                                                                        |                                                                        |       |
| <b>7</b>                | Other (specify)                                                                                                                                        |                     |                                                                                                                                                        |                                                                        |       |
| <b>H4 – Plot Roster</b> |                                                                                                                                                        |                     |                                                                                                                                                        |                                                                        |       |
| #                       | Type of Agricultural land                                                                                                                              | Size (in<br>Kanals) | 1=apricot<br>2=potatoes<br>3=cherry<br>4=Nuts<br>5=vegetable<br>6=wheat<br>7=maize<br>8=Apple<br>9=fodder/grass<br>10. Mix<br>11. Pasture<br>12. other | Ownership Title<br>(1=Yes, 0=No)                                       |       |
| <b>1</b>                | Own                                                                                                                                                    |                     |                                                                                                                                                        |                                                                        | 1.2.4 |
| <b>2</b>                | Rented land                                                                                                                                            |                     |                                                                                                                                                        |                                                                        |       |
| <b>3</b>                | Shared land                                                                                                                                            |                     |                                                                                                                                                        |                                                                        |       |
| <b>4</b>                | Communal<br>pasture/grassland                                                                                                                          |                     |                                                                                                                                                        |                                                                        |       |
| <b>4</b>                | Other (specify)                                                                                                                                        |                     |                                                                                                                                                        |                                                                        |       |
|                         |                                                                                                                                                        |                     |                                                                                                                                                        |                                                                        |       |
| <b>H5.</b>              | How much irrigated land did you cultivate <u>before</u> the<br>project? ( <i>in Kanals</i> )                                                           |                     |                                                                                                                                                        | _____                                                                  |       |
| <b>H6.</b>              | Do you have legal titles over this land; and if so, what<br>type?<br>1= Yes (ownership rights)      2= Yes (lease)<br>3=No                             |                     |                                                                                                                                                        | _____ (use<br>codes here)                                              |       |
| <b>H7.</b>              | How many <u>additional Kanals</u> of irrigated land did the<br>project help you develop?                                                               |                     |                                                                                                                                                        | _____                                                                  |       |
| <b>H8</b>               | Do you have legal titles over this <u>additional</u> land; and if so,<br>what type?<br>1= Yes (ownership rights)<br>2= Yes (lease)      3=No           |                     |                                                                                                                                                        | _____ (use<br>codes here)                                              |       |
| <b>H9</b>               | Did you or anyone in the HH<br>participate in activities aiming at<br>improving access to land for<br>production purposes from IFAD<br>funded project? |                     | 1: Yes – 0: No                                                                                                                                         | _____ (use<br>codes here)                                              |       |

|                |                                                                                                                                                                           |                               |                            |                               |                       |                                           |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|----------------------------|-------------------------------|-----------------------|-------------------------------------------|
| <b>H10</b>     | Did you or anyone in the HH receive production inputs and/or technological packages from IFAD funded project?                                                             | 1: Yes – 0: No                | _____  (use codes here)    |                               | 1.2.2                 |                                           |
| <b>H11</b>     | Did you or anyone in the HH participate in training on production practises and/or technologies from IFAD funded project?                                                 | 1: Yes – 0: No                | _____  (use codes here)    |                               | 1.2.2<br>1.2.4        |                                           |
| <b>H12</b>     | For the main crops that you have cultivated/harvested in the past 12 months, what was the acreage, production, sale, and income?                                          |                               |                            |                               |                       |                                           |
|                | Crop                                                                                                                                                                      | Quantity of seeds sown(in Kg) | Quantity harvested (in Kg) | Area cultivated (in Kana ls ) | Quantity sold (in Kg) | Income from sales(in PKR)                 |
| <b>H12.i</b>   | Potatoes                                                                                                                                                                  |                               |                            |                               |                       |                                           |
| <b>H12.ii</b>  | Wheat                                                                                                                                                                     |                               |                            |                               |                       |                                           |
| <b>H12.iii</b> | Maize                                                                                                                                                                     |                               |                            |                               |                       |                                           |
| <b>H12.iv</b>  | Almond                                                                                                                                                                    |                               |                            |                               |                       |                                           |
| <b>H12.v</b>   | Apple                                                                                                                                                                     |                               |                            |                               |                       |                                           |
| <b>H12.vi</b>  | Apricot                                                                                                                                                                   |                               |                            |                               |                       |                                           |
| <b>H12.vii</b> | Cherry                                                                                                                                                                    |                               |                            |                               |                       |                                           |
| <b>H13</b>     | Was the plot on which crop was planted, irrigated during last cropping season?<br>1: Yes – 0: No<br>If No, (Go to H17)                                                    |                               |                            |                               |                       | _____  (use codes here)<br>1.2.3          |
| <b>H14</b>     | What was the primary source of water for irrigation for crop during the last cropping season?<br>(1=Glacier-fed channel, 2=River/Stream, 3=Spring, 4=Pipe water, 5=Other) |                               |                            |                               |                       | _____  (use codes here)<br>1.2.1<br>1.2.3 |
| <b>H15</b>     | Was the timing of water from the irrigation system adequate for production of your crop during the last cropping season?<br>1: Yes – 0: No                                |                               |                            |                               |                       | _____  (use codes here)<br>1.2.1<br>1.2.3 |
| <b>H16</b>     | Was the amount of water from the irrigation system adequate for production of the crops during last cropping season<br>1: Yes – 0: No                                     |                               |                            |                               |                       | _____  (use codes here)<br>1.2.1<br>1.2.3 |

| <b>H17</b>                                                  | Have you ever heard about the following? SELECT ALL THAT APPLY<br>1= Adoption of better agricultural practices/technologies<br>2=Better access to better seeds or varieties<br>3=Better access to fertilizers and other inputs<br>4=Crop diversification<br>5= None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | _____ <br>(use codes here) | 1.2.2                         |     |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |       |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------|-----|----|-------------------------------------------------------------|--------------------------|--------------------------|---------------------------------------------------|--------------------------|--------------------------|-------------------------------------------------------|--------------------------|--------------------------|-------------------------|--------------------------|--------------------------|-------|
|                                                             | Did you use/implement any of the following production practices/ inputs /technologies during last year? <table border="1"> <thead> <tr> <th>Practices/Inputs/Technologies</th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>1. Adoption of improved agricultural practices/technologies</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>2. Access to improved seeds or new crop varieties</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>3. Access to fertilizers or other agricultural inputs</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>4. Crop diversification</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table> |                            | Practices/Inputs/Technologies | Yes | No | 1. Adoption of improved agricultural practices/technologies | <input type="checkbox"/> | <input type="checkbox"/> | 2. Access to improved seeds or new crop varieties | <input type="checkbox"/> | <input type="checkbox"/> | 3. Access to fertilizers or other agricultural inputs | <input type="checkbox"/> | <input type="checkbox"/> | 4. Crop diversification | <input type="checkbox"/> | <input type="checkbox"/> | 1.2.2 |
| Practices/Inputs/Technologies                               | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No                         |                               |     |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |       |
| 1. Adoption of improved agricultural practices/technologies | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/>   |                               |     |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |       |
| 2. Access to improved seeds or new crop varieties           | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/>   |                               |     |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |       |
| 3. Access to fertilizers or other agricultural inputs       | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/>   |                               |     |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |       |
| 4. Crop diversification                                     | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/>   |                               |     |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |       |
| <b>H19</b>                                                  | How useful were the production practices, inputs, or technologies that you mentioned in the previous question?<br>1= Very useful 2= Useful 3=Neutral 4=Not very useful 5=Not useful at all                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | _____ <br>(use codes here) |                               |     |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |       |
| <b>H20</b>                                                  | Have you adopted and will you continue to use (SELECT ALL THAT APPLY)<br><br>1= Adoption of better agricultural practices/technologies<br>2=Better access to better seeds or varieties<br>3=Better access to fertilizers and other inputs<br>4=Crop diversification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                            | 1.2.2                         |     |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |       |
| <b>H21</b>                                                  | Since benefiting from <u>additional</u> irrigated land, have you started new crops?<br>1=Yes                      2=No (Go to H22)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | _____ <br>(use codes here) |                               |     |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |       |
| <b>H21.i.</b>                                               | If so, which new crops have you started?<br>1=Potatoes<br>2=Wheat<br>3=Maize<br>4=Vegetables<br>5=Fruit trees<br>6=Others (Specify) _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | _____ <br>(use codes here) | 1.2.4                         |     |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |       |
| <b>H22</b>                                                  | During the past 12 months, have you received agricultural extension services?<br>1=Yes (Go to H24)                      2=No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | _____ <br>(use codes here) | 1.2.1                         |     |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |       |



|                          |                                                                                                                  |                                                     |       |
|--------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------|
| <b>H23</b>               | If not, what was the key reason?                                                                                 | _ _ <br>(use codes here)                            |       |
|                          | 1=I did not need any extension services                                                                          |                                                     |       |
|                          | 2=Extension services are not available at all                                                                    |                                                     |       |
|                          | 3=Extension services are available, but not relevant/poor quality                                                |                                                     |       |
|                          | 4=Relevant services are too expensive                                                                            |                                                     |       |
|                          | 5=Others                                                                                                         |                                                     |       |
| <b>H24</b>               | Did your participation in project activities help increase your agriculture production (i.e., volume harvested)? | _ _ <br>(use codes here)                            | 1.2.2 |
|                          | 1=Yes                      2=No (Go to H27)                                                                      |                                                     |       |
| <b>H25</b>               | If yes, how large was this increase?                                                                             | _ _ _ <br>(use codes here)                          | 1.2.4 |
|                          | Codes:                                                                                                           |                                                     |       |
|                          | 1-Very large (+100% or doubling of income)                                                                       |                                                     |       |
|                          | 2=Significant (+50-99%)                                                                                          |                                                     |       |
|                          | 3=Modest (+20-49%)                                                                                               |                                                     |       |
|                          | 4=Very small (less than 10%)                                                                                     |                                                     |       |
| <b>H26</b>               | What were the key factors contributing to this increase in agricultural production?                              | _ _ _ <br>(use codes here)                          |       |
|                          | Codes:                                                                                                           |                                                     |       |
|                          | 1= Increase in irrigated area cultivated                                                                         | _ _ _ <br>(use codes here)                          | 1.2.4 |
|                          | 2=Better yields due to better varieties                                                                          |                                                     |       |
|                          | 3=Better yields due to better agricultural practices                                                             | (Two answers maximum)                               |       |
|                          | 4=Better yields due to use of fertilizers                                                                        |                                                     |       |
|                          | 5=Other (Specify_                                                                                                |                                                     |       |
| <b>H27</b>               | Did your participation in project activities help you increase your income from agriculture?                     | _ _  (use codes here)                               |       |
|                          | 1=Yes                      2=No (Go to H30)                                                                      |                                                     |       |
| <b>H28</b>               | If yes, how large was this increase?                                                                             | _ _  (use codes here)                               |       |
|                          | Codes:                                                                                                           |                                                     |       |
|                          | 1-Very large (+100% or doubling of income)                                                                       |                                                     |       |
|                          | 2=Significant (+50-99%)                                                                                          |                                                     |       |
|                          | 3=Modest (+20-49%)                                                                                               |                                                     |       |
|                          | 4=Very small (less than 20%)                                                                                     |                                                     |       |
| <b>H29</b>               | What were the key factors contributing to this increase in agricultural income?                                  | _ _ _ <br>(use codes here)<br>(Two answers maximum) |       |
|                          | Codes:                                                                                                           |                                                     |       |
|                          | 1= Increase in irrigated area cultivated                                                                         |                                                     |       |
|                          | 2=Increase in volumes produced                                                                                   |                                                     |       |
|                          | 3=Increase in volumes sold                                                                                       |                                                     |       |
|                          | 4=Better sale prices due to improved quality                                                                     |                                                     |       |
|                          | 5=Better sale prices due to better marketing (e.g., through farmers' association)                                |                                                     |       |
|                          | 6=Able to sell when prices are highest                                                                           |                                                     |       |
| 7=Other (Specify: _____) |                                                                                                                  |                                                     |       |

|            |                                                                                                                                      |                          |       |
|------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------|
| <b>H30</b> | Are you satisfied with the quality of ILD services?<br>1: Very unsatisfied · 2: Unsatisfied · 3: Satisfied · 4: Fully/very satisfied | ___ <br>(use codes here) | 4.2.1 |
|------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------|

## SECTION I: VALUE CHAIN SUPPORT

| <b>I 1.</b>                                                 | Are you a beneficiary of the Value Chain support of the project?<br><br>1=Yes                      2=No (Go to Section J)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ___ <br>(use codes here)      |       |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |  |       |
|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------|----|-------------------------------------------------------------|--------------------------|--------------------------|---------------------------------------------------|--------------------------|--------------------------|-------------------------------------------------------|--------------------------|--------------------------|-------------------------|--------------------------|--------------------------|--|-------|
| <b>I 2.</b>                                                 | For which crop or commodity did you receive value chain support from the project?<br>Codes:<br>1=Apricots<br>2=Orchards<br>3= nurseries<br>4=Vertical farming<br>5=Dairy<br>6=Potatoes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ___ <br>(use codes here)      | 1.2.2 |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |  |       |
| <b>I 3</b>                                                  | Did you or anyone in the HH receive production inputs and/or technological packages from IFAD funded project?<br>1: Yes – 0: No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ___ <br>(use codes here)      | 1.2.2 |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |  |       |
| <b>I 4</b>                                                  | Did you or anyone in the HH participate in training on production practises and/or technologies from IFAD funded project?<br>1: Yes – 0: No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ___ <br>(use codes here)      | 1.2.2 |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |  |       |
| <b>I 5</b>                                                  | Have you ever heard about the following? SELECT ALL THAT APPLY<br>1= Adoption of better agricultural practices/technologies<br>2=Better access to better seeds or varieties<br>3=Better access to fertilizers and other inputs<br>4=Crop diversification<br>5= None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ___ <br>(use codes here)      | 1.2.2 |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |  |       |
| <b>I 6</b>                                                  | Did you use/implement any of the following production practices/inputs/technologies from the project?<br><table border="1"> <thead> <tr> <th>Practices/Inputs/Technologies</th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>1. Adoption of improved agricultural practices/technologies</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>2. Access to improved seeds or new crop varieties</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>3. Access to fertilizers or other agricultural inputs</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>4. Crop diversification</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table> | Practices/Inputs/Technologies | Yes   | No | 1. Adoption of improved agricultural practices/technologies | <input type="checkbox"/> | <input type="checkbox"/> | 2. Access to improved seeds or new crop varieties | <input type="checkbox"/> | <input type="checkbox"/> | 3. Access to fertilizers or other agricultural inputs | <input type="checkbox"/> | <input type="checkbox"/> | 4. Crop diversification | <input type="checkbox"/> | <input type="checkbox"/> |  | 1.2.2 |
| Practices/Inputs/Technologies                               | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | No                            |       |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |  |       |
| 1. Adoption of improved agricultural practices/technologies | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/>      |       |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |  |       |
| 2. Access to improved seeds or new crop varieties           | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/>      |       |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |  |       |
| 3. Access to fertilizers or other agricultural inputs       | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/>      |       |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |  |       |
| 4. Crop diversification                                     | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/>      |       |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |  |       |
| <b>I 7</b>                                                  | How useful were the production practices, inputs, or technologies that you mentioned in the previous question?<br>1= Very useful 2= Useful 3=Neutral 4=Not very useful 5=Not useful at all                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                               | 1.2.2 |    |                                                             |                          |                          |                                                   |                          |                          |                                                       |                          |                          |                         |                          |                          |  |       |

|               |                                                                                                                                                                                                                                                        |                    |                   |                       |                            |                         |       |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------|-----------------------|----------------------------|-------------------------|-------|
| <b>18</b>     | Have you adopted and will you continue to use (SELECT ALL THAT APPLY)                                                                                                                                                                                  |                    |                   |                       |                            | 1.2.2                   |       |
|               | 1= Adoption of better agricultural practices/technologies<br>2=Better access to better seeds or varieties<br>3=Better access to fertilizers and other inputs<br>4=Crop diversification                                                                 |                    |                   |                       |                            |                         |       |
| <b>19</b>     | Are you a member of a farmers' group or association?<br>1=Yes, 2=No                                                                                                                                                                                    |                    |                   |                       |                            | __ <br>(use codes here) |       |
| <b>110</b>    | In the past 12 months, what was the acreage, production, sale, and income from the crop promoted by the project?                                                                                                                                       |                    |                   |                       |                            | (use table below)       |       |
|               | Crop                                                                                                                                                                                                                                                   | Quantity harvested | Area cultivated   | Quantity sold (in Kg) | Income from sales (in PKR) | 1.2.4                   |       |
| <b>1</b>      | Potatoes                                                                                                                                                                                                                                               | _____K<br>g        | _____K<br>_ Kanal |                       |                            |                         |       |
| <b>2</b>      | Apricot                                                                                                                                                                                                                                                | _____K<br>g        | _____K<br>_ Kanal |                       |                            |                         |       |
| <b>3</b>      | Vegetables                                                                                                                                                                                                                                             | _____K<br>g        | _____K<br>_ Kanal |                       |                            |                         |       |
| <b>4</b>      | Orchards                                                                                                                                                                                                                                               | _____K<br>g        | _____K<br>_ Kanal |                       |                            |                         |       |
|               |                                                                                                                                                                                                                                                        | _____Plants        | _____K<br>_ Kanal |                       |                            |                         |       |
| <b>5</b>      | Nurseries                                                                                                                                                                                                                                              | _____seedlings     | _____K<br>_ Kanal | _____Plants           |                            |                         |       |
| <b>6</b>      | Milk                                                                                                                                                                                                                                                   | _____liters        | _____No of cows   | _____liters           |                            |                         |       |
| <b>111</b>    | During the project life, have you received agricultural extension services?<br>1=Yes (Go to 112) 2=No                                                                                                                                                  |                    |                   |                       |                            | __ <br>(use codes here) | 1.2.1 |
| <b>111.i.</b> | If not, what was the key reason?<br>1=I did not need any extension services<br>2=Extension services are not available at all<br>3=Extension services are available, but not relevant/poor quality<br>4=Relevant services are too expensive<br>5=Others |                    |                   |                       |                            | __ <br>(use codes here) |       |
| <b>112</b>    | Did the VC support provided by the project help increase your agricultural production (i.e., volume harvested)?<br>1=Yes 2=No (Go to 113)                                                                                                              |                    |                   |                       |                            | __  (use codes here)    | 1.2.4 |
| <b>112.i)</b> | If yes, how large was this increase?<br>Codes:<br>1-Very large (+100% or doubling of income)<br>2=Significant (+50-99%)<br>3=Modest (+20-49%)<br>4=Very small (less than 20%)                                                                          |                    |                   |                       |                            | __ <br>(use codes here) | 1.2.4 |

|                |                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                       |       |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------|
| <b>I12.ii)</b> | What were the key factors contributing to this increase in agricultural production?<br>Codes:<br>1= Adoption of better agricultural practices/technologies<br>2=Better access to better seeds or varieties<br>3=Better access to fertilizers and other inputs<br>4=Crop diversification<br>5=Other (Specify:_____)                                                                 | __ <br>(use codes here)<br><br> __ <br>(use codes here)                               | 1.2.4 |
| <b>I13</b>     | Did the VC support provided by the project help you increase your income from agriculture?<br>1=Yes 2=No ( Go to J1)                                                                                                                                                                                                                                                               | __ <br>(use codes here)                                                               |       |
| <b>I13.i)</b>  | If yes, how large was this increase?<br>Codes:<br>1-Very large (+100% or doubling of income)<br>2=Significant (+50-99%)<br>3=Modest (+20-49%)<br>4=Very small (less than 20%)                                                                                                                                                                                                      | __ <br>(use codes here)                                                               |       |
| <b>I13.ii)</b> | What were the key factors contributing to this increase in agricultural income?<br>Codes:<br>1= Increase in volumes produced<br>2= Increase in volumes sold<br>3=Crop diversification<br>4=Adoption of higher value crops<br>5=Better sale prices due to better marketing (e.g. through farmers' association)<br>6=Able to sell when prices are highest<br>7=Other (Specify:_____) | __ <br>(use codes here)<br><br> __ <br>(use codes here)<br><br>(Two answers maximum ) |       |

## SECTION J: FARM TO MARKET ROADS (FMR)

|              |                                                                                                                                                                                                                                        |                              |              |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------|
| <b>J1.</b>   | <b>Has your household benefited from the construction, rehabilitation, or upgrading of a road/bridge under the project?</b>                                                                                                            | <b> __  (use codes here)</b> | <b>2.1.5</b> |
|              | 1=Yes 2=No (Go to Section K)                                                                                                                                                                                                           |                              |              |
| <b>J1.i.</b> | If yes, what type of road improvement was made in your area?<br>1. New road/bridge constructed<br>2. Existing road/ bridge rehabilitated<br>3. Existing road/ bridge upgraded (e.g., widening, surfacing)<br>4. Other (specify: _____) | __  (use codes here)         | 2.1.5        |
| <b>J2.</b>   | Which year was the road/ bridge constructed?                                                                                                                                                                                           | _____(Year)                  | 2.2.6        |



|              |                                                                                                                                                                                                                                                                                                                                 |                                |       |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------|
| <b>J3</b>    | Are you a direct beneficiary of this farm road/bridge (e.g., a regular user of the road)?<br>1=Yes                      2=No                                                                                                                                                                                                    | _  (use codes here)            | 2.2.6 |
| <b>J4</b>    | How much travel time (in total) does your household save per trip to the market due to the road/bridge?                                                                                                                                                                                                                         | Hours: _____<br>Minutes: _____ |       |
| <b>J5</b>    | Has your household's annual farm revenue changed after the construction/rehabilitation of the road, market, processing, or storage facility?<br>1. Increased significantly (more than 50%)<br>2. Increased moderately (20–49%)<br>3. Increased slightly (less than 20%)<br>4. No change<br>5. Decreased (specify reason: _____) | _  (use codes here)            | 2.2.6 |
| <b>J6</b>    | What is the current state of the road/ bridge?                                                                                                                                                                                                                                                                                  |                                |       |
|              | Codes:                                                                                                                                                                                                                                                                                                                          | _  (use codes here)            |       |
|              | 1=Excellent                                                                                                                                                                                                                                                                                                                     |                                |       |
|              | 2=Good                                                                                                                                                                                                                                                                                                                          |                                |       |
|              | 3=Average                                                                                                                                                                                                                                                                                                                       |                                |       |
|              | 4=Poor                                                                                                                                                                                                                                                                                                                          |                                |       |
|              | 5=Very poor                                                                                                                                                                                                                                                                                                                     |                                |       |
| <b>J7.</b>   | Can the farm road be used 12 months per year?<br>1=Yes (Go to J8)                      2=No                                                                                                                                                                                                                                     | _  (use codes here)            |       |
| <b>J7.i)</b> | If not, for how many months per year can it be used?                                                                                                                                                                                                                                                                            | _____months/<br>year           |       |
| <b>J8</b>    | In your view, is the road properly maintained?<br>1=Yes                      2=No                                                                                                                                                                                                                                               | _  (use codes here)            |       |
| <b>J9</b>    | Are you currently using this road to transport or sell your agricultural production to the market?<br>1=Yes                      2=No                                                                                                                                                                                           | _  (use codes here)            | 2.2.6 |
| <b>J10.</b>  | Currently, how do you sell or market your agricultural production?                                                                                                                                                                                                                                                              |                                |       |
|              | Codes:                                                                                                                                                                                                                                                                                                                          | _____ <br>(use codes here)     | 2.2.6 |
|              | 1=My production is for self-consumption only                                                                                                                                                                                                                                                                                    |                                |       |
|              | 2=Through middlemen                                                                                                                                                                                                                                                                                                             |                                |       |
|              | 3=Through direct contracts with local shopkeepers or buyers                                                                                                                                                                                                                                                                     |                                |       |
|              | 4=My family sells it directly at the nearest local market                                                                                                                                                                                                                                                                       |                                |       |
|              | 5=My family sells it directly at the nearest district market                                                                                                                                                                                                                                                                    |                                |       |
|              | 6=Through my farmers' group/association                                                                                                                                                                                                                                                                                         |                                |       |
|              | 7=Others<br>(Specify: _____<br>_____)                                                                                                                                                                                                                                                                                           |                                |       |

|            |                                                                                                    |                     |       |
|------------|----------------------------------------------------------------------------------------------------|---------------------|-------|
| <b>J11</b> | Currently, how is your agricultural production transported from your field to the market or buyer? |                     | 2.2.6 |
|            | Codes:                                                                                             | _  (use codes here) |       |
|            | 1=Middlemen are coming to my field to pick it up after harvesting                                  |                     |       |
|            | 2=My farmers' group/association is arranging transportation                                        |                     |       |
|            | 3=Through a rented truck/vehicle                                                                   |                     |       |
|            | 4=Using my own truck/vehicle                                                                       |                     |       |
|            | 5=Using horses or donkeys                                                                          |                     |       |
|            | 6=Others (Specify: _____)                                                                          |                     |       |
|            |                                                                                                    |                     |       |

| <b>J12</b>       | <b>Regarding the changes that the project road may have introduced which extent do you agree or disagree with the following statements?</b> | <b>(Use table below; only ONE response per item)</b> |                 |                    |                             |  |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-----------------|--------------------|-----------------------------|--|
|                  | Description                                                                                                                                 | Strongly agree<br>Code:1                             | Agree<br>Code:2 | Disagree<br>Code:3 | Strongly disagree<br>Code:4 |  |
| <b>J12.i)</b>    | I no longer produce only for self-consumption purposes, and I am now able to sell some of my agricultural production                        | _                                                    | _               | _                  | _                           |  |
| <b>J12.ii)</b>   | I am now able to produce more than before because I can sell this production more easily.                                                   | _                                                    | _               | _                  | _                           |  |
| <b>J12.iii)</b>  | I am now able to generate some cash income from agriculture (which I was not able before).                                                  |                                                      |                 |                    |                             |  |
| <b>J12.iv)</b>   | Post-harvest losses have significantly decreased because my agricultural production can be more easily transported to the market.           | _                                                    | _               | _                  | _                           |  |
| <b>J12.v)</b>    | It is now easier for middlemen to come and buy my production at my farm.                                                                    | _                                                    | _               | _                  | _                           |  |
| <b>J12.vi)</b>   | I have been able to start new crops.                                                                                                        | _                                                    | _               | _                  | _                           |  |
| <b>J12.vii)</b>  | There are now more marketing opportunities for our agricultural production.                                                                 | _                                                    | _               | _                  | _                           |  |
| <b>J12.viii)</b> | New income generating activities have developed in the community.                                                                           | _                                                    | _               | _                  | _                           |  |

|                |                                                         |   |   |   |   |  |
|----------------|---------------------------------------------------------|---|---|---|---|--|
| <b>J12.ix)</b> | It is easier to access agricultural extension services. | _ | _ | _ | _ |  |
| <b>J12.x)</b>  | It is easier to access agricultural inputs.             | _ | _ | _ | _ |  |

| <b>J13 For the main crops that you have cultivated/harvested in the past 12 months, what was the acreage, production, sale, and income?</b> |          |                                |                            |                             |                       |                            |       |
|---------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------------------|----------------------------|-----------------------------|-----------------------|----------------------------|-------|
|                                                                                                                                             | Crop     | Quantity of seeds sown (in Kg) | Quantity harvested (in Kg) | Area cultivated (in Kanals) | Quantity sold (in Kg) | Income from sales (in PKR) | 1.2.4 |
| <b>J13.i</b>                                                                                                                                | Potatoes |                                |                            |                             |                       |                            |       |
| <b>J13.ii</b>                                                                                                                               | Wheat    |                                |                            |                             |                       |                            |       |
| <b>J13. iii</b>                                                                                                                             | Maize    |                                |                            |                             |                       |                            |       |
| <b>J13. iv</b>                                                                                                                              | Almond   |                                |                            |                             |                       |                            |       |
| <b>J13. v</b>                                                                                                                               | Apple    |                                |                            |                             |                       |                            |       |
| <b>J13. vi</b>                                                                                                                              | Apricot  |                                |                            |                             |                       |                            |       |
| <b>J13.vii</b>                                                                                                                              | Cherry   |                                |                            |                             |                       |                            |       |

## SECTION K: RURAL ENTERPRISES

| <b>K: RURAL ENTERPRISES ONLY</b> |                                                                                                           |                                                                                                                                                                                                                                                                                                    |                         |
|----------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>K.0.1</b>                     | Do you or does any member of the household own/manage a rural enterprise promoted by IFAD-funded Project? | 1: Yes – 0: No<br>If No, go to section L                                                                                                                                                                                                                                                           | 2.2.1<br>2.2.2          |
| <b>K.0.2</b>                     | Who in the household owns/manages a rural enterprise promoted by IFAD-funded Project?                     | Relationship with the Household Head                                                                                                                                                                                                                                                               | 2.2.1<br>2.2.2<br>4.2.3 |
| <b>K.0.3</b>                     | What is the name of the rural enterprise promoted by IFAD-funded Project ?                                | NAME                                                                                                                                                                                                                                                                                               | 2.2.1<br>2.2.2          |
| <b>K.0.4</b>                     | When did the enterprise start?                                                                            | Month:<br>Year:                                                                                                                                                                                                                                                                                    | 2.2.1<br>2.2.2          |
| <b>K.0.5</b>                     | What are the main types of businesses of the rural enterprise promoted by IFAD-Project                    | SELECT ALL THAT APPLY :<br>1:Processing (Crop/Livestock)<br>2:Processing Fishery Products<br>3:Commercial Fishing<br>4:Manufacturing<br>5:Repair / Service Provider<br>6:Construction<br>7:Retail<br>8:Trade Of Agricultural Products<br>9:Trade Of Non-Ag Products<br>10:Restaurant / Hospitality | 2.2.1<br>2.2.2          |

|                                          |                                                                                                                                                                                   |                                                                                                                 |                |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|----------------|
|                                          |                                                                                                                                                                                   | 11:Transportation<br>12:Education<br>13:Health Care<br>14:Administrative<br>15:Tourism<br>Other, Specify....999 |                |
| <b>[K1] RURAL ENTERPRISES PROFIT</b>     |                                                                                                                                                                                   |                                                                                                                 |                |
| <b>K.1.1</b>                             | What is the annual value of total sales of products, goods or services?                                                                                                           | In PKR_____                                                                                                     | 2.2.2          |
| <b>K.1.2</b>                             | What is the annual value of total operating costs (including inventory, wages, equipment, transport, etc.)?                                                                       | In PKR_____                                                                                                     | 2.2.2          |
| <b>[K2] RURAL ENTERPRISES EMPLOYMENT</b> |                                                                                                                                                                                   |                                                                                                                 |                |
| <b>K.2.1</b>                             | Which household members are permanently (full-time or recurrent) employed in the rural <i>enterprise</i> since its establishment by IFAD -project including owner and/or manager? | Relationship with the Household Head                                                                            | 2.2.1<br>4.2.3 |
| <b>K.2.2</b>                             | How many individuals outside of the household are co-managers of the rural enterprise since its establishment by IFAD -project                                                    | Number of females<br>Number of males<br>Number of Young people                                                  | 2.2.1          |
| <b>K.2.3</b>                             | How many individuals outside of the household were employed in the rural enterprise since its establishment by IFAD -project                                                      | Number of females<br>Number of males<br>Number of Young people                                                  | 2.2.1          |
| <b>K.2.4</b>                             | Did you or anyone in the HH receive any training from IFAD funded project ?                                                                                                       | 1: Yes – 0: No                                                                                                  | 2.2.1          |
| <b>K.2.5</b>                             | <ul style="list-style-type: none"> <li>Did the person who received any vocational training currently works thanks to this training?</li> </ul>                                    | 1: Yes – 0: No                                                                                                  | 2.2.1          |

## SECTION L: ORCHARDS AND NURSERY

| <b>L1</b>  | <b>Are you a Beneficiary of the nursery scheme/intervention?</b>                                                        | <b>1. Yes 2. No</b>       |     |
|------------|-------------------------------------------------------------------------------------------------------------------------|---------------------------|-----|
| <b>L2</b>  | Is your nursery registered with any government department?<br>1 = Yes                      0 = No                       | Use codes here<br>(     ) | All |
| <b>L3.</b> | If yes, which department?<br>1= Local 2= Federal 3= other                                                               |                           |     |
| <b>L4.</b> | Have you received any support from registration authorities for quality assurance?<br>1= yes                      0= No |                           |     |
| <b>L5.</b> | Approximate number of rootstocks provided through ETI-GB<br>1=<8,000 2=8,000–10,000 3=>10,000                           |                           |     |
| <b>L6.</b> | Average number of plants produced annually<br>1=<3,000 2=3,000–6,000 3=>6,000                                           |                           |     |



|                |                                                                                               |            |  |
|----------------|-----------------------------------------------------------------------------------------------|------------|--|
| <b>L7.</b>     | Average number of plants sold annually<br>1=<3,000 2=3,000–5,000 3=>5,000                     |            |  |
| <b>L8.</b>     | Average annual revenue from plant sales (PKR)<br>1=<500,000 2=500,000–800,000 3=>800,000      |            |  |
| <b>L9.</b>     | Has your production increased since the project support?<br>1= yes 0= No                      |            |  |
| <b>L10.</b>    | Has your income increased due to the nursery/orchard?<br>1= yes 0= No                         |            |  |
| <b>L11</b>     | If yes, by how much approximately?<br>1=<25% 2=25–50% 3= >50%                                 |            |  |
| <b>L12.</b>    | Have you expanded the size of your nursery/orchard after project support?<br>1= yes 0= No     |            |  |
| <b>L13.</b>    | If yes, by how much area?<br>1=<1 kanal 2=1–2 kanals 3=>2 kanals                              |            |  |
| <b>L14.</b>    | Do you have sufficient market demand for your plants?<br>1= yes 0= No                         |            |  |
| <b>L15.</b>    | Are you able to meet the demand fully from your own nursery?<br>1=yes 2= Partly 3= No         |            |  |
| <b>L16.</b>    | Have you faced any disease or pest attacks in your nursery?<br>1= yes 0= No                   |            |  |
| <b>L17.</b>    | If yes, which plant types were most affected?<br>1=Apple 2=Cherry 3=Apricot 4=Other           |            |  |
| <b>L18.</b>    | Has the nursery project improved your household income?<br>1=yes 0= No                        |            |  |
| <b>L19.</b>    | Has the project increased your employment opportunities?<br>1= yes 0= No                      |            |  |
| <b>L20.</b>    | Do you think the project contributed to promoting improved apricot varieties?<br>1= yes 0= No |            |  |
| <b>L21.</b>    | Have you received benefits from market linkages through the project?<br>1= yes 0= No          |            |  |
| <b>Nursery</b> |                                                                                               |            |  |
| <b>L22</b>     | Are you a beneficiary of orchard scheme?                                                      | 1.Yes 2.No |  |
| <b>L23</b>     | If Yes, Type of orchard?                                                                      | -----      |  |
| <b>L24</b>     | Size of orchards? (Kanal)                                                                     | -----      |  |
| <b>L25</b>     | Number of plants?                                                                             | -----      |  |
| <b>L26</b>     | Year of establishment?                                                                        | -----      |  |
| <b>L27</b>     | Total fresh production in last season? (kg)"                                                  | -----      |  |
| <b>L28</b>     | Total fresh production sold in last season (kg)                                               | -----      |  |
| <b>L29</b>     | Value of fresh production sold in last season (PKR)                                           | -----      |  |
| <b>L30</b>     | Total dried/processed production in last season (kg)                                          | -----      |  |
| <b>L31</b>     | Total dried/processed production sold in last season (kg)                                     | -----      |  |
| <b>L32</b>     | Value of dried/processed production sold in last season (PKR)                                 | -----      |  |

|                |                                                                                           |                                                                                |  |
|----------------|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--|
| <b>L33</b>     | *Where did you sell the products?                                                         | 1 Locally (in your region)<br>2 Nationally (country-wide)<br>3 Internationally |  |
| <b>L34</b>     | Do you have sufficient market demand for your production?                                 | Yes<br>No                                                                      |  |
| <b>L35</b>     | Has the orchard project increased your HH income?                                         | Yes<br>No                                                                      |  |
| <b>L36</b>     | Have you received benefits from market linkages through the project?                      | Yes<br>No                                                                      |  |
| <b>L37</b>     | Has your production increased since project support?                                      | Yes<br>No                                                                      |  |
| <b>L38</b>     | Have you expanded the size of your orchard after project support?                         | Yes<br>No                                                                      |  |
| <b>L22.</b>    | Overall, how satisfied are you with the ETI-GB nursery/orchard support?                   | 1=Strongly agree<br>2=Agree<br>3=Neutral<br>4=Disagree<br>5=Strongly disagree  |  |
| <b>L22. i</b>  | The project helped me improve nursery management practices.                               |                                                                                |  |
| <b>L22. ii</b> | The nursery business is now financially sustainable.                                      |                                                                                |  |
| <b>L22.iii</b> | The technical guidance received was practical and useful.                                 |                                                                                |  |
| <b>L22.iv</b>  | The project has increased the availability of high-quality fruit varieties in the region. |                                                                                |  |
| <b>L22. v</b>  | The project contributed to community-level economic growth.                               |                                                                                |  |

## SECTION M. GENDER AND WOMEN EMPOWERMENT (ALL RESPONDENTS)

| <b>M1</b>     | <b>Is this a female-headed household?</b><br>1=Yes                      2=No (Skip to Section M)                                                                                                                                                | <b> __ </b><br>(use codes here) |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| <b>M1.i</b>   | For how many years are you responsible for this family as a single woman?                                                                                                                                                                       | <b> __ </b> (use codes here)    |
| <b>M2</b>     | Are you a member of a self-help group or farmers' group?<br>1=Yes                      2=No (Go to M3)                                                                                                                                          | <b> __ </b> (use codes here)    |
| <b>M2. i.</b> | If so, which type of group?<br>Codes:<br>1=Women's self-help group<br>2=Community savings and credit group<br>3=Religious group<br>4=Village development committee<br>5=Other village committee (education, sanitation, road maintenance, etc.) | <b> __ </b> (use codes here)    |

|                 |                                                                                                                                                                                                             |                                           |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
|                 | 6=Farmers/Producers' Cooperative<br>7=Business association<br>8=Other (Please, specify):<br>1                                                                                                               |                                           |
| <b>M2. ii)</b>  | Were you a member of this group PRIOR to your participation in project activities?<br>1=Yes 2=No                                                                                                            | <input type="checkbox"/> (use codes here) |
| <b>M2.iii)</b>  | What is your current involvement in this group?<br>Codes:<br>1=Simple member<br>2=Member of elected committee<br>3=Leader                                                                                   | <input type="checkbox"/> (use codes here) |
| <b>M2. iv)</b>  | How actively do you participate in this group?<br>Codes:<br>1=Very actively<br>2=Somewhat actively<br>3=Not actively                                                                                        | <input type="checkbox"/> (use codes here) |
| <b>M3.</b>      | Do you think that female farmers have the same decision-making power as men in farmers' groups?<br>1.Yes 2. No                                                                                              | <input type="checkbox"/> (use codes here) |
| <b>M4.</b>      | Do you think that, as a single woman, it was easy to participate in project implementation?<br>Codes:<br>1=Participation was very easy<br>2=Participation was somewhat easy<br>3=Participation was not easy | <input type="checkbox"/> (use codes here) |
| <b>M5.</b>      | <b>Since you have participated in project activities, what are the main changes in your life? Do you strongly agree or disagree with the following statements?</b>                                          | <b>Strongly agree Code:1</b>              |
| <b>M5.i)</b>    | I feel more confident that I can earn enough income to feed my family                                                                                                                                       | <input type="checkbox"/>                  |
| <b>M5.ii)</b>   | I no longer need external support from friends or family                                                                                                                                                    | <input type="checkbox"/>                  |
| <b>M5.iii)</b>  | Our family is more respected in the community                                                                                                                                                               | <input type="checkbox"/>                  |
| <b>M5.iv)</b>   | I feel more respected in the community                                                                                                                                                                      | <input type="checkbox"/>                  |
| <b>M5.v)</b>    | I feel more confident to participate in community affairs or decisions                                                                                                                                      | <input type="checkbox"/>                  |
| <b>M5.vi)</b>   | I feel more confident to voice my views during village or group meetings                                                                                                                                    | <input type="checkbox"/>                  |
| <b>M5.vii)</b>  | I feel better able to make decisions about money and investments                                                                                                                                            | <input type="checkbox"/>                  |
| <b>M5.viii)</b> | I have more spare time to visit friends or family                                                                                                                                                           | <input type="checkbox"/>                  |

|                  |                                                                        |   |   |   |   |
|------------------|------------------------------------------------------------------------|---|---|---|---|
| <b>M.5.ix)</b>   | I feel more confident to go buy or sell things at the market           | _ | _ | _ | _ |
| <b>M.5.x)</b>    | I am more incline to join a farmer's group or self-help group          | _ | _ | _ | _ |
| <b>M.5. xi)</b>  | My work burden has decreased significantly                             | _ | _ | _ | _ |
| <b>M.5. xii)</b> | My children no longer need to work to contribute to household's income | _ | _ | _ | _ |

## SECTION N. SATISFACTION WITH PROJECT BENEFITS (ALL RESPONDENTS)

|            |                                                                                                                                                                             |                     |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| <b>N1.</b> | How satisfied were you with the services and activities supported by the project?<br>Codes:<br>1=Highly satisfied<br>2=Satisfied<br>3=Not satisfied<br>4=Highly unsatisfied | _  (use codes here) |
| <b>N2.</b> | How relevant were the services and activities supported by the project?<br>Codes:<br>1=Highly relevant<br>2=Relevant<br>3=Not relevant<br>4=Highly irrelevant               | _  (use codes here) |



## Survey Questionnaire (Control Group)

### CONSENT FORM

(Impact Assessment of ETI-Interventions in Gilgit-Baltistan)

#### **Basic Information:**

**Project:** Impact Assessment of ETI-Interventions in Gilgit-Baltistan

Country: Pakistan District: \_\_\_\_\_ Village: \_\_\_\_\_

Enumerator Name: \_\_\_\_\_ Interview Date: \_\_\_\_\_

Interview Start Time: \_\_\_\_\_ Interview End Time: \_\_\_\_\_

Household ID: \_\_\_\_\_ Name of Respondent: \_\_\_\_\_

#### **Introduction:**

Good morning/afternoon, Mr./Mrs. \_\_\_\_\_.

We are from HIMAT Consulting Firm, commissioned by the Economic Transformation Initiative–Gilgit Baltistan (ETI-GB) to conduct a study titled “Impact Assessment of ETI-Interventions in Gilgit-Baltistan.” Your household has been selected as part of the control group for this study. This means that while your village/household has not directly received ETI interventions (such as irrigation schemes, farm-to-market roads, or value-chain development support), your responses are equally important. Comparing households from areas with and without ETI interventions will help us to better understand the real impact of the program.

#### **Confidentiality and Rights:**

6. All information you provide will remain strictly confidential.
7. Your answers and identity will never be revealed in reports or publications.
8. Participation is voluntary. You may choose not to answer any questions and may stop the interview at any time without any consequences.
9. The objective of this study is to evaluate the effectiveness and impact of ETI-GB interventions on rural livelihoods and development. We kindly request your honest responses.
10. If you have any questions about the study, interview, or your participation, please feel free to contact:

- HIMAT Consulting Pvt Ltd

Email: \_\_\_\_\_

Phone: \_\_\_\_\_

- ETI-GB Contact Person: \_\_\_\_\_

You will also be given a copy of this consent form for your records.

**Consent:**

Do you agree to participate in this interview?

1. Yes \_\_\_\_
2. No \_\_\_\_

Do you have any questions before we start? \_\_\_\_\_

**Enumerator Certification:**

I, \_\_\_\_\_, the enumerator responsible for the interview taking place on \_\_\_\_\_, 2025 certify that I have read the above statement to the participant and they have consented to the interview. I pledge to conduct this interview as per the study guidelines and inform my supervisor of any issues during the process.

Signature of Enumerator: \_\_\_\_\_

Signature of Team Leader: \_\_\_\_\_

**Note to Enumerator:**

If the household does not give consent, stop the interview and inform your team leader immediately. Team leaders will record the reason and decide whether partial data collection is possible.

## Section A: Household Profile

| S.NO       | Questions/Options                                                                                                                                                                                                                                                                   | Indicator Reference no |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>B.1</b> | Respondent:                                                                                                                                                                                                                                                                         | All                    |
| <b>B2</b>  | Relationship to HH Head<br>1=Head, 2=Spouse, 3=Child, 4=Grandchild, 5=Niece/Nephew, 6=Father/Mother, 7=Sister/Brother, 8=Son/Daughter-in-law, 9=Brother/Sister-in-law, 10=Grandfather/Mother, 11=Father/Mother-in-law, 12=Other Relative, 13=Other Non-relative, 14=Other (specify) |                        |
| <b>B3</b>  | Household head Name:                                                                                                                                                                                                                                                                |                        |
| <b>B4</b>  | HH Head Education<br>1=None, 2= Primary, 3=Middle, 4=SSc, 5=HSSC, 6=BA/BSc, 7=MA/MSc, 8=M.Phil 9=PhD, 10=diploma/certificate                                                                                                                                                        |                        |
| <b>B5</b>  | Marital Status<br>1=Married, 2=Unmarried, 3=widow, 4=divorced, 5=other                                                                                                                                                                                                              |                        |
| <b>B6</b>  | Age of HH Head                                                                                                                                                                                                                                                                      |                        |
| <b>B7</b>  | Gender<br>1=Male, 2=Female                                                                                                                                                                                                                                                          |                        |
| <b>B8</b>  | Total Members                                                                                                                                                                                                                                                                       |                        |
| <b>B9</b>  | Male                                                                                                                                                                                                                                                                                |                        |
| <b>B10</b> | Female                                                                                                                                                                                                                                                                              |                        |
| <b>B11</b> | Under 5 Children                                                                                                                                                                                                                                                                    |                        |
| <b>B12</b> | 5-17years                                                                                                                                                                                                                                                                           |                        |
| <b>B13</b> | 18-35 Years                                                                                                                                                                                                                                                                         |                        |
| <b>B14</b> | 35-60 Years                                                                                                                                                                                                                                                                         |                        |
| <b>B15</b> | 60 and above                                                                                                                                                                                                                                                                        |                        |
| <b>B16</b> | Are there PWDs in the HH?<br>1. Yes 2. No (Skip to B17)                                                                                                                                                                                                                             |                        |
|            | If yes How many?                                                                                                                                                                                                                                                                    |                        |
| <b>B17</b> | Language at Home<br>B.9. 1. Shena, 2=Burushashki, 3=Wakhi, 4=Khowar, 5= Balti, 6=Other                                                                                                                                                                                              |                        |

## Section B: Poverty Score

|            |                                                                                    |                  |     |
|------------|------------------------------------------------------------------------------------|------------------|-----|
| <b>B.1</b> | How many people usually live and eat in this house ( <i>Don't include guests</i> ) | _____            | All |
| <b>B.2</b> | How many people in the household are under the age of 18 or over the age of 65?    | _____            | All |
|            | Codes:                                                                             | (use codes here) |     |
|            | 1=0 to 2 persons                                                                   |                  |     |
|            | 2=3 to 4 persons                                                                   |                  |     |
|            | 3=5 to 6 persons                                                                   |                  |     |
|            | 4= 7 or more                                                                       |                  |     |

|             |                                                                                                    |                            |     |
|-------------|----------------------------------------------------------------------------------------------------|----------------------------|-----|
| <b>B.3</b>  | What is the highest educational level of the head of the household (completed)?                    | _____ <br>(use codes here) | All |
|             | Codes:                                                                                             |                            |     |
|             | 1= Never attended school                                                                           |                            |     |
|             | 2= class 1 to class 5 included                                                                     |                            |     |
|             | 3= Class 6 to class 10 included                                                                    |                            |     |
|             | 4= Class 11, college or beyond                                                                     |                            |     |
| <b>B.4</b>  | How many children in the household between 5 and 16 years old are currently attending school?      | _____ <br>(use codes here) | All |
|             | Codes:                                                                                             |                            |     |
|             | 1= There are no children between age 5 to 16 years in the household                                |                            |     |
|             | 2= All the children between 5 -16 years are attending school                                       |                            |     |
|             | 3= Only some of the children between 5 -16 years are attending school                              |                            |     |
|             | 4= None of the children between 5 -16 years are attending school                                   |                            |     |
|             | How many rooms in the house per member (Divide the total rooms on the total members of the house?) | _____ <br>(use codes here) | All |
| <b>B.6</b>  | What kind of toilet is used by the household?                                                      | _____ <br>(use codes here) | All |
|             | Codes:                                                                                             |                            |     |
|             | 1=Flush connected to a public sewerage, a pit or an open drain                                     |                            |     |
|             | 2=Dry raised latrine or dry pit latrine                                                            |                            |     |
|             | 3=There is no toilet in the house                                                                  |                            |     |
| <b>B.7</b>  | Does the household own at least one refrigerator, freezer or washing machine?                      | _____ <br>(use codes here) | All |
|             | 1=Yes 2=No                                                                                         |                            |     |
| <b>B.8</b>  | Does the household own at least one air conditioner, air cooler, geyser or heater?                 | _____ <br>(use codes here) | All |
|             | 1=Yes 2=No                                                                                         |                            |     |
| <b>B.9</b>  | Does the household own at least one cooking stove, cooking range or microwave oven?                | _____ <br>(use codes here) | All |
|             | 1=Yes 2=No                                                                                         |                            |     |
| <b>B.10</b> | Does the household own the following engine driven vehicle?                                        | _____ <br>(use codes here) | All |
|             | Codes:                                                                                             |                            |     |
|             | 1=At least one car / tractor and at least one motorcycle / scooter                                 |                            |     |
|             | 2=At least one car / tractor but no motorcycle / scooter                                           |                            |     |
|             | 3=No car / tractor but at least one motorcycle / scooter                                           |                            |     |
|             | 4=Neither car / tractor NOR motorcycle / scooter                                                   |                            |     |
| <b>B.11</b> | Does the household own at least one tv?                                                            | _____ <br>(use codes here) | All |
|             | 1=Yes 2=No                                                                                         |                            |     |
| <b>B.12</b> | Does the household own the following livestock...?<br>Codes:                                       | _____ <br>(use codes here) | All |



|             |                                                                      |                            |     |
|-------------|----------------------------------------------------------------------|----------------------------|-----|
|             | 1=At least one buffalo / bullock AND at least one cow / goat / sheep |                            |     |
|             | 2=At least one buffalo / bullock BUT NO cow / goat / sheep           |                            |     |
|             | 3=No buffalo / bullock BUT at least one cow / goat / sheep           |                            |     |
|             | 4=Neither buffalo / bullock NOR cow / goat / sheep                   |                            |     |
| <b>B.13</b> | How much agricultural land does the household own? (Kanals):         | _____ <br>(use codes here) | All |
|             | Codes:                                                               |                            |     |
|             | 1= less than 10 Kanals                                               |                            |     |
|             | 2=10-50 Kanals                                                       |                            |     |
|             | 3= Above 50 Kanals                                                   |                            |     |

### Section C: INCOME AND SAVINGS

|              |                                                                       |                            |     |
|--------------|-----------------------------------------------------------------------|----------------------------|-----|
| <b>C1</b>    | <b>What is the Primary household's income source?</b>                 | _____ <br>(use codes here) |     |
|              | Codes:                                                                | _____ <br>(use codes here) | All |
|              | 1=Farming                                                             |                            |     |
|              | 2=Livestock breeding                                                  |                            |     |
|              | 3=Agricultural worker (e.g. agriculture)                              |                            |     |
|              | 3=Wood and wood products                                              |                            |     |
|              | 4=Handicraft                                                          |                            |     |
|              | 5=Petty trade                                                         |                            |     |
|              | 6=Trade and other small businesses                                    |                            |     |
|              | 7=Civil servant                                                       |                            |     |
|              | 8=Construction worker                                                 |                            |     |
|              | 9=Private sector employee                                             |                            |     |
|              | 10=Pension or other benefits                                          |                            |     |
|              | 11=Aid/assistance                                                     |                            |     |
|              | 12=Other (Specify)                                                    |                            |     |
| <b>C2</b>    | <b>What is the secondary household's income source?</b>               | _____ <br>(use codes here) | All |
|              | Codes:                                                                |                            |     |
|              | 1=Farming                                                             |                            |     |
|              | 2=Livestock breeding                                                  |                            |     |
|              | 3=Agricultural worker (e.g. agriculture)                              |                            |     |
|              | 3=Wood and wood products                                              |                            |     |
|              | 4=Handicraft                                                          |                            |     |
|              | 5=Petty trade                                                         |                            |     |
|              | 6=Trade and other small businesses                                    |                            |     |
|              | 7=Civil servant                                                       |                            |     |
|              | 8=Construction worker                                                 |                            |     |
|              | 9=Private sector employee                                             |                            |     |
|              | 10=Pension or other benefits                                          |                            |     |
|              | 11=Aid/assistance                                                     |                            |     |
|              | 12=Other (Specify:_____)                                              |                            |     |
| <b>C3.</b>   | <b>How many other family members contribute to the family income?</b> |                            | All |
| <b>C3. i</b> | Number of children below 16 years:                                    |                            |     |

|               |                                                                                                                |                             |     |
|---------------|----------------------------------------------------------------------------------------------------------------|-----------------------------|-----|
| <b>C3. ii</b> | Number of youths aged 16-25 years:                                                                             |                             |     |
| <b>C3.iii</b> | Number of adults:                                                                                              |                             |     |
| <b>C4.</b>    | What is the average monthly (or yearly) cash income of your household?                                         | All                         |     |
| <b>C4. i</b>  | Monthly income or Yearly (in PKR):                                                                             | _____<br>PKR/month or Year  |     |
| <b>C5</b>     | What are your MONTHLY expenditures (for food, clothing, education, health, etc)?                               | _____<br>PKR/Month          |     |
| <b>C6</b>     | Has your household been able to accumulate savings in the past 12 months?<br>1=Yes      2=No (Go to Section D) |                             |     |
| <b>C6.i)</b>  | If YES, how much were you able to save in the past 12 months?                                                  | _____<br>PKR in past 1 year |     |
| <b>C6.ii)</b> | For which main purposes will you use your savings?                                                             |                             | All |
|               | Codes:                                                                                                         |                             |     |
|               | 1=Investment in an income-generating activity                                                                  | __  (use codes here)        |     |
|               | 2=Purchase of tools/raw material/agricultural inputs                                                           |                             |     |
|               | 3=Home improvement (furniture, construction/renovation, etc.)                                                  | __  (use codes here)        |     |
|               | 4=Children's education/school expenditures                                                                     |                             |     |
|               | 5=To pay for emergencies (health issues)                                                                       | (Two answers maximum)       |     |
|               | 6=For social occasions (wedding, funerals, etc.)                                                               |                             |     |
|               | 7=Others (Specify:_____)                                                                                       |                             |     |

## SECTION D: HEALTH AND EDUCATION

|            |                                                                                                                                                                                                                                                                                                                                                               |                                                |  |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|--|
| <b>D1.</b> | Are you always able to seek medical attention and pay for medicine when you, your spouse or your children, are sick?<br>Codes:<br>1=Yes<br>2=Yes, but only if anyone was seriously sick<br>3=Yes, but we could not usually afford to pay for medicine<br>4=No, we could not afford to pay doctor or medicine<br>5=No, there is/was no doctor or clinic nearby | (Only one answer)<br><br> __  (use codes here) |  |
| <b>D2.</b> | Do all your school-aged GIRLS attend school?<br>Codes:<br>1=Yes, all of my daughters<br>2=No, only some of them<br>3=No, none of my daughters<br>4= I do not have school-aged girls<br>5= I do not have Daughters                                                                                                                                             | __  (use codes here)                           |  |

|            |                                                                                                                                                                                                  |                     |  |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--|
| <b>D3.</b> | Do all your school-aged BOYS attend school?<br>Codes:<br>1=Yes, all of my sons<br>2=No, only some of them<br>3=No, none of my sons<br>4= I do not have school-aged boys<br>5= I do not have Sons | _  (use codes here) |  |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--|

## Section E: Nutrition

| <b>E1: Nutrition Background</b> |                                                                                                                                                                                                                                                                                     |                                |       |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------|
| <b>E1.1.</b>                    | In the past 12 months, have you faced one or more periods of food insecurity ( <i>i.e., not able to secure three nutritious meals/day for all family members?</i> )<br>1=Yes (go to E1.1.i)      2=No (Skip to E2)                                                                  | _  (use codes here)            | 1.2.8 |
| <b>E1.1.i)</b>                  | If so, how many weeks?                                                                                                                                                                                                                                                              | ____<br>weeks during past year | 1.2.8 |
| <b>E1.2.</b>                    | How many children under 5 years live in your household?                                                                                                                                                                                                                             |                                |       |
| <b>E1.2.i</b>                   | In the last 3 months, how often has your child been sick (fever, cough, diarrhea, weakness)?<br>1 = Very often<br>2 = Sometimes<br>3 = Rarely<br>4 = Never                                                                                                                          |                                |       |
| <b>E1.2.ii</b>                  | How many times per day does your child usually eat?<br>1 = Once<br>2 = Twice<br>3 = Three times<br>4 = More than three times                                                                                                                                                        |                                |       |
| <b>E1.2.iii</b>                 | What types of food does your child usually eat in a normal day? ( <i>Multiple answers allowed</i> )<br>1 = Grains (wheat, rice, maize)<br>2 = Pulses or beans<br>3 = Vegetables<br>4 = Fruits<br>5 = Meat, fish, or eggs<br>6 = Milk or dairy products<br>7 = Snacks or sweets only |                                |       |
| <b>E1.2.iv</b>                  | In the last 12 months, has your household faced food shortage that affected child feeding?<br>1 = Yes<br>2 = No                                                                                                                                                                     |                                |       |

| <b>E2: DIET DIVERSITY</b>                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                           |       |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------|
| <b>E2.1</b>                                                                   | Is there a woman aged 15-49 in this household who can answer a few nutrition questions?                                                                                                                                                                                                                                                                                                                                                                                                                  | 1: Yes – 0: No<br>If No, skip question E3 | 1.2.8 |
| <b>E2.2</b>                                                                   | <p>Questions only for women 15-49 years old.</p> <p>Can I ask you about the food you consumed yesterday from early morning to the time you went to sleep in your home or elsewhere? Please tell me what you ate and drank from early morning after you woke up in the morning to the time you went to bed at night. For each item mentioned, record “Yes” if the amount consumed was more than one spoonful or handful (approximately more than 15 grams), and “No” if it was less than that amount.</p> |                                           | 1.2.8 |
| <b>1. Any food made from grains and any white roots or tuber or plantains</b> | Such as chapati, paratha, rice, porridge (daliya), makai bread, barley or buckwheat dishes, potatoes, or turnips?                                                                                                                                                                                                                                                                                                                                                                                        | 1: Yes –<br>0: No                         | 1.2.8 |
| <b>2. Any beans or peas such as:</b>                                          | Lentils (masoor, moong, mash, chana dal), dried peas or beans (lobia, white/red beans), or foods made from these (such as besan pakora or pulse soup)                                                                                                                                                                                                                                                                                                                                                    | 1: Yes –<br>0: No                         | 1.2.8 |
| <b>3. Any nuts or seeds, like:</b>                                            | Walnuts, almonds, apricot kernels, pine nuts, peanuts, or seeds (such as sesame, sunflower, flax) or foods made from them (e.g., nut/seed paste or chutney).                                                                                                                                                                                                                                                                                                                                             | 1: Yes –<br>0: No                         | 1.2.8 |
| <b>4. Any milk or milk products, such as:</b>                                 | Fresh milk (cow, yak, goat, or sheep), yogurt (dahi), buttermilk (lassi), or local cheese (paneer), but not including butter, cream, or ice cream                                                                                                                                                                                                                                                                                                                                                        | 1: Yes –<br>0: No                         | 1.2.8 |
| <b>5. Any meat, poultry and fish products, such as:</b>                       | Beef, lamb, goat, , chicken, Fresh or dried fish,                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1: Yes –<br>0: No                         | 1.2.8 |
| <b>6. Any eggs:</b>                                                           | Eggs from poultry                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1: Yes<br>0: No                           | 1.2.8 |
| <b>7. Any dark green leafy vegetables, such as:</b>                           | Spinach (palak), turnip leaves (shaljam patta), cabbage leaves (band gobi), or wild foraged greens such as tumuro, or other locally available saag                                                                                                                                                                                                                                                                                                                                                       | 1: Yes –<br>0: No                         | 1.2.8 |
| <b>8. Any vitamin A rich fruits, vegetables and roots</b>                     | Pumpkin ( <i>kaddu</i> ), carrots, , mulberries,                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1: Yes<br>0: No                           | 1.2.8 |
| <b>9. Any other vegetables</b>                                                | Tomatoes, onions, cauliflower, cabbage, okra, , capsicum, turnip, radish, peas, beans, garlic, cucumber, pumpkin, bottle gourd, coriander, mint, or green chilies                                                                                                                                                                                                                                                                                                                                        | 1: Yes<br>0: No                           | 1.2.8 |
| <b>10. Any other fruits</b>                                                   | Apples, apricots, cherries, mulberries, peaches, pears, plums, grapes, pomegranates, sea buckthorn, or market fruits such as bananas, oranges, and mangoes.                                                                                                                                                                                                                                                                                                                                              | 1: Yes<br>0: No                           | 1.2.8 |



| <b>E3: Food Intake</b> |                                                             |                 |                  |                           |       |
|------------------------|-------------------------------------------------------------|-----------------|------------------|---------------------------|-------|
| <b>E3.1</b>            | How often does your household eat the following food items? | Often<br>Code:1 | Rarely<br>Code:2 | Almost<br>never<br>Code:3 |       |
| <b>E3.1.i)</b>         | Meat, fish:                                                 | _               | _                | _                         | 1.2.8 |
| <b>E3.1.ii)</b>        | Eggs:                                                       | _               | _                | _                         |       |
| <b>E3.1.iii)</b>       | Milk:                                                       | _               | _                | _                         |       |
| <b>E3.1.iv)</b>        | Pulses:                                                     | _               | _                | _                         |       |
| <b>E3.1.v)</b>         | Vegetables:                                                 | _               | _                | _                         |       |
| <b>E3.1.vi)</b>        | Fruits:                                                     | _               | _                | _                         |       |

## **F: KAP**

| <b>F1: Sanitation, Food safety and hygiene (ALL RESPONDENTS)</b> |                                                                                                                                                   |                                                                                                                                                                                                                                                                   |                            |  |         |
|------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--|---------|
| <b>F1.1</b>                                                      | What is your main source of drinking water?                                                                                                       | 1: Public tap/standpipe –<br>2: Piped connection to house (or neighbour's house) –<br>3: Surface water (lake, pond, dam, river) –<br>4: Protected spring –<br>5: Unprotected spring –<br>6: Bottled water, -<br>7: Tanker truck –<br>8 Other–<br>9: I Don ´t know | [____]<br>(use codes here) |  | 1.2.9.A |
| <b>F1.2</b>                                                      | What kind of toilet facility does your household usually use?<br><br>(A latrine used by more than one household is considered communal or shared) | 1: Household latrine/toilet<br>2: Communal latrine –<br>3: Open defecation –<br>4: Plastic bag –<br>5 :Other –<br>8: I Don't know                                                                                                                                 | [____]<br>(use codes here) |  |         |
| <b>F1.3</b>                                                      | Do you wash your hands immediately before handling food?                                                                                          | 1: Never – 2: Rarely – 3: Sometimes – 4: Most of the Times – 5: Always                                                                                                                                                                                            | [____]<br>(use codes here) |  | 1.2.9.C |
| <b>F1.4</b>                                                      | Do you check the expiration date of ingredients before using them in food preparation?                                                            | 1: Never – 2: Rarely – 3: Sometimes – 4: Most of the Times – 5: Always                                                                                                                                                                                            | [____]<br>(use codes here) |  | 1.2.9.C |
| <b>F1.5</b>                                                      | Do you use food after the expiration date if it has no visible change in quality aspect?                                                          | 1: Never – 2: Sometimes – 3: Always                                                                                                                                                                                                                               | [____]<br>(use codes here) |  | 1.2.9.C |
| <b>F1.6</b>                                                      | Washing fruit and vegetables under running water and peeling them is enough to make these foods safe for consumption.                             | 1: True – 2: False – 3: I Don ´t Know                                                                                                                                                                                                                             | [____]<br>(use codes here) |  | 1.2.9.C |

| <b>F2: Intake of micronutrients</b> |                                                                                                                   |                                           |         |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------|
| <b>F2.1</b>                         | Did you use salt to cook the main meal eaten by members of your family last night?<br>1= Yes 2= No 3=I don't know | <input type="checkbox"/> Use codes here)  | 1.2.9.D |
| <b>F2.2</b>                         | What kind of salt did you use?<br><br>1: Iodized – 2: Not iodized – 3: No salt at home – 4: I Don't know          | <input type="checkbox"/> (use codes here) | 1.2.9.D |
|                                     | Have you heard about iron deficiency (anemia)?<br>1: Yes - 2: No – 3: I Don't know                                | <input type="checkbox"/> use codes here)  | 1.2.9.D |

|             |                                                                                                                                                                                                                                                  |                                          |         |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|---------|
| <b>F2.4</b> | What causes anemia?<br>1: Lack of iron in the diet and/or insufficient intake of quantities<br>2: Sickness/infection (malaria, hookworm infection, other infection such as HIV/AIDS)<br>3: Heavy bleeding during menstruation<br>4: I Don't know | <input type="checkbox"/> use codes here) | 1.2.9.D |
| <b>F2.5</b> | How serious/dangerous do you think it is to lack vitamin A in your body?<br>1: Serious – 2: Not serious - 3: I don't know                                                                                                                        | <input type="checkbox"/> use codes here) | 1.2.9.D |

### **F3: Food cultural practices (ALL RESPONDENTS)**

|             |                                                                                                                                                                                |                                                                                                                                                                          |         |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| <b>F3.1</b> | Do you discuss with other family members and share decisions on healthy diets and good nutrition?                                                                              | 1: Yes - 2: No                                                                                                                                                           | 1.2.9.F |
| <b>F3.2</b> | Which types of foods do you believe should not be consumed by pregnant women?                                                                                                  | SELECT ALL THAT APPLY<br>1: Vegetables such as Potatoes<br>2: Protein rich foods such as Egg/Fish<br>3: Fruits such as Apple<br>4: Should consume all<br>5: I don't know | 1.2.9.F |
| <b>F3.3</b> | Which types of foods do you believe should not be consumed by lactating mothers?                                                                                               | SELECT ALL THAT APPLY<br>1: Vegetables such as Potatoes<br>2: Protein rich foods Egg/Fish<br>3: Fruits Apple<br>4: Should consume all<br>5: I don't know                 | 1.2.9.F |
| <b>F3.4</b> | Which types of foods do you believe should not be consumed by young children (the assumption is that they are clean and safe for consumption and consumed in adequate amounts) | SELECT ALL THAT APPLY<br>1: Vegetables such as Potatoes<br>2: Protein rich foods such as Egg/Fish<br>3: Fruits such as Apple<br>4: Should consume all<br>5: I don't know | 1.2.9.F |

|             |                                                                                                             |                                                                                                                                                                                                                                                   |         |
|-------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| <b>F3.5</b> | Do you process any food at the household level to ensure additional food availability in case of shortages? | SELECT ONE:<br>1: Yes, with traditional methods<br>2: Yes, with basic technologies<br>3: Yes, with traditional methods and basic technologies<br>4: No, I do not process any foods                                                                | 1.2.9.F |
| <b>F3.6</b> | What is the main method you use to cook fenugreek (Methi)?                                                  | SELECT ONE<br>CONTEXTUALIZE <ul style="list-style-type: none"> <li>1. Boil and discard water</li> <li>2. Boil and use the water</li> <li>3. Wash and eat them raw</li> <li>4. Steaming</li> <li>4. Shallow frying</li> <li>6. Deep fry</li> </ul> | 1.2.9.F |

## Section G. NATURAL RESOURCES AND PRODUCTION

| FARM INFORMATION        |                                                                                                                                  |                                |                                                                            |                             |                       |                            | CI                      |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------------------|-----------------------------|-----------------------|----------------------------|-------------------------|
| <b>G1</b>               | Do you own or have access to any land for agricultural or livestock rearing purposes?                                            | 1: Yes –<br>0: No              | _____ <br>(use codes here)                                                 |                             |                       |                            | 1.2.1<br>1.2.2<br>1.2.3 |
| <b>G2 – Plot Roster</b> |                                                                                                                                  |                                |                                                                            |                             |                       |                            |                         |
| #                       | Type of land                                                                                                                     | Size (Kanals)                  | Main Use (1=Food crop, 2=Cash crop, 3=Fodder, 4=Orchard, 5=Mixed, 6=Other) |                             |                       |                            |                         |
| 1                       | Home Garden                                                                                                                      |                                |                                                                            |                             |                       |                            |                         |
| 2                       | Own Farmland                                                                                                                     |                                |                                                                            |                             |                       |                            | 4.2.3                   |
| 3                       | Rented land                                                                                                                      |                                |                                                                            |                             |                       |                            |                         |
| 4                       | Shared land                                                                                                                      |                                |                                                                            |                             |                       |                            |                         |
| 5                       | Communal pasture/grassland                                                                                                       |                                |                                                                            |                             |                       |                            |                         |
| 6                       | Other (specify)                                                                                                                  |                                |                                                                            |                             |                       |                            |                         |
| <b>G3</b>               | For the main crops that you have cultivated/harvested in the past 12 months, what was the acreage, production, sale, and income? |                                |                                                                            |                             |                       |                            |                         |
|                         | Crop                                                                                                                             | Quantity of seeds sown (in Kg) | Quantity harvested (in Kg)                                                 | Area cultivated (in Kanals) | Quantity sold (in Kg) | Income from sales (in PKR) |                         |
| 1                       | Potatoes                                                                                                                         |                                |                                                                            |                             |                       |                            | 1.2.4                   |
| 2                       | Wheat                                                                                                                            |                                |                                                                            |                             |                       |                            |                         |
| 3                       | Maize                                                                                                                            |                                |                                                                            |                             |                       |                            |                         |
| 4                       | Almond                                                                                                                           |                                |                                                                            |                             |                       |                            |                         |
| 5                       | Apple                                                                                                                            |                                |                                                                            |                             |                       |                            |                         |
| 6                       | Apricot                                                                                                                          |                                |                                                                            |                             |                       |                            |                         |
| 7                       | Cherry                                                                                                                           |                                |                                                                            |                             |                       |                            |                         |

|               |                                                                                                                                                                                                                                                                                                                            |                                                                                  |       |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------|
| <b>G4</b>     | <b>Are you a member of any farmers' group or association?</b><br>1: yes 2: No                                                                                                                                                                                                                                              |                                                                                  |       |
| <b>G5</b>     | During the past 12 months, have you received agricultural extension services?<br>1=Yes (Go to G5.i) 2=No (Go to G5.ii)                                                                                                                                                                                                     | _  (use codes here)                                                              | 1.2.1 |
| <b>G5.i</b>   | If yes from which organization you received the services?<br>1: AKRSP<br>2: GBRSP<br>3: Agricultural Extension Department<br>4: Other: Specify-----                                                                                                                                                                        |                                                                                  |       |
| <b>G5. ii</b> | If not, what was the key reason?<br>1=I did not need any extension services<br>2=Extension services are not available at all<br>3=Extension services are available, but not relevant/poor quality<br>4=Relevant services are too expensive<br>5=Others                                                                     | _  (use codes here)                                                              |       |
| <b>G6</b>     | In the past 12 months, did your agricultural production (i.e., volume harvested) increase compared to earlier years?<br>1=Yes 2=No (Go to G7)                                                                                                                                                                              | _  (use codes here)                                                              |       |
| <b>G6. i</b>  | If yes, what were the key factors contributing to this increase in agricultural production?<br>Codes:<br>1= Adoption of better agricultural practices/technologies<br>2=Better access to better seeds or varieties<br>3=Better access to fertilizers and other inputs<br>4=Crop diversification<br>5=Other (Specify:_____) | _  (use codes here)<br><br> _  (use codes here)<br><br><br>(Two answers maximum) | 1.2.4 |
| <b>G7</b>     | In the past 12 months, did your household's income from agriculture increase compared to earlier years?<br>1=Yes 2=No (Go to G9)                                                                                                                                                                                           | _  (use codes here)                                                              |       |
| <b>G7.i.</b>  | If yes, how large was this increase?<br>Codes:<br>1-Very large (+100% or doubling of income)<br>2=Significant (+50-99%)<br>3=Modest (+20-49%)<br>4=Very small (less than 10%)                                                                                                                                              | _  (use codes here)                                                              |       |



|               |                                                                                                                       |                                                                         |                       |       |
|---------------|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-----------------------|-------|
| <b>G7.ii)</b> | What were the key factors contributing to this increase in agricultural income?                                       |                                                                         | _  (use codes here)   |       |
|               | Codes:                                                                                                                |                                                                         |                       |       |
|               | 1= Increase in volumes produced                                                                                       |                                                                         | _  (use codes here)   |       |
|               | 2= Increase in volumes sold                                                                                           |                                                                         |                       |       |
|               | 3=Crop diversification                                                                                                |                                                                         |                       |       |
|               | 4=Adoption of higher value crops                                                                                      |                                                                         |                       |       |
|               | 5=Better sale prices due to better marketing (e.g. through farmers' association)                                      |                                                                         |                       |       |
|               | 6=Able to sell when prices are highest                                                                                |                                                                         |                       |       |
|               | 7=Other (Specify:_____)                                                                                               |                                                                         |                       |       |
| <b>G8</b>     | What was the primary source of water for irrigation for crop during the recent cropping season?                       | (1=Glacier-fed channel, 2=River/Stream, 3=Spring, 4=Pipe water, 5=Other | _ _  (use codes here) | 1.2.3 |
| <b>G9</b>     | Was the timing of water from the irrigation system adequate for production of crop during the recent cropping season? | 1: Yes – 0: No                                                          | _ _  (use codes here) | 1.2.1 |
|               |                                                                                                                       |                                                                         |                       | 1.2.3 |
| <b>G10</b>    | Was the amount of water from the irrigation system adequate for production of crop during the recent cropping season? | 1: Yes – 0: No                                                          | _ _  (use codes here) | 1.2.1 |
|               |                                                                                                                       |                                                                         |                       | 1.2.3 |
| <b>G11</b>    | What was the quality of the water from the irrigation system for plot during the recent cropping season?              | 1: Very Good – 2: Good – 3: Bad – 4: Very Bad                           | _ _  (use codes here) | 1.2.1 |
|               |                                                                                                                       |                                                                         |                       | 1.2.3 |

## Section H. Market Access

|            |                                                                               |                     |       |
|------------|-------------------------------------------------------------------------------|---------------------|-------|
| <b>H1</b>  | Is there a farm road that connects your valley/village to the nearest market? | _  (use codes here) | 2.2.6 |
|            | 1=Yes 2=No                                                                    |                     |       |
| <b>H2.</b> | Which year was the road constructed?                                          | _____(Year)         | 2.2.6 |
| <b>H3.</b> | Are you a direct beneficiary of this road (e.g., a regular user of the road)? |                     |       |
|            | 1=Yes 2=No                                                                    | _  (use codes here) | 2.2.6 |
| <b>H4.</b> | What is the current state of the road?                                        |                     |       |
|            | Codes:                                                                        | _  (use codes here) |       |
|            | 1=Excellent                                                                   |                     |       |
|            | 2=Good                                                                        |                     |       |
|            | 3=Average                                                                     |                     |       |
|            | 4=Poor                                                                        |                     |       |
|            | 5=Very poor                                                                   |                     |       |
| <b>H5.</b> | Can the road be used 12 months per year?                                      | _  (use codes here) |       |
|            | 1=Yes (Go to J6) 2=No                                                         |                     |       |

|              |                                                                                                    |                       |       |
|--------------|----------------------------------------------------------------------------------------------------|-----------------------|-------|
| <b>H5.i)</b> | If not, for how many months per year can it be used?                                               | _____ months/year     |       |
| <b>H6.</b>   | In your views, is the road properly maintained?                                                    | _  (use codes here)   |       |
|              | 1=Yes 2=No                                                                                         |                       |       |
| <b>H7.</b>   | Are you currently using this road to transport or sell your agricultural production to the market? | _  (use codes here)   | 2.2.6 |
|              | 1=Yes 2=No                                                                                         |                       |       |
| <b>H 8.</b>  | Currently, how do you sell or market your agricultural production?                                 |                       |       |
|              | Codes:                                                                                             | _ _  (use codes here) | 2.2.6 |
|              | 1=My production is for self-consumption only                                                       |                       |       |
|              | 2=Through middlemen                                                                                |                       |       |
|              | 3=Through direct contracts with local shopkeepers or buyers                                        |                       |       |
|              | 4=My family sells it directly at the nearest local market                                          |                       |       |
|              | 5=My family sells it directly at the nearest district market                                       |                       |       |
|              | 6=Through my farmers' group/association                                                            |                       |       |
|              | 7=Others<br>(Specify: _____)                                                                       |                       |       |
| <b>H9.</b>   | Currently, how is your agricultural production transported from your field to the market or buyer? |                       |       |
|              | Codes:                                                                                             | _  (use codes here)   | 2.2.6 |
|              | 1=Middlemen are coming to my field to pick it up after harvesting                                  |                       |       |
|              | 2=My farmers' group/association is arranging transportation                                        |                       |       |
|              | 3=Through a rented truck/vehicle                                                                   |                       |       |
|              | 4=Using my own truck/vehicle                                                                       |                       |       |
|              | 5=Using horses or donkeys                                                                          |                       |       |
|              | 6=Others (Specify: _____)                                                                          |                       |       |
|              |                                                                                                    |                       |       |

## Section I. GENDER AND WOMEN EMPOWERMENT

|                |                                                                                                                                                                                                                                                                                                                                             |                                           |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| <b>I1</b>      | <b>Is this a female-headed household?</b><br>1=Yes                      2=No (end the survey here)                                                                                                                                                                                                                                          | <input type="checkbox"/> (use codes here) |
| <b>I1.i</b>    | For how many years are you responsible for this family as a single woman?                                                                                                                                                                                                                                                                   | <input type="checkbox"/> (use codes here) |
| <b>I2</b>      | Are you a member of a any self-help group or farmers' group?<br>1=Yes                      2=No ( <b>Go to I3</b> )                                                                                                                                                                                                                         | <input type="checkbox"/> (use codes here) |
| <b>I2.i.</b>   | If so, which type of group?<br>Codes:<br>1=Women's self-help group<br>2=Community savings and credit group<br>3=Religious group<br>4=Village development committee<br>5=Other village committee (education, sanitation, road maintenance, etc.)<br>6=Farmers/Producers' Cooperative<br>7=Business association<br>8=Other (Please, specify): | <input type="checkbox"/> (use codes here) |
| <b>I2.ii)</b>  | What is your current involvement in this group?<br>Codes:<br>1=Simple member<br>2=Member of elected committee<br>3=Leader                                                                                                                                                                                                                   | <input type="checkbox"/> (use codes here) |
| <b>I2.iii)</b> | How actively do you participate in this group?<br>Codes:<br>1=Very actively<br>2=Somewhat actively<br>3=Not actively                                                                                                                                                                                                                        | <input type="checkbox"/> (use codes here) |
| <b>I3.</b>     | Do you think that female farmers have the same decision-making power as men in farmers' groups?<br>1 Yes                      2 No                                                                                                                                                                                                          | <input type="checkbox"/> (use codes here) |

## Survey Questionnaire (Producer Organizations/VACs)

### CONSENT FORM

(Impact Assessment of ETI-Interventions in Gilgit-Baltistan)

#### **Basic Information:**

**Project:** Impact Assessment of ETI-Interventions in Gilgit-Baltistan

Country: Pakistan District: \_\_\_\_\_ Village: \_\_\_\_\_

Enumerator Name: \_\_\_\_\_ Interview Date: \_\_\_\_\_

Interview Start Time: \_\_\_\_\_ Interview End Time: \_\_\_\_\_

Household ID: \_\_\_\_\_ Name of Respondent: \_\_\_\_\_

#### **Introduction:**

Good morning/afternoon, Mr./Mrs. \_\_\_\_\_.

We are from HIMAT Consulting Firm, commissioned by the Economic Transformation Initiative–Gilgit Baltistan (ETI-GB) to conduct a study titled “Impact Assessment of ETI-Interventions in Gilgit-Baltistan.”

The ETI-GB program has supported interventions in areas such as Irrigation and Land Development (ILD), Farm-to-Market Roads (FMR), Bridges, Value Chain Development (VACs), and Capacity Building. This survey aims to assess how these interventions have affected rural households in terms of livelihoods, agricultural productivity, market access, and overall well-being. Your household has been selected to participate in this study. The interview will take approximately 30 minutes.

#### **Confidentiality and Rights:**

11. All information you provide will remain strictly confidential.
12. Your answers and identity will never be revealed in reports or publications.
13. Participation is voluntary. You may choose not to answer any question and may stop the interview at any time without any consequences.
14. The objective of this study is to evaluate the effectiveness and impact of ETI-GB interventions on rural livelihoods and development. We kindly request your honest responses.
15. If you have any questions about the study, interview, or your participation, please feel free to contact:

- HIMAT Consulting Pvt Ltd

Email: \_\_\_\_\_

Phone: \_\_\_\_\_

- ETI-GB Contact Person: \_\_\_\_\_

You will also be given a copy of this consent form for your records.

**Consent:**

Do you agree to participate in this interview?

1. Yes \_\_\_\_

2. No \_\_\_\_

Do you have any questions before we start? \_\_\_\_\_.

**Enumerator Certification:**

I, \_\_\_\_\_, the enumerator responsible for the interview taking place on \_\_\_\_\_, 2025 certify that I have read the above statement to the participant and they have consented to the interview. I pledge to conduct this interview as per the study guidelines and inform my supervisor of any issues during the process.

Signature of Enumerator: \_\_\_\_\_

Signature of Team Leader: \_\_\_\_\_



| PRODUCER ORGANIZATIONS |                                                                                                     |                                                                                                                                                                                                      |  |                         |
|------------------------|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------|
| 1                      | Name of respondent                                                                                  | -----                                                                                                                                                                                                |  |                         |
| 2                      | Age of respondent                                                                                   | Number                                                                                                                                                                                               |  |                         |
| 3                      | Gender of the Respondent                                                                            | -----                                                                                                                                                                                                |  |                         |
| 4                      | Respondent's Relation to the VAC                                                                    | 1. President<br>2. Secretary<br>3. Board Member<br>4. Employee                                                                                                                                       |  |                         |
| 5                      | What is the name of the producer organization/cooperative?                                          | NAME                                                                                                                                                                                                 |  | 2.2.1<br>2.2.3<br>2.2.4 |
| 6                      | What is the name of the president of this cooperative / organization?                               | NAME                                                                                                                                                                                                 |  | 2.2.5                   |
| 7                      | What is the gender of the president?                                                                | 1:Female - 2: Male                                                                                                                                                                                   |  |                         |
| 8                      | What is the age of the president?                                                                   | YEARS OF AGE                                                                                                                                                                                         |  |                         |
| 9                      | What are the main activities of the cooperative / organisation ?                                    | SELECT ALL THAT APPLY :<br>1: Crop production – 2:Livestock rearing – 3:Fishing – 4:Forestry – 5:Trading/Market access – 6:Processing/transformation – 7: Water Users – 999:Other, specify           |  | 2.2.1<br>2.2.3<br>2.2.5 |
| 11                     | How many permanent employees currently work for the organisation (full-time or recurrent seasonal)? | Number of females<br>Number of males<br>Number of Young people                                                                                                                                       |  | 2.2.1                   |
| 12                     | How many members are affiliated?                                                                    | Number of females<br>Number of males<br>Number of Young people                                                                                                                                       |  | 2.2.4                   |
| 13                     | During <i>the last year</i> what was the value of total sales of products, goods or services?       | In PKR_____                                                                                                                                                                                          |  | 2.2.5                   |
| 14                     | What are the main services provided by the cooperative / organisation?                              | SELECT ALL THAT APPLY :<br>1:Storage Facility - 2:Crop Processing facility - 3:Access to market and marketing - 4:Credit/loan - 5:Training - 6:Purchase of equipment or inputs - 999: Other, specify |  | 2.2.4                   |

|           |                                                                                                                                   |                                 |  |       |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--|-------|
| <b>15</b> | Is the organization/cooperative engaged in formal partnership, agreements or contracts with public or private entities?           | 1: Yes – 0: No(End Survey here) |  | 2.2.3 |
| <b>16</b> | In how many formal partnership, agreements or contracts with public or private entities is the organization/cooperative involved? | Number                          |  | 2.2.3 |
| <b>17</b> | Name of companies in contracts with public/Private?                                                                               | -----                           |  |       |
| <b>18</b> | What type of products/commodities companies working on?                                                                           | -----                           |  |       |
| <b>19</b> | What is the annual value of total sales of products/goods/sales?                                                                  | Number                          |  |       |
| <b>20</b> | What is the annual value of total operating cost including inventory, wages, transport, equipment?                                | Number                          |  |       |

## 4. Qualitative Data Collection Tools

### Focus Group Discussion (FGD)

#### Focus Group Discussion (FGD) Guide

##### Purpose of the Focus Group Discussion

This interview is part of a consulting assignment being carried out by **HIMAT Consulting**. The purpose is to gather expert insights and contextual information to strategic recommendations for Impact Assessment/Study of ETI-GB Interventions in the Economic Development.

Participants/beneficiaries have been selected based on their experiences or roles within the community, organization, or sector. Their contributions will help ensure that the final recommendations are relevant, inclusive, and responsive to local realities.

##### Materials:

- Tool Guide
- Voice Recording Device/Sheet and Pen for Notetaking
- Repo Building/Ranking Sheet print outs

##### Instructions:

- Welcome the participants and thank them for attending. Introduce yourself, the firm and explain the purpose of this discussion.
- Emphasize respectful listening and the importance of diverse opinions.
- Read the consent statement and ask participants to say “yes” if they understand and agree to participate.
- Follow the Discussion Guide closely and ensure that all questions have been answered.
- Probe for specific examples and details from the participants. Try to avoid general comments or statements. Ask the participants to explain in more detail. Use prompting questions: who, what, when, where, why, and how? Remember, we are interested not just in what has happened, but in how and why.

#### Informed Consent Script

Facilitator must read the following to participants before beginning the FGD:

Thank you all for joining this Focus Group Discussion. HIMAT Consulting is conducting this session as part of the Impact Assessment/Study of ETI-GB Interventions. We are here to learn from your experiences and perspectives.

Your participation is completely voluntary. You may choose not to answer specific questions or to leave the discussion at any time without any consequence.

We are not evaluating you in any way – there are no right or wrong answers. We ask everyone to be respectful of one another’s views and keep what is shared in this discussion confidential.

With your permission, we would like to audio-record the discussion to ensure we capture everything accurately. The recording will be stored securely and deleted after transcription and analysis.

Please remember this is a group discussion. While we will keep all data confidential, we

cannot guarantee that other participants will do the same. We ask that everyone respect each other's privacy.

Please indicate participant consent below:

| Participant Name or Initials | Participating in FGD                                     | Agree to Audio Recording                                 | Agree to Being Photographed                              | Gender | Signature |
|------------------------------|----------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|--------|-----------|
|                              | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No |        |           |
|                              | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No |        |           |
|                              | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No |        |           |
|                              | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No |        |           |
|                              | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No |        |           |
|                              | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No |        |           |
|                              | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No |        |           |
|                              | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Yes <input type="checkbox"/> No |        |           |

**Note:** If a participant does **not** consent to participate, be recorded or being photographed, thank them respectfully, do not record further information about them and adjust your facilitation accordingly.

#### Group and Enumerator Information

| Field                                              | Response |
|----------------------------------------------------|----------|
| Community / Group Name                             |          |
| Location (Village/Town, District)                  |          |
| Target Group (e.g., youth, farmers, women leaders) |          |
| Date of FGD                                        |          |
| Duration                                           |          |
| Number of Participants                             |          |
| Inclusion of PWDs (if so, how many)                |          |
| Language of Discussion                             |          |
| FGD Facilitator Name                               |          |
| Note-taker Name                                    |          |
| Facilitator Contact                                |          |

#### Facilitator & Enumerator Guidelines for Ethical and Respectful Conduct

As a facilitator or note-taker representing **HIMAT Consulting**, you are expected to follow these ethical standards:

1. Voluntary Participation & Consent
  - Ensure all participants understand their rights before the session.
  - Do not pressure anyone to speak or continue if uncomfortable.
2. Confidentiality & Privacy
  - Do not record names with responses.
  - Remind participants not to share what others say outside the group.
3. Respect and Inclusion
  - 2 Encourage all voices to be heard, especially those less vocal.
  - 3 Be mindful of power dynamics, gender, and age-related hierarchies.
4. Neutral Facilitation

| <ul style="list-style-type: none"> <li>Do not show approval/disapproval of opinions.</li> <li>Keep your own views out of the discussion.</li> </ul>                                                                     |                                                                                                |                                                                                                       |                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| 5. Safe & Comfortable Environment                                                                                                                                                                                       |                                                                                                |                                                                                                       |                                                   |
| <ul style="list-style-type: none"> <li>Ensure the location is private, accessible, safe and culturally appropriate.</li> <li>Monitor group dynamics for signs of discomfort or exclusion.</li> </ul>                    |                                                                                                |                                                                                                       |                                                   |
| 6. Accurate Documentation                                                                                                                                                                                               |                                                                                                |                                                                                                       |                                                   |
| 1. Record responses in detail and use quotes when possible.                                                                                                                                                             |                                                                                                |                                                                                                       |                                                   |
| 2. If not recording, ensure notes are as comprehensive as possible.                                                                                                                                                     |                                                                                                |                                                                                                       |                                                   |
| <p>Thank you for facilitating this Focus Group Discussion with professionalism, sensitivity, and care. Your role is vital in helping HIMAT Consulting gather high-quality insights for meaningful development work.</p> |                                                                                                |                                                                                                       |                                                   |
| Theme                                                                                                                                                                                                                   | Main Question                                                                                  | Probes / Follow-up                                                                                    | Target Respondents                                |
| General perceptions                                                                                                                                                                                                     | How has ETI-GB influenced your community overall?                                              | Which interventions (ILD, FMRs, VCs, bridges, VACs) are most useful and why?                          | Farmers (men & women), youth, community leaders   |
| Irrigation & Land Development (ILD)                                                                                                                                                                                     | How the land was used before the project intervention?                                         | Was it barren land or used as grazing land                                                            | Farmers, cooperatives, Community leaders, Farmers |
|                                                                                                                                                                                                                         | What changes have occurred in landholding and agricultural practices since irrigation schemes? | Additional land under cultivation, crop diversification, income changes, Social and any other changes | Farmers, cooperatives, Community leaders, Farmers |
|                                                                                                                                                                                                                         | Have these schemes generated employment for local people (Women, men)?                         | Type of jobs, wages, youth and women engagement                                                       | Rural youth, skilled/unskilled labor              |
|                                                                                                                                                                                                                         | How has ILD affected women's and men's roles in farming and decision-making?                   | Household vs. community-level changes                                                                 | Women farmers, cooperatives, Youth                |
| Farm-to-Market Roads (FMRs) & Bridges                                                                                                                                                                                   | Has there been any roads and bridges before the project intervention?                          | Mode of travel and communication before the project                                                   | Farmers, transporters, households                 |
|                                                                                                                                                                                                                         | How have FMRs and bridges                                                                      | Travel time, cost reduction, access                                                                   | Farmers, transporters,                            |



|                                      |                                                                                                                                                                                                                |                                                             |                       |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-----------------------|
|                                      | improved connectivity?                                                                                                                                                                                         | to health/education                                         | households            |
|                                      | Did FMRs reduce workload of women and children?                                                                                                                                                                | Examples: carrying produce, school access, household chores | Women, youth          |
|                                      | Has mechanized farming increased due to roads/bridges?                                                                                                                                                         | Use of tractors, threshers, harvesters, cost savings        | Farmers, youth        |
| Value Chain Development (VACs & FOs) | Have there been any farm-based value chain activities before the project?                                                                                                                                      | Processing, packaging, collective marketing                 | VAC members, farmers  |
|                                      | How have VACs and cooperatives changed farming practices?                                                                                                                                                      | Processing, packaging, collective marketing                 | VAC members, farmers  |
|                                      | What benefits have come from orchards, nurseries, and seed stores?                                                                                                                                             | Quality planting material, storage, disease-free inputs     | Farmers               |
|                                      | How have women and marginalized groups benefited?                                                                                                                                                              | Participation in VACs, income gains                         | Women farmers, youth  |
|                                      | What is the role of VACs as support mechanism in farm-based enterprise development                                                                                                                             | Input supply, Marketing and linkage development             | Farmers, cooperatives |
|                                      | Do you have access to agriculture extension and research services? What challenges remain in accessing markets, finance, extension? What are the sustainability mechanisms for VCs and VACs after the project? | Credit access, transport, price volatility                  | Farmers, cooperatives |
|                                      | Has there been any job creation as a result of Value Chain or VACS?                                                                                                                                            | No of jobs created                                          | Farmers, Cooperatives |

|                                |                                                                                                               |                                        |                                    |
|--------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------|------------------------------------|
|                                | What are the mechanisms for sustainability of VCs and VAC?                                                    | Farmer's perception of land titling?   | Farmers, leaders                   |
| Policy & Institutional Aspects | What are the existing traditional land titling practices?                                                     |                                        |                                    |
|                                | Are you aware of land titling policy?<br>Are women entitled to land entitlement?                              | Do farmers feel more secure?           | Farmers, leaders                   |
|                                | Are there institutional arrangements for maintenance of irrigation channels & roads to ensure sustainability? | Community vs. govt. O&M arrangements   | Community leaders<br>Project staff |
|                                | What about sustainability of irrigation channels & roads?                                                     | Community vs. govt. O&M arrangements   | Community leaders<br>Project staff |
| Cross-cutting themes           | How included are women, youth, marginalized groups as a result of project intervention?                       | Training, leadership roles, employment | Women, youth                       |
|                                | Have nutrition outcomes improved for women and men?                                                           | Diet diversity, food availability      | Households                         |
| Reflections                    | What are the biggest successes of ETI-GB?                                                                     | Challenges, shortcomings               | All                                |
|                                | What recommendations for future projects?                                                                     | Suggestions for design, inclusivity    | All                                |

## Key Informant Interview

### Key Informant Interview Guide

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#### Purpose of the Interview:

This interview is part of a consulting assignment being carried out by **HIMAT Consulting**. The purpose is to gather expert insights and contextual information to strategic recommendations for Impact Assessment/Study of ETI-GB Interventions in the Economic Development.

You have been selected as a Key Informant because of your knowledge, experience, and role in this area. Your input is valuable in helping shape more effective and equitable development interventions.

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#### Informed Consent Statement

##### Please read the following statement to the interviewee before starting:

*Thank you for taking the time to speak with us. HIMAT Consulting is conducting this interview as part of a development project focused on ETI Interventions. We are gathering expert perspectives to better understand the current context, challenges, and opportunities in this area.*

*Your participation is entirely voluntary. You may decline to answer any question or stop the interview at any time without any negative consequences.*

*This interview is confidential. Your responses will not be attributed to you by name without your explicit permission. The information you provide will be used solely for the purposes of this study and will be reported in a way that ensures your anonymity.*

*With your consent, we would like to audio-record this interview to ensure the accuracy of our notes. The recording will be securely stored and deleted once it has been transcribed and analyzed.*

##### Please indicate the interviewee's consent below:

- ☐ I agree to participate in this interview.
- ☐ I do not agree to participate in this interview.
- ☐ I agree to be audio-recorded.
- ☐ I do not agree to be audio-recorded.
- ☐ I agree to be in pictures during the interview.

**If the interviewee does not agree to participate, thank them and do not proceed.**

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### Interviewee Information

| Field                          | Response                                                                                                                                                    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Full Name                      |                                                                                                                                                             |
| Organization / Affiliation     |                                                                                                                                                             |
| Position / Title               |                                                                                                                                                             |
| Area of Expertise / Sector     |                                                                                                                                                             |
| Location (District/Region)     |                                                                                                                                                             |
| Gender                         |                                                                                                                                                             |
| Age Range                      | <input type="checkbox"/> Under 25 <input type="checkbox"/> 25–34 <input type="checkbox"/> 35–44 <input type="checkbox"/> 45–54 <input type="checkbox"/> 55+ |
| Contact Information (optional) |                                                                                                                                                             |
| Interview Date                 |                                                                                                                                                             |
| Interview Mode                 | <input type="checkbox"/> In-person <input type="checkbox"/> Phone <input type="checkbox"/> Online (Zoom/Skype/etc.)                                         |
| Enumerator Name                |                                                                                                                                                             |
| Enumerator Contact             |                                                                                                                                                             |

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### Enumerator Guidelines for Ethical Conduct

As a representative of **HIMAT Consulting**, it is essential that you uphold the highest standards of ethical research. Please follow these key principles:

#### 1. Voluntary Participation

- Never pressure the interviewee to participate or continue.
- Clearly explain their right to refuse or withdraw at any time.

#### 2. Informed Consent

- Always obtain explicit verbal or written consent before starting.
- Clarify the purpose, how data will be used, and data privacy protections.

### 3. Confidentiality

- Do not record names or identifiable information unless permission is given.
- Store all notes and recordings securely and share only with authorized personnel.

### 4. Neutrality and Respect

- Avoid leading questions or showing approval/disapproval.
- Be open-minded and respectful of different perspectives.

### 5. Cultural and Contextual Sensitivity

- Be aware of local norms, languages, and power dynamics.
- Respect the interviewee's time and boundaries.

### 6. Safe and Comfortable Environment

- Choose a setting that ensures privacy and comfort.
- If online or by phone, confirm the respondent is in a safe and appropriate space to speak freely.

### 7. Accurate Documentation

- If consent is given, record the interview; otherwise, take detailed notes.
- Avoid paraphrasing key statements – capture the respondent's views accurately.

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Thank you for your commitment to conducting ethical, respectful, and high-quality research on behalf of HIMAT Consulting.

| Main Question                                                                         | Probes / Follow-up                                             | Target Respondents                           |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------|
| To what extent are ETI-GB interventions aligned with community needs & GB priorities? | Examples of needs addressed; fairness in beneficiary selection | Govt officials, NGO staff, community leaders |
| What evidence of increased farm income & food security have you seen?                 | Data on productivity, surplus marketed                         | Agriculture officers, VAC managers           |
| How effective were VACs in commercialization?                                         | Adoption of new crops, processing, packaging                   | VAC managers, traders                        |
| To what extent have women and youth benefited?                                        | Land titling, training, agribusiness                           | Women development                            |



|                                                                                                                                                                                       |                                                     |                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|---------------------------------|
|                                                                                                                                                                                       | opportunities                                       | dept., NGOs                     |
| How timely & cost-effective was construction of irrigation, roads, bridges?<br><br>What challenges were encountered in implementation?                                                | Resource use, delays, local labor                   | Works dept., engineers          |
|                                                                                                                                                                                       | Technical, institutional, social                    | Govt & implementing partners    |
| What long-term changes can be attributed to ETI-GB?<br><br>How has ETI-GB influenced private sector investment?<br><br>How has the community-led approach contributed to empowerment? | Employment, market integration, migration reduction | Govt, community leaders         |
|                                                                                                                                                                                       | Processing units, contracts with Fos                | Private agribusiness actors     |
|                                                                                                                                                                                       | Skills, governance, self-reliance                   | NGOs, cooperatives              |
| What O&M arrangements exist for irrigation, FMRs, VACs?<br><br>How sustainable are VACs beyond donor support?<br><br>How effective is land titling policy?                            | Community vs govt responsibility                    | Works dept., VAC reps           |
|                                                                                                                                                                                       | Financial viability, linkages                       | VAC managers                    |
|                                                                                                                                                                                       | Challenges in institutionalization                  | Land records officials          |
| How has ETI-GB contributed to gender empowerment, youth inclusion, and nutrition?                                                                                                     | Examples of inclusion/exclusion                     | Women & youth departments, NGOs |
| What lessons should future projects adopt?                                                                                                                                            | Innovative practices, financing, policies           | All KII respondents             |

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