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# LIVELIHOOD INSECURITY, SOCIAL EXCLUSION, AND HOUSEHOLD ADAPTATION IN JAMMU AND KASHMIR BORDERLANDS: A SOCIOLOGICAL ANALYSIS OF SELECTED RURAL COMMUNITIES

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## ABSTRACT

*Borderland households in Jammu and Kashmir occupy a distinctive social location in which territorial exposure, livelihood uncertainty, unequal service access and rural development institutions intersect. This revised manuscript specifies a field-valid empirical design for comparing R.S. Pura and Bishnah in Jammu district with Balakote and Mendhar in Poonch district. The four blocks represent analytically contrasting border settings: relatively accessible International Border plains and hilly Line of Control-adjacent areas. The study is designed around a target of 400 completed household interviews, multistage selection, three explicitly defined composite measures, and hypothesis-specific statistical models. The Livelihood Insecurity Index and Social Exclusion Index are treated as formative composites, while household resilience is defined as a distinct recovery/continuity outcome rather than being mechanically built from the same predictors later used in regression. This correction removes a major source of circularity in the earlier analytical model. Because the materials available for this revision do not contain a verified primary field dataset, field dates, interviewer logs, consent records or an ethics approval record, no simulated observations are reported as empirical findings. Tables 9-12 therefore provide analysis-ready reporting structures to be populated only after genuine survey data are imported, validated and analysed. The paper offers a publication-safe methodology, a corrected hypothesis framework, a critical 2020-2025 literature synthesis, and a reproducible pathway for generating genuine results without fabricating household evidence.*

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**KEYWORDS:** Livelihood Insecurity; Social Exclusion; Borderlands; Jammu and Kashmir; Household Resilience; Welfare Access; Rural Adaptation.

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## 1. INTRODUCTION

Borderlands are not simply peripheral territories. They are social spaces in which national security, rural development, citizenship, mobility and everyday livelihood practices are negotiated simultaneously. In Jammu and Kashmir, proximity to the International Border or the Line of Control can shape the predictability of work, access to cultivated land, travel to markets, schooling, health care and the usability of welfare entitlements. Livelihood insecurity in this setting is therefore multidimensional: it may be expressed through unstable earnings, interrupted cultivation or wage work, indebtedness, constrained mobility, reduced consumption and dependence on coping strategies that protect short-term survival but weaken long-term security.

Contemporary livelihood scholarship cautions against treating household adaptation as an isolated portfolio choice. Natarajan et al. (2022) argue that a twenty-first-century sustainable livelihoods framework must explicitly account for structural forces, spatial differentiation and ecological-political contexts. That argument is highly relevant to border settlements because location itself may operate as a constraint on the conversion of household assets into secure livelihoods. A household may possess land but be unable to use it reliably during disruption; it may be formally eligible for a welfare programme but lack transport, digital connectivity or banking access required to make the entitlement usable.

The sociological problem is also stratified. Households differ in education, income, landholding, gendered labour participation, social networks and institutional access. The same border-related event can therefore generate unequal consequences. A household with regular salaried employment, formal credit and diversified income may absorb a disruption differently from a land-poor household dependent on casual labour or a single seasonal livelihood. The analytical task is to identify how structural exposure interacts with household resources and institutional inclusion rather than to attribute insecurity to individual failure.

This study focuses on the joint relationship among border vulnerability, livelihood insecurity, social exclusion, welfare access, adaptation and household resilience. The revised design separates explanatory

variables from outcome measures, aligns each hypothesis with a testable statistical model, and prevents simulated records from being presented as observed evidence.

## 2. STUDY AREA AND SELECTION JUSTIFICATION

The study is delimited to two border districts, Jammu and Poonch, and four blocks: R.S. Pura, Bishnah, Balakote and Mendhar. The selection is purposive at the district and block stages because the research question concerns households living in border-sensitive rural environments. The four sites are not intended to be statistically representative of every border community in the Union Territory. Instead, they provide a maximum-variation comparative frame across border regime, terrain, connectivity and livelihood ecology.

R.S. Pura and Bishnah represent the Jammu border belt, where relatively plain terrain, agriculture, wage labour, small trade and comparatively stronger market and administrative connectivity provide one type of borderland setting. Their proximity to the International Border makes them suitable for examining how border exposure interacts with agrarian dependence and service access in a comparatively accessible rural environment. Balakote and Mendhar in Poonch provide a contrasting LoC-adjacent setting characterised by hilly terrain, dispersed settlements, more difficult transport conditions and potentially higher sensitivity to security-related mobility disruption. This contrast allows the analysis to ask whether the mechanisms linking exposure, exclusion and resilience differ across spatial contexts rather than treating the borderland as homogeneous.

Official Jammu and Kashmir economic surveys and statistical publications provide the macro-development context, while Ministry of Home Affairs reports locate border management and border area development within a wider security-development interface. These sources are contextual rather than substitutes for household data. They cannot establish household-level causal or correlational relationships in the four blocks and should not be used to fill missing primary observations.

*Table 1: Selection Rationale for the Four Study Blocks.*

| District | Block(s)              | Analytical rationale                                                                                                                                                                    |
|----------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Jammu    | R.S. Pura and Bishnah | International Border belt; relatively plain rural setting; agriculture, labour and local market access; useful for examining border exposure under comparatively stronger connectivity. |

|        |                      |                                                                                                                                                                                         |
|--------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Poonch | Balakote and Mendhar | LoC-adjacent hilly setting; dispersed settlement and connectivity constraints; useful for examining livelihood and service vulnerability under different terrain and border conditions. |
|--------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 3. CRITICAL LITERATURE REVIEW

#### 3.1. *Livelihood Insecurity and Diversification*

Recent literature supports a structural rather than purely asset-centred interpretation of livelihood security. Natarajan et al. (2022) rework the sustainable livelihoods framework by emphasising structural forces, power and spatial relations. The value of this perspective for the present study is conceptual: it justifies modelling border exposure and institutional access alongside household assets. It does not, however, provide direct evidence about the four selected blocks, and the manuscript must avoid treating a general framework as site-specific confirmation.

Patidar and Chothodi (2021) show that livelihood diversification in rural India is associated with socio-economic characteristics including landholding, education and income. Their findings complicate the assumption that more income sources automatically indicate greater resilience. Diversification may reflect opportunity, but it can also arise from land scarcity, low returns and economic necessity. This distinction is central to borderland analysis because seasonal migration, casual work or multiple low-paid activities may protect current consumption while leaving households structurally insecure.

Ramilan et al. (2022) demonstrate the usefulness of composite measurement for farm household resilience in India, but their index construction is context-specific. Their work uses indicators such as savings, food reserves and expenditure capacity and therefore cannot be directly imported as a validated scale for Jammu and Kashmir border villages. The methodological implication is that any new Household Resilience Index must be defined against the actual questionnaire, tested for measurement quality, and kept conceptually distinct from the predictors subsequently used to explain it.

Onyeyirichi and Deepika (2025) further caution against treating livelihood mix as a guaranteed pathway out of deprivation. Their micro-level study in Bihar found that diversification did not automatically mediate the relationship between livelihood capitals and multidimensional poverty. For the present paper, this strengthens an interpretation of adaptation as potentially ambivalent: it can represent resilience-enhancing agency, distress adjustment, or both.

#### 3.2. *Social Exclusion, Service Access and*

#### *Multidimensional Deprivation*

Multidimensional poverty frameworks provide a useful language for analysing overlapping deprivation in health, education and living standards. NITI Aayog (2021, 2023, 2024), the Rural Multidimensional Poverty Index developed by FAO and OPHI (2022), and global MPI work by UNDP and OPHI (2023, 2024) all show why household well-being cannot be reduced to income alone. Yet these instruments operate at broader scales and with different indicator sets. They cannot be treated as validated measures of social exclusion in the four border blocks without adaptation and empirical testing.

In the present study, social exclusion is defined more narrowly as reduced effective participation in service and institutional systems required for livelihood security. Relevant domains include usable access to education, health, transport, banking, digital connectivity and local institutions, together with perceived discrimination. This definition deliberately separates welfare access from the Social Exclusion Index because H2 tests whether exclusion predicts effective welfare access. Including welfare access inside the exclusion score and then using welfare access as an outcome would create part-whole correlation and inflate the apparent relationship.

NFHS-5 and related health reports show the value of disaggregated household evidence for health and service use, while ILO (2021) emphasises that formal social protection coverage and effective protection are not identical. The implication for borderland research is that entitlement must be measured in terms of usability. A scheme may exist on paper while distance, documentation, transport, low digital access or banking constraints prevent a household from obtaining the intended benefit.

This distinction is especially important in increasingly digitised welfare systems. Internet access, banking access and transport are not merely amenities; they can operate as enabling infrastructure through which formal rights are converted into real resources. The paper therefore treats service exclusion as a mechanism that can shape both livelihood insecurity and the capacity to recover from shocks.

#### 3.3. *Border Vulnerability, Migration and Institutional Context*

Government of Jammu and Kashmir economic surveys from 2023-2025 document development in roads, agriculture, health, employment and welfare at the Union Territory level. Ministry of Home Affairs reporting likewise frames border management and border area development as administrative priorities. These documents are indispensable for contextualising the study, but their aggregate indicators are not household survey substitutes. Macro-level improvement can coexist with localised deprivation, and administrative spending cannot establish whether a particular household experienced mobility restriction, livelihood disruption or delayed service use.

Migration must also be interpreted cautiously. The World Development Report 2023 treats migration as a development process shaped by opportunity, constraints and destination conditions. In border villages, seasonal or temporary migration may diversify income, but it may also reflect local labour scarcity, insecure farming, debt pressure or disrupted access to work. A binary migrated/not-migrated variable is therefore insufficient on its own. The questionnaire and analysis should distinguish migration type, reason, duration and remittance contribution where those fields are genuinely available.

The labour-market context matters because rural households often combine formal and informal activities. Periodic Labour Force Survey reporting and ILO employment analyses highlight continuing informality and unequal labour-market security. For borderland households, a livelihood portfolio may therefore include agricultural work, casual labour, livestock, small trade, remittances and public employment. The statistical analysis should identify whether diversification is associated with stronger recovery outcomes after adjustment for income and other resources rather than assuming that every additional income source is beneficial.

### 3.4. Specific Research Gap

The precise gap is not the absence of all research on Jammu and Kashmir or rural poverty. The gap is the scarcity of recent household-level sociological evidence that jointly models border vulnerability, multidimensional social exclusion, livelihood insecurity and household resilience across analytically contrasting International Border and LoC settings using transparently validated measures. Existing administrative and multidimensional-poverty sources establish context but do not test the proposed household-level mechanisms in R.S. Pura, Bishnah, Balakote and Mendhar. The present design

addresses this gap only when genuine field observations are used; simulated data cannot fill it.

## 4. OBJECTIVES, RESEARCH QUESTIONS AND HYPOTHESES

### 4.1. Objectives

- Describe the socio-economic and livelihood profile of sampled households in the four selected border blocks using genuine survey observations.
- Construct and validate transparent measures of livelihood insecurity, social exclusion and household resilience from the actual questionnaire.
- Estimate the association between border vulnerability and livelihood insecurity after accounting for relevant household characteristics.
- Assess whether social exclusion reduces effective welfare access and whether welfare access is associated with lower livelihood insecurity.
- Estimate the contribution of livelihood diversification, education, income and landholding to household resilience.
- Interpret adaptation as a continuum ranging from resilience-enhancing strategies to distress-oriented coping.

### 4.2. Research Questions

- How are livelihood insecurity and social exclusion distributed among sampled households and across the four study blocks?
- Is greater border vulnerability associated with higher livelihood insecurity?
- Does social exclusion reduce effective access to welfare and basic services?
- Are diversified livelihoods associated with stronger household resilience after adjustment for socio-economic resources?
- Is effective welfare access associated with lower livelihood insecurity when border vulnerability and household resources are controlled?

### 4.3. Corrected Hypotheses

- H1: Higher border vulnerability is associated with higher Livelihood Insecurity Index scores.
- H2: Higher Social Exclusion Index scores are associated with lower effective welfare access.
- H3: Livelihood-diversified households have higher Household Resilience Index scores, net

of major covariates.

- H4: Higher effective welfare access is associated with lower Livelihood Insecurity Index scores after controlling for border vulnerability, income, education and landholding.
- H5: Education, income and landholding independently predict higher household resilience.

The earlier H4 decision was not statistically aligned with its hypothesis because a weak bivariate correlation between welfare access and livelihood insecurity was supplemented with a regression in which resilience - not livelihood insecurity - was the dependent variable. H4 is therefore re-specified and must be tested with livelihood insecurity as the outcome.

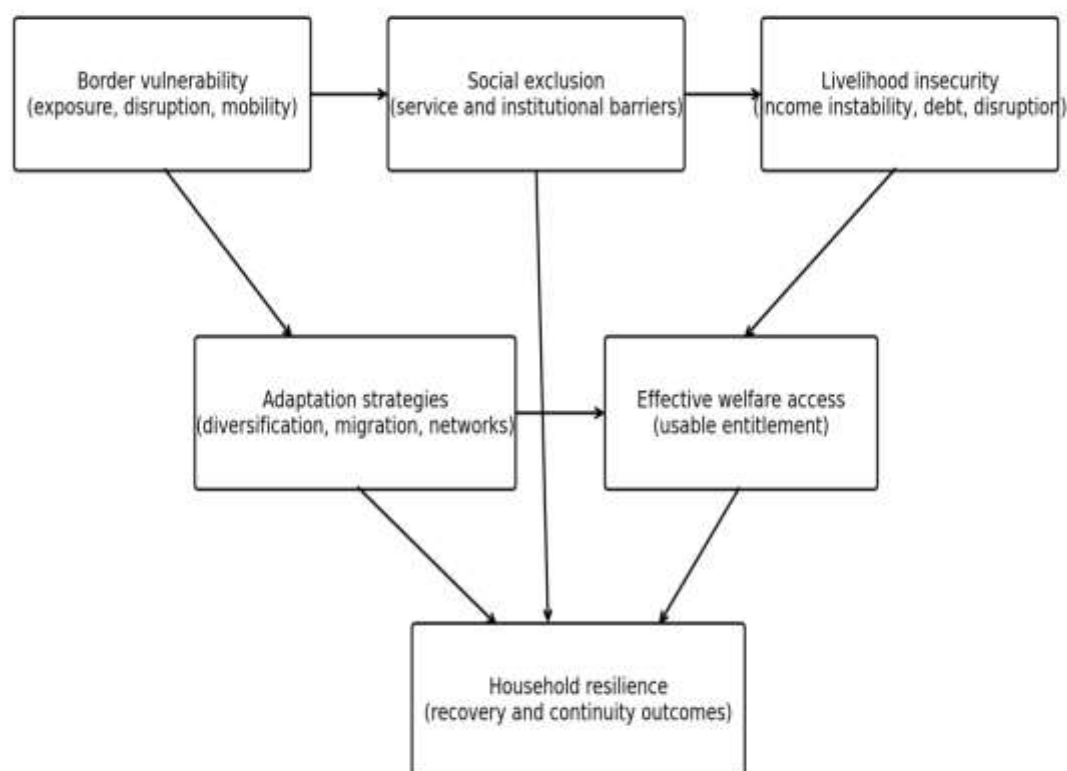
## 5. CONCEPTUAL FRAMEWORK

The revised framework treats border vulnerability as a structural exposure that may

increase livelihood insecurity directly and may also operate through service and institutional exclusion. Social exclusion is conceptually distinct from welfare access so that the latter can be modelled as an outcome or protective factor. Adaptation strategies are heterogeneous: diversification, social-network support and formal assistance may strengthen recovery, whereas distress borrowing, asset sale or consumption reduction may indicate constrained adaptation. Household resilience is reserved for recovery and continuity outcomes rather than being calculated from the explanatory variables used to predict it.

This separation is essential for valid inference. If income, education, landholding and welfare access are included inside a resilience index and then used as predictors of that same index, the resulting regression partly reproduces the index construction by design. The revised framework eliminates that mechanical relationship and permits coefficients to represent empirical associations rather than arithmetic overlap.

### Conceptual framework: structural exposure, exclusion, adaptation and resilience



Controls/moderators in multivariable models: income, education, landholding, gender and social category

**Figure 1: Corrected Conceptual Framework Separating Structural Exposure, Exclusion, Adaptation, Welfare Access and Household Resilience.**

## 6. METHODOLOGY

### 6.1. Research Design

The intended design is a cross-sectional household survey with a quantitative sociological emphasis. The household is the primary unit of analysis, and the respondent should be the household head or another adult member sufficiently knowledgeable about income, livelihoods, welfare use, service access and recent disruption. The design is comparative rather than population-representative for the entire Union Territory because district and block selection is purposive.

### 6.2. Sample Size Adequacy

For a large or unknown household population, a conventional single-proportion sample-size calculation at 95 percent confidence, 5 percent absolute precision and maximum variability uses

$n_0 = Z^2 p(1-p) / e^2$ . Substituting  $Z = 1.96$ ,  $p = 0.50$  and  $e = 0.05$  gives  $n_0 = 384.16$ . A target of 400 completed households therefore exceeds the minimum unadjusted requirement and provides a balanced round number for block-level comparison.

The proposed allocation of 100 completed households per block is analytically balanced rather than population-proportionate. Equal allocation increases comparability across the four blocks, but pooled estimates should not be described as population prevalence estimates unless appropriate sampling weights are derived from the underlying block/village household populations. The field target must also distinguish completed interviews from attempted contacts. If 400 completed interviews are required, the number approached should be inflated for anticipated non-response; for example,  $400/0.90 = 445$  households would need to be approached if a 90 percent response rate were expected.

*Table 2: Sample-Size Basis and Planned Analytical Allocation.*

| Component               | Specification                                                                                                   |
|-------------------------|-----------------------------------------------------------------------------------------------------------------|
| Confidence level        | 95% ( $Z = 1.96$ )                                                                                              |
| Precision               | 5% absolute margin of error                                                                                     |
| Maximum variability     | $p = 0.50$                                                                                                      |
| Calculated minimum      | 384.16, rounded upward                                                                                          |
| Target completed sample | 400 households                                                                                                  |
| Balanced allocation     | 100 completed households per block                                                                              |
| Interpretive caution    | Equal block allocation is not population-proportionate; pooled prevalence requires design/weight justification. |

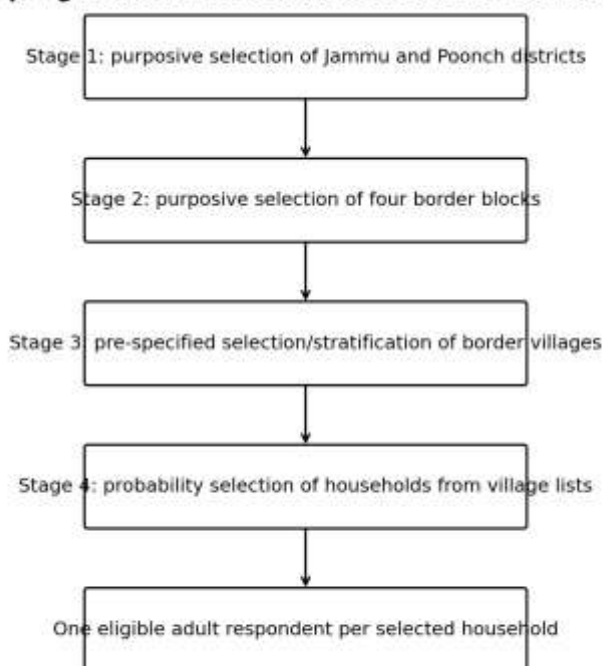
### 6.3. Sampling Procedure: What Must Be Documented as Actually Done

The available study materials specify a multistage strategy in prospective terms. For journal submission, the manuscript must report the procedure that was actually implemented, not an ideal procedure written after the fact. The following sequence is methodologically appropriate and should be retained only to the extent that it matches the field record.

- Stage 1 - District selection: Jammu and Poonch selected purposively because the study is explicitly concerned with distinct border settings.
- Stage 2 - Block selection: R.S. Pura and Bishnah in Jammu and Balakote and Mendhar in Poonch selected purposively to capture International Border/plain and

LoC/hilly contexts.

- Stage 3 - Village selection: report the exact villages, the frame from which they were chosen, the border-distance/terrain criteria, and whether selection was purposive, random or stratified. Do not use generic wording if the actual village procedure differed.
- Stage 4 - Household selection: state the source and date of the household list, the sampling interval or random-number method, the random start, eligibility rules, repeat-visit protocol and any replacement procedure.
- Respondent selection: specify how one knowledgeable adult was chosen when more than one eligible respondent was present and whether proxy reporting was permitted.

**Multistage sampling workflow to be documented from the actual field record**

**Figure 2: Multistage Sampling Workflow That Must Be Reconciled with the Actual Field Log Before Submission.**

Required reproducibility detail: village names, village household counts, number selected per village, number approached, number completed, number refused/non-contacted, and reasons for exclusion should be tabulated. Without these items, the claim of probability household selection cannot be independently evaluated.

#### **6.4. Questionnaire Administration, Fieldwork and Ethics**

A proper empirical paper must specify how the survey instrument moved from design to completed records. The related study synopsis indicates structured survey schedules and personal interviews, but the materials available for this revision do not document the actual interview dates,

field investigators, village-by-village contact totals, response rate, informed-consent procedure or ethics approval. These details cannot be reconstructed reliably from the illustrative dataset and must not be invented.

For the final empirical manuscript, the data-collection subsection should report: instrument language(s) and translation/back-translation procedures; pilot-test location and sample; interviewer training; dates of fieldwork; mode and average interview duration; privacy arrangements; eligibility rules; contact and revisit protocol; completion, refusal and non-contact counts; handling of partially completed schedules; informed consent; confidentiality and de-identification; data-storage controls; and the ethics committee/institutional approval or exemption identifier where applicable.

**Table 3: Fieldwork And Ethics Reporting Matrix - Complete Only from Authentic Records.**

| Reporting item               | Required empirical entry                                          | Current status                                                                       |
|------------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Questionnaire administration | Mode, language(s), pilot and interview duration                   | Structured survey/personal interview is planned; operational details not documented. |
| Fieldwork dates              | Start and end dates by district/block                             | Not available in supplied materials.                                                 |
| Field investigators          | Names/number, training, supervision                               | Not available.                                                                       |
| Contact outcomes             | Eligible, approached, completed, refused, non-contact, incomplete | Not available; response rate cannot be calculated.                                   |
| Informed consent             | Written/oral process and consent script                           | Not available.                                                                       |
| Ethical approval             | Committee, institution, approval/exemption number and date        | Not available.                                                                       |

|                 |                                             |                                           |
|-----------------|---------------------------------------------|-------------------------------------------|
| Data protection | De-identification, storage, access controls | Must be documented from actual procedure. |
|-----------------|---------------------------------------------|-------------------------------------------|

Response rate should be reported using a transparent denominator, for example completed eligible interviews divided by all eligible contacted cases, with refusals, non-contacts and unknown eligibility reported separately. A numerical response rate must not be inferred from the target  $N = 400$ .

### 6.5. Variables And Operational Definitions

The analytical dataset should include respondent and household identifiers, study block, demographic profile, household composition, education, occupation, income, landholding, livelihood sources, debt and credit, border exposure, service access, welfare use, adaptation strategies and distinct resilience outcomes. Each variable must be traceable to a specific questionnaire item and a codebook value. Derived variables should be generated by script rather than manually edited in the spreadsheet so that the analysis is reproducible.

Border vulnerability should be operationalised from directly observed survey items such as distance from the border, recent exposure to shelling or security-related disruption, displacement history, livelihood/crop disruption, mobility restrictions and perceived safety. Because these indicators differ in measurement level, they should be coded consistently before aggregation. Where an item is ordinal, its ordering must be substantively meaningful; where a continuous measure such as distance is used, the direction of risk should be defined in advance.

Effective welfare access should measure whether eligible households could actually obtain and use benefits, not merely whether they had heard of a scheme. Where the instrument records several schemes, a transparent count/proportion or scheme-specific indicator may be preferable to a vague binary variable. Likewise, service access should distinguish availability from practical usability. A health facility may exist but remain functionally inaccessible because of travel time, cost, safety or transport disruption.

Livelihood diversification should be derived from the actual number and type of meaningful income sources over a defined reference period. A binary diversified/not-diversified variable is easy to interpret, but sensitivity analysis should also examine the underlying count because two low and unstable income sources may not be equivalent to two secure sources. Income should be retained continuously where possible and grouped only for descriptive presentation or non-linear analysis.

All derived codes, reverse-coded items, missing-value codes and category thresholds should be recorded in an analysis codebook. This is particularly important for the three indices because otherwise different analysts can obtain different scores from the same responses.

## 7. RECONSTRUCTION OF THE THREE INDICES

### 7.1. Livelihood Insecurity Index (Lii)

The LII is treated as a formative composite: different dimensions such as debt, income instability and livelihood disruption jointly form insecurity, but the items are not assumed to be interchangeable manifestations of one latent trait. For respondent  $i$  and component  $j$ , each item is first coded so that higher values mean greater insecurity and rescaled to the 0-1 interval.

The index is then computed as:

$$LII_i = 100 \times [\text{Sum}(w_j \times x^*_{ij}) / \text{Sum}(w_j)]$$

where  $x^*_{ij}$  is the rescaled component and  $w_j$  is its pre-specified weight. Equal weights ( $w_j = 1$ ) are recommended for the primary analysis unless defensible external or pre-registered weights exist. Equal weighting is preferable to post-hoc researcher weighting because the current evidence does not establish that one component should receive more causal importance than another. Alternative weighting schemes can be examined in sensitivity analysis rather than embedded as an untested assumption.

**Table 4: Proposed LII Components, Coding and Primary Weights.**

| Component                                                        | Coding direction                                     | Primary weight |
|------------------------------------------------------------------|------------------------------------------------------|----------------|
| Income instability / inadequate income security                  | 0 = secure; 1 = insecure, or ordinal rescaled to 0-1 | 1              |
| Current indebtedness                                             | 0 = no; 1 = yes                                      | 1              |
| Dependence on informal credit                                    | 0 = no; 1 = yes                                      | 1              |
| Crop/livelihood disruption attributable to border-related events | 0 = no; 1 = yes or frequency rescaled                | 1              |
| Single-source livelihood dependence                              | 0 = diversified; 1 = single source                   | 1              |
| Reduction in essential consumption during stress                 | 0 = no; 1 = yes                                      | 1              |
| Mobility restriction affecting work access                       | 0 = no; 1 = yes or frequency rescaled                | 1              |

Missing-data rule: compute the LII only when at least 80 percent of required components are observed; otherwise set the index to missing. The exact rule should be pre-specified and reported. Arbitrary low/moderate/high cut-points should not be presented as validated population thresholds.

## 7.2. Social Exclusion Index (Sexi)

The SExI is also specified as a formative

composite. It captures barriers to participation in service and institutional systems that enable livelihood security. All items are coded so that higher scores indicate greater exclusion. Welfare access is deliberately excluded from the SExI because H2 uses welfare access as a dependent variable; including it in both predictor and outcome would create circularity.

$$\text{SExI}_i = 100 \times [\text{Sum}(w_j \times x_{ij}) / \text{Sum}(w_j)]$$

**Table 5: Proposed Social Exclusion Index Domains.**

| Domain                   | Illustrative operational item                                   | Coding                                           |
|--------------------------|-----------------------------------------------------------------|--------------------------------------------------|
| Education access         | Poor/irregular practical access to schooling/education services | 0 = adequate; 1 = poor/irregular                 |
| Health access            | Poor/irregular practical access to health services              | 0 = adequate; 1 = poor/irregular                 |
| Public transport         | Poor/irregular transport access                                 | 0 = adequate; 1 = poor/irregular                 |
| Banking                  | Poor/irregular access to formal banking                         | 0 = adequate; 1 = poor/irregular                 |
| Digital access           | Poor/irregular internet or mobile connectivity                  | 0 = adequate; 1 = poor/irregular                 |
| Local institutions       | No/limited participation in village or local institutions       | 0 = participates; 1 = excluded/non-participating |
| Perceived discrimination | Reported discrimination or institutional exclusion              | 0 = no; 1 = yes                                  |

Because formative components need not be highly inter-correlated, a low Cronbach alpha does not by itself invalidate the SExI. Validation should instead emphasise content coverage, directionality, component collinearity, known-groups/criterion relationships and robustness to plausible alternative weights. The scale should be treated as a summary index of multiple barriers, not as proof of a single latent factor unless factor-analytic evidence supports that interpretation.

If the questionnaire contains graded response categories rather than binary access items, each item should be rescaled using  $(x - \text{minimum}) / (\text{maximum} - \text{minimum})$ , with reverse coding where higher raw values represent better access. The final score remains on a 0-100 metric for interpretability.

### Household Resilience Index (HRI)

The HRI requires the most important conceptual correction. In the previous version, resilience incorporated welfare access, income, education and

landholding and those same variables were later entered as predictors of resilience. That creates a mechanical association: part of the dependent variable is literally constructed from the independent variables. The revised HRI must therefore be based on distinct recovery and continuity outcomes.

Where the actual questionnaire contains suitable items, the HRI should measure the ability to maintain essential consumption, meet essential expenses, continue or restore livelihood activity after disruption, mobilise emergency support, and avoid damaging coping such as distress asset sales. A simple 0-100 score can be computed after reverse-coding distress items. If the questionnaire does not contain distinct resilience outcome items, the HRI cannot be validly reconstructed from the current variables; additional field items or a different outcome definition will be required.

$$\text{HRI}_i = 100 \times [\text{Sum}(w_k \times r_{ik}) / \text{Sum}(w_k)]$$

**Table 6: Recommended HRI Outcome Domains - Verify Against the Real Questionnaire.**

| Outcome domain         | Example empirical item                                                   | Use in HRI |
|------------------------|--------------------------------------------------------------------------|------------|
| Consumption continuity | Household maintained essential food/consumption during recent disruption | Positive   |
| Expense capacity       | Household met essential expenses without severe arrears                  | Positive   |
| Livelihood recovery    | Primary livelihood resumed within a defined period after disruption      | Positive   |

| Outcome domain                            | Example empirical item                                                        | Use in HRI       |
|-------------------------------------------|-------------------------------------------------------------------------------|------------------|
| Emergency buffer/support                  | Household could mobilise savings/formal assistance/social support when needed | Positive         |
| Avoidance of distress asset sale          | No productive/essential asset sold because of shock                           | Reverse distress |
| Avoidance of high-cost distress borrowing | No high-cost informal borrowing to meet essentials                            | Reverse distress |

Income, education, landholding, welfare access, border vulnerability and social exclusion must remain outside the HRI if they are to be used as explanatory variables in regression. This rule is necessary to preserve construct independence.

## 8. RELIABILITY AND VALIDITY STRATEGY

Reliability and validity procedures should match the measurement model. LII and SExI are primarily formative composites; HRI may be reflective only if its items are designed as manifestations of a common resilience construct. Applying the same psychometric test to all three indices without considering this distinction would be methodologically inappropriate.

*Table 7: Validation Plan for the Proposed Measures.*

| Measure/type                  | Required checks                                                                                                                          | Interpretation rule                                                                                                                  |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| LII - formative               | Expert/content review; item coding audit; component VIF; known-groups/criterion validity; sensitivity to weighting and cut-points        | Internal-consistency alpha is descriptive, not decisive. High component collinearity may indicate redundancy.                        |
| SExI - formative              | Content validity; component VIF; relationships with service/welfare outcomes; block/terrain known-groups comparisons; weight sensitivity | Demonstrate coverage of distinct barriers without part-whole overlap with welfare access.                                            |
| HRI - reflective if supported | Cronbach alpha and McDonald omega; KMO/Bartlett; EFA/CFA using methods appropriate for ordinal items; loadings; CR/AVE where relevant    | Typical benchmarks: alpha/omega about $\geq .70$ ; loadings $\geq .40$ ; model fit interpreted jointly rather than by one statistic. |
| All measures                  | Missingness assessment; floor/ceiling effects; distribution; subgroup sensitivity; alternative scoring                                   | Report robustness rather than declaring an index validated from a single coefficient.                                                |

For ordinal Likert-type items, polychoric correlations and robust weighted least squares are preferable to treating all categories as continuous without checking assumptions. If the genuine dataset is large enough, exploratory factor analysis can be conducted on one subsample and confirmatory

analysis on another; otherwise, cross-validation or bootstrap stability checks should be used cautiously. Validity evidence should be accumulated from theory, content, response structure and criterion relationships rather than inferred solely from a significant Bartlett test.

**Composite-index construction and validation workflow**



Formative indices: content validity, component collinearity, criterion/known-groups validity, weight sensitivity

Reflective resilience scale (if instrument supports it): alpha/omega, EFA/CFA, convergent and discriminant validity

*Figure 3: Index Construction and Validation Workflow for the Final Empirical Analysis.*

## 9. STATISTICAL ANALYSIS PLAN

The analysis should be conducted from the de-identified raw survey file using a reproducible script in R, Python, Stata, SPSS syntax or an equivalent platform. Descriptive results should first document

sample composition, missingness, household socio-economic characteristics and the distribution of each index. Inferential testing should follow the scale of measurement and the hypotheses rather than using a collection of tests without a model rationale.

*Table 8: Correct Alignment of Hypotheses with Statistical Tests.*

| Hypothesis | Outcome                  | Primary predictor(s)           | Primary test/model                                                                                            |
|------------|--------------------------|--------------------------------|---------------------------------------------------------------------------------------------------------------|
| H1         | LII score                | Border vulnerability score     | Linear/robust regression; Spearman sensitivity if distributional assumptions are poor.                        |
| H2         | Effective welfare access | SEI score                      | Logistic/ordinal regression for categorical welfare access, or linear model for a validated continuous score. |
| H3         | HRI score                | Livelihood diversification     | Unadjusted t-test/robust comparison plus adjusted multivariable regression.                                   |
| H4         | LII score                | Effective welfare access       | Adjusted multivariable regression controlling border vulnerability, income, education and landholding.        |
| H5         | HRI score                | Education, income, landholding | Adjusted multivariable regression with prespecified covariates.                                               |

For regression, report unstandardised coefficients, standard errors, 95 percent confidence intervals, p-values and model fit. Check linearity, residual distribution, heteroskedasticity, influential observations and multicollinearity. Where model

assumptions are violated, use robust standard errors, transformations or generalized models as justified. Multiple testing should be managed through a pre-specified primary hypothesis set and transparent reporting rather than selective p-value presentation.

### Hypothesis-to-test alignment after correcting construct overlap



No hypothesis decision is valid until genuine observations are imported, scored and diagnostically checked.

*Figure 4: Hypothesis-To-Test Analytic Map After Correction of H4 And Construct Overlap.*

### 9.1. Data Cleaning, Missingness and Diagnostic Checks

Before any result is calculated, the genuine field file should be audited for duplicate household IDs, impossible values, inconsistent skip patterns, out-of-range codes and mismatches between questionnaire categories and the codebook. Corrections should be

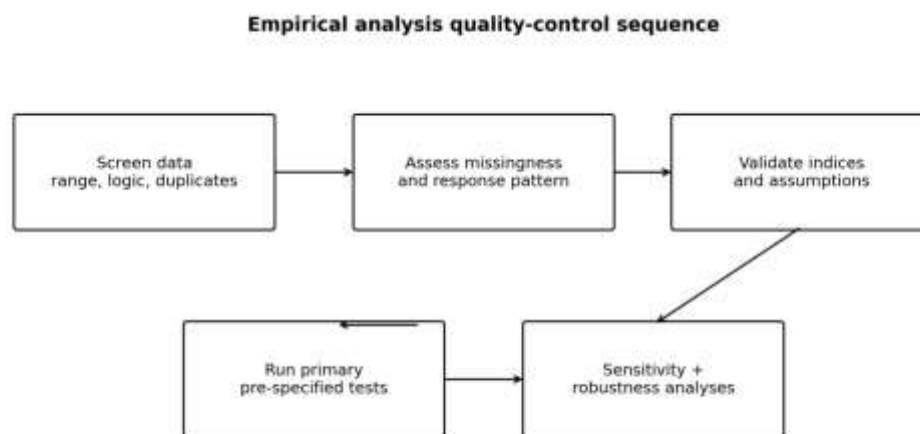
made from original survey schedules or verified field notes, not by guessing likely values. A clean-data log should record every modification and its reason.

Missing data should be described by variable and by study block. If missingness is trivial, complete-case analysis may be adequate for some models; if it is substantial or patterned, the mechanism should be investigated and multiple imputation considered

when defensible. Index scores should not be calculated by silently treating missing items as zeros. The minimum observed-item rule for each index must be applied consistently.

For sample estimates, the effect of the multistage design should be considered. If villages were sampled as clusters, standard errors may need

cluster-robust adjustment. If block or village selection probabilities differ, survey weights may be necessary for pooled prevalence estimates. Equal allocation of 100 households per block is useful for comparison but does not by itself make the pooled sample self-weighting.



*Figure 5: Empirical Analysis Quality-Control Sequence from Data Screening Through Sensitivity Analysis.*

The final Results section should be produced from locked analysis code. Tables and figures should be regenerated directly from the verified data, preventing transcription errors and ensuring that every number in the manuscript can be traced back to the source file and analysis script.

## 10. RESULTS: DATA-INTEGRITY-COMPLIANT REPORTING STRUCTURE

The earlier Tables 1-12 contained numerical

results derived from illustrative records. Those values cannot be converted into genuine observations by relabelling them. In this revision, the empirical Results section is therefore rebuilt as a structured reporting template. Once the genuine survey dataset is supplied, each table can be populated directly from the verified file and all statistics can be recalculated from the same scoring and analysis rules defined above.

### 10.1. Respondent And Household Profile

*Table 9: Respondent And Household Profile - Genuine Values Pending.*

| Variable                 | Category/statistic       | R.S. Pura | Bishnah | Balakote | Mendhar | Total |
|--------------------------|--------------------------|-----------|---------|----------|---------|-------|
| Completed households     | n                        | TBC       | TBC     | TBC      | TBC     | TBC   |
| Respondent age           | Mean (SD)                | TBC       | TBC     | TBC      | TBC     | TBC   |
| Female respondents       | n (%)                    | TBC       | TBC     | TBC      | TBC     | TBC   |
| Education                | Median/IQR or categories | TBC       | TBC     | TBC      | TBC     | TBC   |
| Monthly household income | Median (IQR)             | TBC       | TBC     | TBC      | TBC     | TBC   |
| Landholding              | Median (IQR)             | TBC       | TBC     | TBC      | TBC     | TBC   |
| Diversified livelihoods  | n (%)                    | TBC       | TBC     | TBC      | TBC     | TBC   |
| Current debt             | n (%)                    | TBC       | TBC     | TBC      | TBC     | TBC   |

Report the actual denominator for each variable when item non-response occurs. Percentages should not be calculated using 400 as a universal denominator unless all 400 records are complete for

that item. Block comparisons should be accompanied by effect sizes and confidence intervals rather than interpreted from percentages alone.

### 10.2. Index Descriptives, Reliability and

**Validity****Table 10: Index Diagnostics and Descriptive Statistics - To Be Calculated from Genuine Data.**

| Statistic                        | LII                                       | SEI                                       | HRI               |
|----------------------------------|-------------------------------------------|-------------------------------------------|-------------------|
| Number of valid cases            | TBC                                       | TBC                                       | TBC               |
| Mean (SD)                        | TBC                                       | TBC                                       | TBC               |
| Median (IQR)                     | TBC                                       | TBC                                       | TBC               |
| Observed range                   | TBC                                       | TBC                                       | TBC               |
| Missing index values             | TBC                                       | TBC                                       | TBC               |
| Floor/ceiling effect             | TBC                                       | TBC                                       | TBC               |
| Cronbach alpha (if meaningful)   | Descriptive only                          | Descriptive only                          | TBC               |
| McDonald omega                   | Not primary                               | Not primary                               | TBC               |
| KMO / Bartlett                   | Not primary unless reflective             | Not primary unless reflective             | TBC if reflective |
| EFA/CFA summary                  | Not required for purely formative scoring | Not required for purely formative scoring | TBC if reflective |
| Sensitivity to alternate weights | TBC                                       | TBC                                       | TBC               |

For LII and SEI, the Results section should report component-level distributions and show that no single component dominates the score simply because of scaling. For HRI, if a reflective measurement model is justified, provide factor loadings and reliability evidence before using the score as an established outcome. If the questionnaire cannot support a distinct resilience construct, report that limitation and use a clearly defined alternative outcome rather than manufacturing a scale.

Any categorical labels such as low, moderate and high should be supported by pre-specified thresholds, external criteria or sensitivity analysis. Dividing 0-100 into equal thirds is convenient but does not create validated clinical or sociological categories. Continuous scores should remain the primary form for regression unless categorisation is substantively necessary.

**10.3. Primary Model Diagnostics****Table 11A: Model Diagnostics and Fit - Genuine Values Pending.**

| Model                                                                       | N   | Fit statistic                                       | Collinearity/assumption check | Result |
|-----------------------------------------------------------------------------|-----|-----------------------------------------------------|-------------------------------|--------|
| H1: LII ~ border vulnerability + covariates                                 | TBC | R <sup>2</sup> / adjusted R <sup>2</sup> or GLM fit | Residuals, VIF, influence     | TBC    |
| H2: welfare access ~ SEI + covariates                                       | TBC | Pseudo-R <sup>2</sup> / AIC or R <sup>2</sup>       | Link/linearity, VIF           | TBC    |
| H3: HRI ~ diversification + covariates                                      | TBC | R <sup>2</sup> / adjusted R <sup>2</sup>            | Residuals, VIF, influence     | TBC    |
| H4: LII ~ welfare access + border vulnerability + income + education + land | TBC | R <sup>2</sup> / adjusted R <sup>2</sup>            | Residuals, VIF, influence     | TBC    |
| H5: HRI ~ education + income + land + prespecified controls                 | TBC | R <sup>2</sup> / adjusted R <sup>2</sup>            | Residuals, VIF, influence     | TBC    |

Diagnostic reporting is not optional. A statistically significant coefficient can be misleading when driven by an influential cluster, strong heteroskedasticity, or overlapping predictors. VIF values, residual plots, leverage/influence statistics and model specification checks should be reviewed before substantive conclusions are written. If households are clustered within villages, standard errors should reflect that design where appropriate.

Effect sizes should be interpreted in the units of the index. For example, in the H4 model the unstandardised coefficient for welfare access should indicate the expected change in the 0-100 LII score associated with a one-unit change in welfare access,

holding the pre-specified covariates constant. For a binary welfare indicator, the coefficient represents the adjusted mean difference between households with and without effective access.

Confidence intervals are especially important in a sample of 400 because a small p-value does not establish a substantively important relationship. The discussion should emphasise the magnitude and uncertainty of associations and avoid causal language that a cross-sectional design cannot support.

**10.4. Regression Results****Table 11B: Multivariable Regression Estimates - Genuine Values Pending.**

| Outcome/model | Predictor            | B/OR | SE  | 95% CI | p   | Interpretation |
|---------------|----------------------|------|-----|--------|-----|----------------|
| H1 - LII      | Border vulnerability | TBC  | TBC | TBC    | TBC | TBC            |

|                     |                            |     |     |     |     |         |
|---------------------|----------------------------|-----|-----|-----|-----|---------|
| H2 - Welfare access | SExI                       | TBC | TBC | TBC | TBC | TBC     |
| H3 - HRI            | Livelihood diversification | TBC | TBC | TBC | TBC | TBC     |
| H4 - LII            | Effective welfare access   | TBC | TBC | TBC | TBC | TBC     |
| H4 - LII            | Border vulnerability       | TBC | TBC | TBC | TBC | Control |
| H4 - LII            | Income                     | TBC | TBC | TBC | TBC | Control |
| H4 - LII            | Education                  | TBC | TBC | TBC | TBC | Control |
| H4 - LII            | Landholding                | TBC | TBC | TBC | TBC | Control |
| H5 - HRI            | Education                  | TBC | TBC | TBC | TBC | TBC     |
| H5 - HRI            | Income                     | TBC | TBC | TBC | TBC | TBC     |
| H5 - HRI            | Landholding                | TBC | TBC | TBC | TBC | TBC     |

The final regression table should identify the exact estimator, reference categories, scale of continuous predictors and any standardisation. If logistic regression is used for H2, report odds ratios with 95 percent confidence intervals; if welfare access is a continuous validated score, report linear coefficients instead. Standardised beta coefficients may be added for comparison, but unstandardised estimates should remain primary for interpretation.

No coefficient from the illustrative dataset should be copied into this table. Every value must be regenerated after index reconstruction because changes to scoring can materially change correlations, regression coefficients, model fit and hypothesis decisions.

### 10.5. Hypothesis Decisions

**Table 12: Hypothesis Decision Matrix - Empirical Decision Pending.**

| Hypothesis | Required evidence                                           | Decision rule                                                                       | Current decision                  |
|------------|-------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------|
| H1         | Border vulnerability coefficient/association with LII       | Direction positive; CI excludes null; magnitude substantively interpretable         | Not testable without genuine data |
| H2         | SExI coefficient predicting effective welfare access        | Direction negative (or OR < 1); CI excludes null                                    | Not testable without genuine data |
| H3         | Diversification coefficient predicting HRI                  | Direction positive after adjustment; CI excludes null                               | Not testable without genuine data |
| H4         | Welfare-access coefficient in adjusted LII model            | Direction negative after controls; CI excludes null                                 | Not testable without genuine data |
| H5         | Education, income and landholding coefficients in HRI model | Assess each predictor separately; do not accept all if only one/two are significant | Not testable without genuine data |

A hypothesis should not be labelled “accepted” merely because some related statistic is significant. The test must correspond to the stated dependent and independent variables. H5 in particular is a joint statement about three predictors; the final paper should report which of education, income and landholding are supported individually and whether a joint Wald/F test supports their combined contribution.

For H4, a welfare-resilience regression cannot substitute for the proposed welfare-insecurity relationship. The corrected model uses LII as the dependent variable and welfare access as the focal predictor while controlling for border vulnerability, income, education and landholding. This directly answers the hypothesis and avoids the earlier mismatch.

Where results are null or inconsistent across specifications, the paper should retain the null finding. Publication-quality reporting requires the same transparency for unsupported hypotheses as for supported ones.

## 11. DISCUSSION FRAMEWORK FOR

## THE GENUINE RESULTS

The final Discussion should begin with the observed effect sizes rather than re-stating theoretical expectations. If H1 is supported, the interpretation should focus on the estimated magnitude of the border vulnerability-LII relationship and whether it persists after adjustment for household resources. A positive association would be consistent with the structural livelihood perspective of Natarajan et al. (2022), but a cross-sectional design would still not establish that border vulnerability caused the observed insecurity.

If H2 is supported, the discussion should distinguish between formal entitlement and effective access. A negative association between SExI and welfare use would support the argument that transport, digital, banking and institutional barriers shape whether schemes can be converted into household protection. If the association attenuates after controlling for income or education, that change should be interpreted as evidence that exclusion overlaps with broader socio-economic disadvantage rather than as a failure of the conceptual framework.

The interpretation of H3 should avoid romanticising diversification. Patidar and Chothodi (2021) and Onyeyirichi and Deepika (2025) provide reasons to distinguish opportunity-led diversification from distress diversification. If diversified households show higher HRI, the discussion should examine whether the effect differs by income, landholding, occupation or migration status. If the effect is null, the paper should consider whether multiple income sources are themselves unstable or too low-paid to improve recovery.

For H4 and H5, effect sizes should be interpreted in relation to the corrected outcome construction. Welfare, income, education and landholding are now external predictors rather than components of resilience, so their coefficients can be discussed as empirical associations. Any claim of “strong influence” should be supported by confidence intervals, standardised comparisons or predicted values rather than by p-values alone.

## 12. POLICY IMPLICATIONS

Policy recommendations should be proportionate to the evidence and explicitly linked to observed patterns. If the genuine data show higher LII in more exposed or less connected villages, border-sensitive livelihood planning should integrate risk reduction with ordinary rural development rather than treating security and development as separate domains. Agriculture, livestock, local enterprise and wage opportunities can be supported through contingency planning that recognises potential disruptions to mobility and market access.

Service access should be treated as livelihood infrastructure. Reliable transport, health outreach, schooling continuity, banking and digital connectivity determine whether households can reach markets, receive payments, access welfare and respond to emergencies. Where SExI is associated with poor welfare use, mobile facilitation camps, local documentation support and grievance mechanisms may be more directly relevant than simply expanding nominal scheme coverage.

If distress borrowing is an important component of LII, the policy response should emphasise usable formal credit and emergency liquidity rather than generic financial-inclusion targets. Banking correspondents, self-help group-bank linkages and transparent emergency credit products may reduce dependence on high-cost informal sources, but their effectiveness should be evaluated with outcome data rather than assumed.

Livelihood diversification policy should distinguish between productive diversification and

survival-based fragmentation of work. Skill training, producer organisations, agro-processing, livestock support and local enterprise development are most likely to strengthen resilience when they increase earnings stability, market access and bargaining power. Encouraging households to take on multiple precarious jobs should not be presented as resilience.

Women’s economic participation should be analysed together with autonomy, safety, mobility, care burdens and control over earnings. Where women’s work contributes to resilience, supportive infrastructure and credit can enhance that contribution; where participation increases primarily because of household distress, the policy interpretation should reflect that context.

## 13. CONCLUSION

This revision resolves the principal methodological weaknesses in the earlier manuscript by separating illustrative material from empirical evidence, specifying why the four blocks were selected, providing a defensible sample-size calculation, defining the multistage sampling information that must be reported, and establishing a complete fieldwork and ethics reporting framework. It also reconstructs the Livelihood Insecurity Index and Social Exclusion Index as transparent formative composites and redesigns household resilience as a distinct outcome rather than a score mechanically containing its own predictors.

The corrected hypothesis structure removes the mismatch in H4 and aligns every hypothesis with a specific dependent variable and statistical test. The revised Results section replaces unsupported numerical claims with analysis-ready tables that can be populated directly from a genuine household file. This preserves the empirical ambition of the study without converting simulated records into false field observations.

Substantively, the conceptual model treats border vulnerability, social exclusion, welfare access and livelihood adaptation as interconnected but distinct processes. It recognises that households may adapt through strategies that range from resilience-enhancing diversification and social support to distress borrowing, asset sale and consumption reduction. The value of the final empirical paper will depend on whether these mechanisms are demonstrated with genuine observations, valid measurement and transparent uncertainty estimates.

## 14. LIMITATIONS OF THE CURRENT REVISION

- No verified primary household dataset was included in the materials available for this revision; therefore, genuine frequencies, correlations, regressions and hypothesis decisions cannot be calculated.
- Actual field dates, interviewer identities/training, contact outcomes, response rate, consent documentation and ethics approval details are not available and have not been invented.
- The four-block design is purposively selected and does not represent all Jammu and Kashmir border communities.
- The HRI requires distinct recovery/continuity items; if the actual questionnaire lacks such items, the outcome must be redefined or additional data collected.

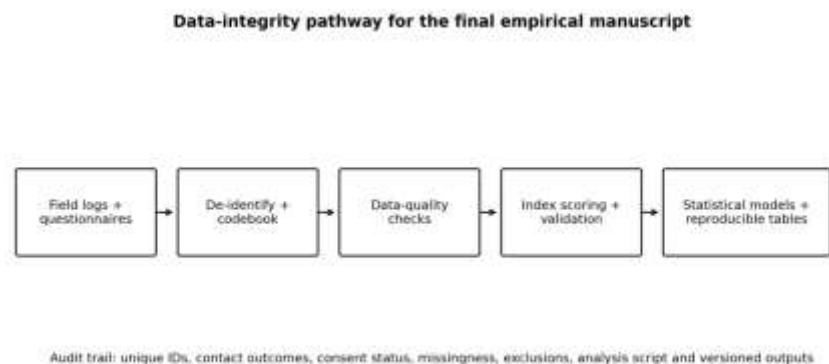
## 15. FINAL DATA-COMPLETION AND REANALYSIS PROTOCOL

To convert this manuscript into a completed empirical article, the genuine primary data and field documentation should be processed in the following order. First, preserve the raw file as read-only and create a separate analysis copy. Second, create a codebook mapping every column to the questionnaire wording, response scale, missing-value code and derivation rule. Third, reconcile household IDs with the sampling and contact log,

documenting duplicates, exclusions and incomplete interviews. Fourth, calculate the actual response rate from field contact outcomes. Fifth, implement the corrected LII, SE<sub>1</sub> and HRI rules and perform measurement validation. Sixth, regenerate Tables 9-12 and all result figures directly from analysis code. Seventh, re-run every hypothesis using the test specified in Table 8 and update the abstract, Results, Discussion and Conclusion from those outputs only.

The same analysis should include robustness checks. These should test whether conclusions change when index weights are equal versus alternative plausible weights, when continuous scores are used rather than arbitrary categories, when outliers are excluded under pre-specified rules, and when standard errors account for village clustering. If equal block allocation differs from population shares, weighted and unweighted descriptive estimates should be compared and clearly labelled.

The final abstract should report the actual N analysed, response rate, index validation evidence, key effect sizes with confidence intervals, and the direction of supported and unsupported hypotheses. It should not state that “all hypotheses were accepted” unless each test genuinely supports its corresponding statement. The discussion should then compare the observed results critically with the 2020-2025 literature rather than using references as decorative support.



*Figure 6: Data-Integrity Pathway from Authentic Field Records to Reproducible Publication Tables.*

## APPENDIX A. FIELD AND ANALYSIS AUDIT SHEET

This appendix replaces the earlier note describing an illustrative 400-row dataset. It provides the minimum evidence trail needed before the manuscript can make empirical claims.

*Appendix Table A1: Required Audit Items Before Final Empirical Submission*

| Domain   | Evidence to retain                                                                        | Completion |
|----------|-------------------------------------------------------------------------------------------|------------|
| Sampling | Village list, household frame, selection method, random start/interval, replacement rules | TBC        |

|                    |                                                                                  |     |
|--------------------|----------------------------------------------------------------------------------|-----|
| Fieldwork          | Date, interviewer ID, respondent eligibility, interview outcome, revisit history | TBC |
| Ethics             | Consent status, information sheet, approval/exemption documentation              | TBC |
| Raw data           | Read-only original file with unique household IDs                                | TBC |
| Codebook           | Questionnaire mapping, labels, missing codes, derived-variable rules             | TBC |
| Cleaning log       | Every correction, exclusion and reason                                           | TBC |
| Index scoring      | Versioned formula/code for LII, SEI and HRI                                      | TBC |
| Validation         | Content/psychometric evidence and sensitivity analyses                           | TBC |
| Hypothesis tests   | Model syntax/output for H1-H5 with diagnostics                                   | TBC |
| Publication tables | Tables 9-12 generated from analysis code, not hand typed                         | TBC |

## APPENDIX A2. MINIMUM FIELDWORK STATEMENT FOR THE FINAL PAPER

After the actual records are available, replace the following bracketed fields with verified information: “Data were collected between [start date] and [end date] in [number] villages across R.S. Pura, Bishnah, Balakote and Mendhar. [Number] trained investigators administered [language]-language structured schedules through face-to-face interviews. Of [eligible/approached] households, [completed] completed the survey, producing a response rate of [x%] under the stated denominator. All respondents provided [written/oral] informed consent. Ethical approval/exemption was granted by [committee/institution], reference [number], dated [date].”

Do not insert dates, investigator names, response-rate values, consent procedures or ethics numbers unless they are supported by field logs or institutional records. The same principle applies to all numerical results: genuine data must be analysed, not inferred from the illustrative file.

## REFERENCES

- Access Development Services. (2024). State of India's livelihoods report 2024. Access Development Services.
- Food and Agriculture Organization of the United Nations, & Oxford Poverty and Human Development Initiative. (2022). Measuring rural poverty with a multidimensional approach: The Rural Multidimensional Poverty Index. FAO.
- Food and Agriculture Organization of the United Nations, International Fund for Agricultural Development, UNICEF, World Food Programme, & World Health Organization. (2024). The state of food security and nutrition in the world 2024: Financing to end hunger, food insecurity and malnutrition in all its forms. FAO. <https://doi.org/10.4060/cd1254en>
- Government of Jammu and Kashmir. (2023). Economic survey 2022-23. Planning Development and Monitoring Department, Directorate of Economics and Statistics.
- Government of Jammu and Kashmir. (2024). Economic survey 2023-24. Planning Development and Monitoring Department, Directorate of Economics and Statistics.
- Government of Jammu and Kashmir. (2025). Economic survey 2024-25. Planning Development and Monitoring Department, Directorate of Economics and Statistics.
- International Institute for Population Sciences, & ICF. (2021). National Family Health Survey (NFHS-5), 2019-21: India. IIPS.
- International Institute for Population Sciences, & ICF. (2021). National Family Health Survey (NFHS-5), 2019-21: Jammu and Kashmir fact sheet. IIPS.
- International Labour Organization. (2021). World social protection report 2020-22: Social protection at the crossroads - in pursuit of a better future. ILO.
- International Labour Organization. (2024). World employment and social outlook: Trends 2024. ILO.
- Ministry of Home Affairs, Government of India. (2024). Annual report 2023-24. Government of India.
- Ministry of Rural Development, Government of India. (2024). Annual report 2023-24. Government of India.
- Ministry of Statistics and Programme Implementation, Government of India. (2024). Periodic Labour Force Survey: Annual report, July 2023-June 2024. Government of India.
- Natarajan, N., Newsham, A., Rigg, J., & Suhardiman, D. (2022). A sustainable livelihoods framework for the 21st century. *World Development*, 155, 105898. <https://doi.org/10.1016/j.worlddev.2022.105898>
- NITI Aayog. (2021). National Multidimensional Poverty Index: Baseline report. Government of India.
- NITI Aayog. (2023). National Multidimensional Poverty Index: A progress review 2023. Government of India.
- NITI Aayog. (2024). Multidimensional poverty in India since 2005-06. Government of India.

- Onyeyirichi, O. A., & Deepika, M. G. (2025). Rural multidimensional poverty and livelihood mix: A micro level study in Bihar, India. *Heliyon*, 11(4), e42772. <https://doi.org/10.1016/j.heliyon.2025.e42772>
- Patidar, H., & Chothodi, S. (2021). Livelihood diversification in rural India. *Space and Culture, India*, 9(3), 32-44. <https://doi.org/10.20896/saci.v9i3.1206>
- Ramilan, T., Kumar, S., Haileslassie, A., Craufurd, P., Scrimgeour, F., Kattarkandi, B., & Whitbread, A. (2022). Quantifying farm household resilience and the implications of livelihood heterogeneity in the semi-arid tropics of India. *Agriculture*, 12(4), 466. <https://doi.org/10.3390/agriculture12040466>
- United Nations Development Programme, & Oxford Poverty and Human Development Initiative. (2023). *Global Multidimensional Poverty Index 2023: Unstacking global poverty - data for high-impact action*. UNDP and OPHI.
- United Nations Development Programme, & Oxford Poverty and Human Development Initiative. (2024). *Global Multidimensional Poverty Index 2024: Poverty amid conflict*. UNDP and OPHI.
- United Nations Development Programme. (2024). *Human development report 2023/2024: Breaking the gridlock - reimagining cooperation in a polarized world*. UNDP.
- World Bank. (2023). *World development report 2023: Migrants, refugees, and societies*. World Bank.
- World Bank. (2024). *Poverty, prosperity, and planet report 2024: Pathways out of the polycrisis*. World Bank.