

List of Village Adhyayan Pool Activities

Subject Expert Group (SEG) – Ethos in Technical and Higher Education Institutions
Centre for Technology Alternatives for Rural Areas (C-TARA)

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1. Documentation of Social, Cultural, and Ethical Dynamics

- Develop a spatial map of key infrastructure such as schools, clinics, and community halls to analyze resource distribution and identify any patterns of socio-geographic exclusion among different hamlets.
- Identify influential individuals who provide guidance in conflict resolution, financial matters, or social support outside the formal Panchayat framework.
- Document dietary patterns including specific ingredients (millets, grains, pulses, vegetables), food processing methods (hand-pounding, hand-grinding, sun-drying, fermenting), and cooking practices (use of traditional Chulhas, specific utensils, and fuel types).
- Document traditional attire including clothing styles for different age groups and genders, fabric types, ornaments, and seasonal wear.
- Document construction materials such as mud, local stone, thatch, bamboo, teak, and cow dung plaster, as well as specific building skills like local masonry and traditional carpentry, documenting how these materials are processed or used in local structures.
- Identify and document the significant trends or changes over the last 20 to 30 years in the village's social customs, dietary habits, and general lifestyle, noting which traditions are being preserved and which are being replaced by modern practices.
- Record local customs, rituals, festivals and local traditions associated with agricultural cycles, life transitions, and seasonal shifts that represent the rural heritage.
- Document informal ethical codes, including local protocols for hospitality, management of common property resources such as grazing lands and wells, and community-based safety nets for vulnerable households during crises.

2. Engagement with Village Elders

- Document the evolution of the natural landscape by recording narratives regarding changes in forest cover, local biodiversity, and water bodies over the last 20 to 30 years to understand ecological shifts.
- Document the Indigenous Knowledge System (IKS) related to indigenous seed preservation, natural pest control, conservation of natural resources such as soils and water, traditional weather forecasting, biodiversity and herbal remedies for human and livestock health.

- Document unique local proverbs, folk songs/ stories, and vernacular expressions that are gradually disappearing among the younger generation.

3. Participatory Mapping and Problem Ranking

- **Natural Resource Mapping:** Prepare a visual map of the village's natural assets, identifying land-use patterns, water bodies (ponds, streams, wells), forest patches, and common grazing lands to understand the village's ecological baseline.
- **Problem Listing:** Compile a comprehensive list of community grievances, missing public facilities (infrastructure gaps), and development challenges identified during the household surveys.
- **Participatory Problem Ranking:** Facilitate a focussed group discussion with a diverse group of villagers to present the collected list of problems.
- **Ranking Methodology:** Use a visual Matrix Ranking tool where villagers use local materials (seeds, stones, or markers) to vote on and rank the top 5 most urgent problems that require immediate intervention.

4. Resource Empowerment and Marketing Exploration

- Identify and geographically tag (geo-tag) the specific locations of abundant local raw materials such as seasonal fruits (Mango, Mahua, Ber), high-quality clay, bamboo, or medicinal herbs to assess their economic potential and current availability.
- Identify and document the unique geographics and environmental characteristics such as soil types, micro climates, or traditional craft techniques, that give these products their district quality, assessing the potential for "Geographical Indication (GI)".
- Document the current methods by which these raw materials are processed locally such as converting fruit into pulp, refining clay into pottery, or weaving bamboo to analyze the existing value addition process and its role in preventing the undervalued sale of raw material/ products.
- Evaluate the potential for a village brand or cooperative model to sell processed goods directly to urban markets, thereby reducing reliance on intermediaries (middlemen).
- Map the current movement of local goods to identify points of profit loss and suggest interventions for better local revenue retention.
- Identify specific RuTAG IIT Bombay technologies for deployment—such as solar dryers, bamboo splitting machines, or feed pellet machines that can specifically improve and scale up the processing methods currently being used by the villagers.

5. Study of Self-Help Groups (SHGs) and Women's Entrepreneurship

- Perform an activity mapping to classify the specific nature of work involved in local SHGs, distinguishing between production-based activities (tailoring, food processing,

handicrafts), livestock management, or exclusive micro-finance and internal credit systems.

- Document the frequency of meetings and the transparency of the "inter-lending" framework used for lending money within the group.
- Identify primary structural and operational bottlenecks, such as logistical constraints, low digital financial literacy, lack of institutional branding, or limited access to raw material supply chains.
- Assess the increase in women's decision-making influence and financial independence within their families after joining these groups.

6. Technology Arrival and Equipment Timeline

- Record the arrival of key technologies by interviewing three generations to identify the specific years the village first introduced tractors, televisions, mobile phones, and internet connectivity, while documenting the current prevalence of these technologies to see how common they have become across different households and hamlets.
- Develop a visual timeline of the village's technological progression to analyze the pace of modernization and identify which periods saw the fastest adoption of new technologies/ tools.
- Assess the level of familiarity and technical literacy across different age groups and genders to understand who is actually capable of operating the technology and who remains excluded or dependent on others.
- Document the social acceptance of modern technologies, investigating whether villagers view these technologies/ tools as beneficial improvements or as a disruption to traditional agricultural labor, communal habits, and social interactions.
- Analyze the shift of how the information is accessed and how entertainment has transitioned from shared community activities to individual consumption due to the widespread use of individual/ personal devices.
- Identify any non-functional equipment or community systems such as biogas plants or solar streetlights and investigate whether the underlying cause of failure was a lack of technical familiarity, low community acceptance and or structural maintenance issues.

7. Village History and Evolution

- Record stories of how the village was first established and the history of how different communities arrived over time, including the origin of the village name and landmarks.
- Identify the oldest houses or buildings in the village to understand the history of local architecture and traditional construction styles.
- Record major milestones remembered by the community, such as significant droughts, the construction of the first school, or the arrival of the first motorable road.

- Identify historical changes in traditional jobs or social customs that have shaped the village's current identity.
- Evaluate spatial equity by comparing the quality of infrastructure such as roads, water, and lights in the village center versus the outer hamlets to see how the village has expanded.
- Document the current level of participation and representation of women and marginalized groups in village meetings compared to how things were done in the past.

8. Building Trust and Community Rapport

- Maintain a daily log of specific team actions taken to build community trust, such as adopting local greetings, participating in communal tasks, or joining village activities.
- Document how the project's objectives were communicated to the community to ensure there were no false expectations regarding financial aid or external funding.
- Record local etiquette and cultural protocols observed, including appropriate dress codes, greeting customs, and specific social manners.
- Note insights and community concerns gained from informal dialogues at common gathering spots like tea stalls, village squares, or temple grounds.
- Record instances of "reciprocal learning," where the team shared useful technical or practical information to help villagers solve a specific problem.
- Identify "turning points" where community members shifted from being hesitant to openly collaborating with the student team.
- Note how the team adjusted their schedules to respect the village's seasonal agricultural cycles or local religious holidays.

9. Civic Governance and Democratic Empowerment

- Document examples of Gram Swaraj in action, such as a Gram Sabha managing its own forest produce or local seed-saving collectives, and evaluate how this economic Self-Reliance protects the Right to Livelihood and the Right to Life.
- Perform a rights-based analysis by mapping observed infrastructure gaps such as the lack of safe drinking water to specific Constitutional Rights, including the Right to Health and Life.
- Assess the general level of awareness among the villagers regarding various government schemes and identify specific proportions of the population that are actually receiving the benefits from these programs.
- Use Labharthi portal to help map individual villagers to the government schemes for which they are eligible, while documenting specific administrative or social hurdles that prevent eligible villagers from accessing their entitlements.
- Facilitate interactive discussions with village youth regarding their Fundamental Duties, specifically focusing on environmental protection and the maintenance of communal harmony.

10. Energy Consumption and Renewable Resources

- Assess the operational status and maintenance of household-level renewable energy systems, such as individual solar panels, solar streetlights, biogas, and solar-powered water pumps.
- Document specific technical maintenance challenges, including panel cleaning frequencies, battery replacement cycles, and the availability of local repair technicians or spare parts.
- Analyze the management of village minigrids by investigating household coverage and the community-led systems for collecting payments or funding repairs.
- Record the reliability of the centralized electricity grid by tracking the average daily duration, frequency, and timing of power outages.
- Evaluate the potential for future renewable energy projects by assessing local solar, wind, or biomass resources and identifying suitable sites for installation.

11. Biodiversity and Ecological Documentation

- Identify and record specific native livestock breeds and unique local flora varieties that remain distinct to the village's ecosystem.
- Investigate the existence of a formal People's Biodiversity Register (PBR) and document whether the local Biodiversity Management Committee (BMC) is actively maintaining and updating it to record the village's natural assets and associated traditional knowledge.
- Map the locations of sacred groves, community forests, or protected natural areas that serve as local biodiversity hotspots and document the community-led practices used to preserve them.
- Document the specific role that local plant and animal species play in the village's livelihood and daily diet.
- Assess the presence and operational status of any village-level weather stations or localized climate monitoring equipment to understand how the village tracks rainfall, temperature, and humidity.
- Gauge the level of familiarity among the farming community regarding the data provided by these weather stations and how they use this information for planning their sowing and harvesting cycles.
- Quantify the spatial and temporal variance between village-level IoT sensor data and district-level agency forecasts. Specifically, measure discrepancies in rainfall onset (time lag) and precipitation volume (mm) to determine the 'False Positive' rate for regional alerts.

12. Soil Health and Nutrient Management

- Determine the availability and distribution of Soil Health Cards among the village farmers to understand the current coverage of scientific soil testing in the community.
- Investigate the level of understanding among farmers regarding the parameters mentioned in the Soil Health Cards, such as pH levels, organic carbon, and micronutrient status.
- Document changes in fertilizer application and soil management practices that have occurred since the introduction of these cards, noting whether farmers are actually reducing costs or improving yields based on the recommendations.
- Identify the nearest soil testing laboratories and assess the ease of access for villagers to send samples, while documenting any local traditional methods used to identify soil fertility based on color, texture, and crop performance.