Terms of Reference/ Scope of Work

Design and development of PoP 2.0 application
MPowered Plus- Scale Up Cluster Project

Trickle Up India Foundation (TUIF) invites Expressions of Interest (EOI) from qualified technology agencies, IT firms and consultants for the design and development of the PoP 2.0 application under the MPowered Plus – Scale-Up Cluster Project.

1. About Trickle Up India Foundation (TUIF)

Trickle Up India Foundation (TUIF) is a nationally registered non-profit organization that partners with women in ultra-poverty in India to build economic opportunity and drive inclusion. In collaboration with government agencies and local non-governmental organizations, TUIF reaches underserved women in remote rural areas through programs that enable them to build resilient pathways out of poverty for themselves, their families, and their communities.
Since 2013, TUIF has been working with women in ultra-poverty who have faced lifelong discrimination and socio-economic exclusion. Through its programs, participants develop sustainable livelihoods and strong savings habits, strengthening their capacity, self-reliance, and stability. This process fosters improved self-esteem and resilience, with positive ripple effects across families and communities over generations.
TUIF has reached approximately 150,000 extremely poor women and their families across 22 districts in Jharkhand, Odisha, and West Bengal.
Its programs are grounded in rigorous evidence, with a strong focus on the Graduation Approach. This sequenced and time-bound model combines participant identification, livelihood planning based on market assessments, training and coaching, consumption support, asset transfer, and savings support. The approach promotes both economic and social inclusion by integrating participants into savings groups.

2. PoP 2.0 application:

PoP 2.0 (Package of Practices 2.0) is envisioned as a comprehensive AI-enabled Digital Enterprise Management Platform designed to strengthen women's economic empowerment through digitization of Self-Help Groups (SHGs), Micro Enterprise Groups (MEGs), enterprise operations, cluster management, market linkages, and financial governance.

PoP 2.0 is designed as a simple and user-friendly digital platform that can be used even in areas with limited internet connectivity. The application should continue to function during network interruptions and automatically synchronize information when internet connectivity becomes available. The application will prioritize ease of use through local language support, voice-assisted navigation, minimal data entry, and simple user interfaces, while providing advanced monitoring and analytics through a separate web portal for programme teams.

The solution will consist of a mobile application for SHG members, Smart Sakhis and field teams, along with a web portal for programme managers and administrators. The mobile application will focus on simple day-to-day operations, while the web portal will provide advanced monitoring, reporting, analytics, content management and administrative functions.

2.1 Offline Functionality and Data Synchronisation

Considering the limited internet connectivity in the project's operational areas, the application must support offline data entry and access to essential functionalities. Users should be able to enter, save and access relevant information without an active internet connection. The application shall

automatically synchronise locally stored data with the central server whenever internet connectivity is restored.

The system should incorporate the following capabilities:

- Enable users to enter, save and access relevant data while offline.
- Automatically synchronise locally stored data with the central database when internet connectivity is restored.
- Identify failed or pending synchronisation and provide appropriate status notifications to users.
- Prevent duplicate data submissions during synchronisation.
- Ensure data consistency and appropriate conflict resolution when multiple users or devices update records.
- Provide users with visibility of synchronisation status, including pending, successful and failed submissions.

The agency shall propose and implement an appropriate data synchronisation mechanism to ensure data integrity, reliability and continuity of application usage in low-connectivity environments.

2.2 Language Support and Accessibility

The application shall be designed to ensure accessibility and ease of use for women with limited digital literacy and varying levels of familiarity with smartphones. The user interface and navigation should be simple, intuitive and suitable for users from diverse linguistic backgrounds.

The application shall support the following languages:

- English
- Hindi
- Odia
- Ho
- Santhali

The agency shall ensure the following accessibility features:

- Provide multilingual user interfaces, including appropriate language selection options.
- Incorporate voice-assisted navigation and audio instructions to guide users through key application functions.
- Use simple language, clear icons, visual cues and intuitive navigation.
- Minimise manual data entry through dropdowns, predefined options and other simplified input mechanisms wherever feasible.
- Ensure consistency in language presentation across the mobile application and relevant user-facing features.
- Design interfaces that are accessible and easy to operate for users with limited reading and writing abilities.

The agency shall demonstrate the proposed language and accessibility features during the design and User Acceptance Testing (UAT) stages.

3. Objectives of PoP 2.0: The proposed platform will:

Governance Objectives	• Digitize SHG records • Improve transparency • Improve financial accountability
Enterprise Objectives	• Increase enterprise profitability • Strengthen business planning • Improve market access

Monitoring Objectives	• Enable real-time monitoring • Improve reporting efficiency • Reduce paper-based systems
Inclusion Objectives	• Enable digital access for illiterate women • Support voice-based interaction • Improve technology adoption

4. System Architecture

Mobile Application	Web Portal	AI Layer
For: • SHG Members • Smart Sakhis • Programme Team	For: • Program Management team at TUIF • Administrators	Includes: • Voice Assistant • AI Chatbot • Predictive Analytics Engine • Recommendation Engine

5. Phase - 1 : Implementation Plan

The PoP 2.0 application's implementation will progressively build from the core user, SHG and enterprise foundation to cluster and market ecosystem capabilities, followed by advanced AI, automation and analytics.

Phase	Financial Year	Module	Module Name
Phase 1	2026–27	Module 1	User Registration & Profiling
		Module 2	SHG Management System
		Module 3	SHG Financial Management
		Module 4	Enterprise Management
		Module 5	Smart Sakhi Monitoring
Module 6 (AI Voice Assistant) and Module 7 (AI Chatbot) will be a common module across all three phases. Its capabilities may be progressively enhanced in each phase based on data availability, user adoption, language readiness and project priorities.			

6. Technical Requirements and Delivery Expectations

The selected consultant/vendor shall develop a secure, reliable, and easy-to-maintain mobile and web application for Trickle Up India Foundation. The solution should be fit for purpose, cost-effective, and avoid unnecessary complexity.

6.1. Technology Stack

The application shall use the following technologies:

- **Frontend:** Flutter for mobile application development and the web frontend.
- **Backend:** Node.js for backend services and APIs.
- **Hosting:** Trickle Up India Foundation's AWS account.
- **Authentication:** Firebase Authentication or Amazon Cognito, to be decided by Trickle Up India Foundation during the design phase.

The vendor shall adhere to the above technologies and obtain Trickle Up India Foundation's approval for key design decisions.

6.2. Source Code and Development Best Practices

The vendor shall provide complete, functional, secure, and maintainable source code for all developed components, including the mobile app, web frontend, backend, APIs, and supporting scripts. Code shall be maintained in a Trickle Up India Foundation -approved repository and accessible to Trickle Up India Foundation.

The vendor shall follow recognised software development and security best practices, including secure coding, input validation, error handling, code reviews, version control, and protection of credentials and sensitive data.

The vendor shall follow recognised software development standards and best practices to ensure that the application is secure, reliable, scalable, maintainable and easy to upgrade.

The vendor shall comply with the following requirements:

Source Code Access and Repository Management

- The vendor shall provide complete, functional and maintainable source code for all developed components, including the mobile application, web frontend, backend services, APIs, database scripts and supporting components.
- All source code shall be maintained in a Trickle Up India Foundation (TUIF)-approved repository, with access provided to TUIF throughout the development period.
- The vendor shall follow appropriate version control practices to maintain development history, track modifications and manage different software releases.
- All project-specific source code and associated technical assets developed under this assignment shall be handed over to TUIF upon completion.

Secure Coding Practices

- The vendor shall follow secure coding practices, including input validation, error handling, secure authentication, access control and protection of sensitive information.
- Application credentials, passwords, API keys and other sensitive configuration details shall not be hardcoded into the source code.
- Appropriate measures shall be implemented to protect participant information, SHG records and financial data from unauthorised access, modification or disclosure.
- Data transmission between the mobile application, web portal and backend services shall be appropriately secured.

Code Quality and Maintainability

- The vendor shall ensure that the source code is properly structured, readable, modular and adequately documented.
- Appropriate coding standards and naming conventions shall be followed across all application components.

- The application architecture shall support future modifications, additional modules and integration of new functionalities without requiring major redevelopment.
- The vendor shall conduct regular code reviews and appropriate quality checks during the development process.

Third-Party Libraries and AI-Generated Code

- The vendor shall disclose all third-party libraries, frameworks, SDKs and external components used in the application, including applicable licensing conditions and recurring costs.
- Any third-party components shall be selected based on their reliability, security, maintenance status and compatibility with the proposed technology stack.
- The vendor shall remain fully responsible for all delivered code, including code generated using AI tools. Such code must be reviewed, tested and validated by the vendor before delivery.

Documentation and Code Handover

- The vendor shall maintain appropriate technical documentation throughout the development process.
- The complete source code, database scripts, API specifications, configuration files, deployment scripts and relevant technical documentation shall be handed over to TUIF.
- The vendor shall ensure that the delivered code and documentation are sufficient to enable TUIF or another authorised technology provider to maintain, troubleshoot, modify and further develop the application independently.

The vendor shall ensure that all developed components comply with the above requirements before final acceptance and handover of the application.

6.3. Solution Design and Architecture

The vendor shall be responsible for solution design and technical architecture required to deliver the application, including:

- **UX/UI Design:** Conduct user experience (UX) and user interface (UI) design to ensure the application is intuitive, accessible and suitable for its intended users, including users with limited digital literacy.
- **Database Design:** Design the database structure, data models and relationships required to support the application.
- **API Design:** Define API specifications, endpoints, data exchange mechanisms and integration requirements.
- **User Workflows and Wireframes:** Prepare user workflows, screen-level wireframes and navigation flows for the mobile application and web frontend, based on the approved business requirements.
- **BRD and Wireframe Alignment:** The vendor shall review the approved Business Requirements Document (BRD) and associated wireframes before initiating development. Any proposed changes to the approved requirements or workflows shall be discussed with and approved by TUIF.
- **Offline and Multilingual Design Considerations:** The proposed solution design and architecture shall incorporate the approved requirements for offline functionality, data

synchronisation, multilingual support and accessibility to ensure usability in low-connectivity environments and among users with limited digital literacy.

The vendor shall present the proposed designs and architecture to Trickle Up India Foundation for review and approval before commencing the relevant development activities. Trickle Up India Foundation shall retain approval authority over key design and architectural decisions.

6.4. Technical Reviews and Milestones

The vendor/agency shall participate in technical reviews at key milestones, including initial agreement on the development approach, milestones, development progress, UAT, security review, and final handover. The vendor shall demonstrate completed functionality and provide relevant documentation and test results.

The vendor shall conduct periodic module-wise demonstrations to TUIF to present development progress, validate functionalities against the approved BRD and incorporate feedback before proceeding to subsequent development stages.

Observations raised during reviews shall be recorded, prioritised, and addressed within agreed timeframes. Trickle Up India Foundation shall review and approve key deliverables at agreed milestones.

6.5. Security Testing and Remediation

Trickle Up India Foundation shall conduct or arrange security assessments, vulnerability testing, and penetration testing as required. The vendor shall cooperate with these activities and fix identified vulnerabilities and technical observations attributable to its implementation within agreed timeframes.

The vendor shall provide evidence of fixes and support retesting by Trickle Up India Foundation. Critical and high-risk security findings must be resolved and retested before production release unless Trickle Up India Foundation formally approves an exception.

6.6. Libraries and Third-Party Components

Libraries, frameworks, SDKs, and third-party packages proposed for key features shall be approved by Trickle Up India Foundation before use. The vendor shall favour reliable, actively maintained, cost-effective components and disclose any licensing fees, recurring charges, or material security concerns.

6.7. Testing and Quality Assurance

The vendor shall conduct appropriate functional, integration, and regression testing to ensure the application works as expected across supported devices and browsers. Automated testing and code-quality checks shall be used where practical.

Test results and defects shall be documented. Critical defects and release-blocking issues must be resolved before acceptance unless Trickle Up India Foundation approves an exception.

6.8. AWS Hosting and Environments

The application shall be hosted in Trickle Up India Foundation's AWS account. The vendor shall set up and deploy the application to the development and UAT environments, configure required services, and ensure appropriate access controls, secure configuration, logging, and monitoring.

The vendor shall propose an appropriate AWS infrastructure configuration based on the expected application usage, data storage and performance requirements. The vendor shall provide an itemised estimate of hosting, database, storage, backup and other associated recurring infrastructure costs.

6.9. Deployment and Release Management

The vendor shall be responsible for deployments to development and UAT, including resolving deployment issues.

For production deployment, the vendor shall provide tested deployment scripts, configuration instructions, prerequisites, and rollback guidance so Trickle Up India Foundation or its authorised team can deploy independently. Production release shall require Trickle Up India Foundation's approval and completion of agreed acceptance and security requirements.

6.10. Documentation and Knowledge Transfer

The vendor shall provide practical documentation covering application components, technology stack, APIs, configuration, third-party dependencies, AWS setup, and build and deployment instructions.

The vendor shall prepare and submit a professional PowerPoint presentation of the PoP 2.0 application covering its overall architecture, key features, module-wise functionalities, user workflows, application interfaces and major capabilities. The presentation shall provide a clear overview of the application and shall be used during project reviews, demonstrations and knowledge-transfer sessions with TUIF.

A handover session shall enable Trickle Up India Foundation to understand, operate, and maintain the application or engage another provider if required.

6.11. Final Acceptance and Support

Final acceptance shall require completion of the agreed scope, successful UAT, resolution of critical defects and security findings, closure or authorised acceptance of outstanding observations, and handover of all source code and documentation.

The vendor shall propose a reasonable post-implementation warranty and support period, including fixes for issues attributable to its implementation.

The vendor shall ensure that all agreed application functionalities are successfully implemented, tested and approved by TUIF before final handover. The handover shall include complete source code, technical and user documentation, application presentation, deployment details and necessary administrative access.

The vendor shall provide post-implementation warranty and technical support for the agreed period, including bug fixes, troubleshooting and resolution of technical issues arising from the developed application. The vendor shall clearly specify the warranty duration, support arrangements and response timelines in its proposal.

Proposal Submission Guidelines

Interested agencies/Consultants are invited to submit both a **Technical Proposal** and a **Financial Proposal** in response to this Terms of Reference (ToR).

13.1 Technical Proposal

The Technical Proposal should include, but not be limited to, the following:

- Company's profile and relevant experience.
- Understanding of the assignment and the proposed approach.
- Detailed methodology and implementation plan for the assignments.
- Experience in developing mobile applications with offline functionality and multilingual support.
- Experience in developing applications for users with limited digital literacy.
- Links or demonstrations of previously developed applications, wherever available.
- Proposed work plan and timeline.
- Composition of the proposed technical team, including CVs of key professionals.
- Details of at least **one or two similar assignments** successfully completed, with client references (where available).
- Any additional information demonstrating the consultant/agency's technical capability to undertake the assignment.

13.2 Financial Proposal

The Financial Proposal shall include a detailed cost breakdown covering all costs associated with the consultancy, including:

- Design and development of POP 2.0 application
- Hosting – AWS
- AI Subscription cost
- Professional fees.
- Applicable taxes and statutory charges.
- Any other incidental costs required to complete the assignment.

The financial proposal shall be submitted in **Indian Rupees (INR)**, inclusive of all applicable taxes.

13.3 Submission of Proposal

Interested agencies/consultants/companies shall submit their Technical Proposal and Financial Proposal as two separate PDF documents through email only, on or before the specified submission deadline.

Late or incomplete proposals may not be considered.

Submission Deadline: 5:00 PM (IST), Monday, 9th November 2026.

Email to: *rbehera@trickleupindia.org* and CC to *nbasista@trickleupindia.org*

The email subject line shall clearly mention:

- *For Technical Proposal: "PoP 2.0 Application Development – Technical Proposal"*
- *For Financial Proposal: "PoP 2.0 Application Development – Financial Proposal"*

14. Payment Schedule

Payments shall be made upon satisfactory completion and written approval of the agreed deliverables by TUIF, as per the following schedule:

Milestone	Deliverables	Payment
1	Submission and approval of the base document on PoP application, detailed work plan and requirement finalisation.	20%
2	Submission and approval of UX/UI designs, wireframes, database design and technical architecture.	20%
3	Completion and demonstration of all agreed Phase 1 modules as per the approved BRD.	30%
4	Successful completion of testing, UAT and production deployment readiness.	20%
5	Final handover of source code, technical documentation, application presentation and knowledge-transfer sessions.	10%
	Total	100%

Payments shall be released upon submission of the corresponding invoice and supporting documents, subject to satisfactory review and approval by TUIF.

18. Acceptance of Deliverables

All deliverables submitted by the vendor shall be reviewed by Trickle Up India Foundation (TUIF) against the approved Business Requirements Document (BRD), agreed scope of work, technical requirements and defined quality standards.

The acceptance process shall include the following:

- **Review and Validation:** TUIF shall review the submitted deliverables, including application functionalities, module-wise development, technical documentation and other agreed outputs.
- **Testing and UAT:** The developed application shall undergo functional testing and User Acceptance Testing (UAT) to verify that the application meets the approved requirements and intended user workflows.
- **Resolution of Observations:** The vendor shall address identified gaps, defects and observations within mutually agreed timelines and resubmit the deliverables for review, without additional cost where such corrections relate to the approved scope.
- **Final Handover:** The vendor shall submit the complete source code, technical and user documentation, database and API specifications, deployment details, application presentation and other agreed project deliverables.

- **Final Approval:** Final acceptance shall be subject to successful completion of the agreed scope, satisfactory UAT, resolution of critical defects and completion of the required documentation and knowledge-transfer activities.

The vendor shall ensure that all deliverables meet the agreed requirements and obtain written approval from TUIF before considering any milestone or the overall assignment completed.

19. Disclaimer

TUIF reserves the right to modify, amend, or withdraw this Terms of Reference, wholly or in part, at any stage of the selection process without assigning any reason. Issuance of this ToR does not constitute a commitment by TUIF to award a contract or reimburse any costs incurred by applicants in preparing or submitting their proposals.

All project-specific deliverables developed under this assignment, including source code, application designs, technical documentation, databases and related materials, shall be handed over to TUIF in accordance with the agreed contractual terms. The vendor shall not use, disclose or share TUIF's project data or confidential information with any third party without prior written approval from TUIF.