PROJECT IMPLEMENTATION UNIT
MINISTRY OF AGRICULTURE, REPUBLIC OF LIBERIA
Rural Economic Transformation Project (RETRAP)
1st Floor LIBSUCO Building Japan Freeway (Formerly Somalia Drive),
Gardnersville – Monrovia, Liberia

Ref: LR-PMU-MOA-551322-CS-QCBS

Procurement Title: Consultancy Services for the Development of a Digital Tracking and Management System for Agricultural Machinery and Service Centers

Following the issuance of the Request for Expression of Interest (REOI): **REQUEST FOR EXPRESSION OF Interest: Consultancy Services for the Development of a Digital Tracking and Management System for Agricultural Machinery and Service Centers**
consultants asked questions and the responses are indicated below: **Date: May 26, 2026**

Clarifications Log	RFP Reference	Clarification Question	Harmonized Response
1.0	Integration with RETRAP reporting database	The assignment requires integration with the RETRAP reporting database. Could you specify the current technology stack, database type, and interface options (for example, APIs, data warehouse, or direct database access) available for integration, and whether any existing integration standards or formats must be followed?	The RETRAP reporting database (also referred to internally as the MEIS, the Ministry's Monitoring & Evaluation Information System) is built on a MySQL database hosted in the cloud. Integration with the MMTS will be achieved through a documented API layer rather than direct database access. The MMTS will expose and consume a RESTful, token-authenticated interface exchanging JSON, designed to remain technology-neutral. No proprietary integration standard is mandated; the Consultant will propose an open, well-documented interface specification, aligned with MoA ICT standards and API governance protocols, for MoA approval during inception. Direct read-only access to the MySQL instance may be considered as a fallback only, subject to MoA security review. [MoA IT to confirm

			whether a RETRAP/MEIS API is already exposed, or whether the Consultant is expected to specify and assist in building one.]
2.0	National Farmer Registry readiness and integration scope	The TOR refers to a National Farmer Registry Readiness Assessment and a go-or-no-go decision for integration. Could you clarify the current status of the National Farmer Registry, the expected integration depth (for example, one-way lookup versus two-way synchronization), and any constraints or conditions that should be considered while designing the MMTS data model?	The National Farmer Registry has not yet been developed. The Readiness Assessment will therefore conclude, for this phase, with a no-go decision on live integration. The MMTS must nonetheless be designed to be registry-ready: the data model will include a farmer identifier field and an interface abstraction capable of supporting future one-way lookup and, ultimately, two-way synchronization, but the system must be fully functional without the registry. While the registry is unavailable, the MMTS will capture and maintain its own farmer records, structured so they can later be reconciled with the National Farmer Registry once it is established.
3.0	Scope of value chains and services	The TOR references multiple value chains (such as rice, cassava, rubber, poultry, and piggery) with mechanization needs to be confirmed during inception. Could you clarify which value chains and mechanization services are definitely in scope at this stage, and whether any should be explicitly excluded from the initial implementation?	For the initial implementation, the value chains definitely in scope are rice and cassava, as the priority crops for mechanization. Rubber, poultry and piggery will be accommodated in the data model as configurable value chains but are not required to be operationally configured in the first phase. The design will allow new value chains and mechanization services to be added through configuration, without code changes. The definitive list will be confirmed during the inception phase.
4.0	Definition and governance of AMSCs	The MMTS will be deployed across Agricultural Mechanization Service Centers (AMSCs). Could you clarify how AMSCs are currently defined and governed (for example, public, private, or PPP models), whether there is a standard organizational structure, and how many AMSCs are currently operational versus planned?	There are currently no operational AMSCs; all Agricultural Mechanization Service Centers are at the planning stage. The MMTS is therefore a greenfield deployment and bidders should not assume any existing center infrastructure, data, or processes. AMSCs are expected to operate under a public or public-private-partnership (PPP) model coordinated by the Ministry of Agriculture; the governance and ownership model is being finalized and will be confirmed during inception. The Consultant will design the MMTS so that AMSC organizational structure (staffing roles, service catalogue, equipment inventory) is

			configurable to accommodate the model adopted, scaling to the 20-30 AMSCs anticipated nationally.
5.0	User roles, permissions, and hierarchy	The TOR refers to multi-tiered supervision and multiple user types (for example, AMSC managers, operators, MoA supervisors, PIU staff). Could you provide an initial list of expected user roles and their high-level permissions (view, create, approve, configure, audit) to guide role-based access control and dashboard design?	An initial, indicative set of user roles is: (a) AMSC Operator - records equipment use, services and farmer requests; (b) AMSC Manager - approves service requests, manages center equipment and staff, views center reports; (c) MoA Supervisor - oversight across multiple AMSCs, views consolidated reports, no data entry; (d) RETRAP PIU Staff - project-level monitoring, analytics and reporting; (e) System Administrator - user management, configuration, audit. Permissions will follow role-based access control (RBAC) with the standard actions view, create, approve, configure and audit. This list is indicative and will be refined with MoA during inception.
6.0	Device procurement and responsibility	Phase 1 requires clarification of device availability and specifications for field use. Could you confirm whether procurement of mobile devices (tablets/phones) for operators and AMSC staff is within the scope of this consultancy, or whether all devices will be supplied by the Government/RETRAP, and if so, what minimum device specifications we should assume for design and testing?	Procurement of mobile devices (tablets/phones) for operators and AMSC staff is NOT within the scope of this consultancy. Devices will be supplied by the Government/RETRAP. For design and testing purposes, the Consultant should assume mid-range Android devices: Android 10 or later, minimum 3 GB RAM, minimum 5.5-inch screen, with camera and GPS. The MMTS field application must perform acceptably on this baseline specification.
7.0	Offline functionality and connectivity assumptions	The MMTS must support offline data capture with later synchronization. Could you clarify the expected connectivity conditions in typical AMSC and field locations (for example, average outage durations and network types), and any minimum offline capability requirements (for example, maximum number of days of offline operation, data volume constraints, or priority functions that must work fully offline)?	AMSCs and field locations should be assumed to have intermittent and unreliable connectivity, predominantly 3G/4G mobile data where available, with outages that may last from several hours to multiple days. The MMTS field application must therefore support full offline data capture with later synchronization. As a minimum requirement, the application must operate fully offline for at least 7 consecutive days, queue all captured records locally, and synchronize automatically and without data loss once connectivity is restored. Core service-recording functions (service tracking, farmer verification, GPS logging) must remain available offline; only consolidated reporting and cross-center dashboards may require connectivity.

8.0	Hosting environment and data residency	The TOR mentions a preferred dedicated subdomain under MoA (for example, mmts.moa.gov.lr) and technology neutrality. Could you clarify whether there are any specific hosting or data residency requirements (for example, in-country hosting, specific cloud providers permitted or prohibited)?	MoA's preference is a dedicated subdomain under the Ministry domain (for example, mmts.moa.gov.lr). The Consultant will propose a hosting arrangement, and any cloud hosting must be compatible with Liberian data protection requirements and with MoA ownership of all data and credentials. As the RETRAP/MEIS database is already cloud-hosted on MySQL, a comparable cloud arrangement for the MMTS is acceptable in principle, provided MoA retains full administrative ownership and the ability to migrate the system and its data. [MoA IT to confirm whether in-country hosting is mandatory or whether reputable cloud providers are permitted.]
9.0	Technology neutrality and approved components	Section on Technology, Intellectual Property, and Data Governance requires open-source or vendor-neutral foundations. Could you confirm whether there are any pre-approved technologies, programming languages, databases, or cloud components that MoA prefers, and whether use of managed cloud services (for example, managed databases or messaging queues) is acceptable if they do not create licensing lock-in?	No specific technologies are pre-mandated. The MMTS must be built on open-source or vendor-neutral foundations with no proprietary licensing lock-in. Given that RETRAP/MEIS already uses MySQL, MySQL (or another open-source relational database) is acceptable and preferred for consistency. Mainstream open-source languages and frameworks are acceptable. Managed cloud services (for example, a managed MySQL database or messaging queue) are acceptable provided they do not create licensing lock-in and the system can be migrated to MoA-controlled infrastructure if required. The Consultant will document and justify the proposed stack for MoA approval during inception.

10.0	Security, data protection, and compliance	The TOR requires a Data Protection Compliance Plan and refers to encryption, role-based access, MFA, and data residency. Could you clarify the applicable national data protection laws, cybersecurity policies, and any World Bank or RETRAP-specific security standards that the MMTS must explicitly comply with, including expectations for audit logging, incident response, and disaster recovery RPO/RTO targets?	The MMTS must comply with the applicable Liberian data protection and cybersecurity framework and with World Bank/RETRAP project security requirements. Pending confirmation of the specific instruments, the Consultant will design to recognized good practice: encryption of data in transit and at rest, role-based access control, multi-factor authentication for administrative and supervisory accounts, comprehensive audit logging of all create/update/approve/delete actions, a documented incident response procedure, and disaster recovery with indicative targets of RPO 24 hours and RTO 8 hours, to be confirmed during inception. A Data Protection Compliance Plan is a required deliverable. [MoA/RETRAP PIU to confirm the specific national data protection legislation and any World Bank ESF/security standards that apply.]
11.0	Farmer service channels and languages	The Farmer Service Journey includes requests via mobile application, SMS, or AMSC agents. Could you clarify which service request channels must be implemented in the first phase, what languages must be supported for farmer-facing SMS and interfaces?	In the first phase the priority service request channels are the mobile application and the AMSC agent (an operator entering a request on behalf of a farmer). SMS-based requests will be designed for but may be implemented in a later phase. Farmer-facing interfaces and any SMS content must support English; the Consultant will also design so that additional local languages can be added through configuration. [MoA to confirm any specific local languages required for the first phase.]
12.0	Payment models and financial integrations	The TOR mentions tracking subsidized, full-cost, and waived payments, and future interoperability with digital payment systems. Could you clarify whether the MMTS is expected to integrate with specific payment providers or financial systems at this stage, and whether it will process actual transactions or only record payment status and references?	The MMTS is expected to record payment status and references only - it must track subsidized, full-cost and waived payments and store payment references - but it will NOT process actual financial transactions in this phase. The system will be designed with an interface abstraction so that interoperability with digital payment providers (including mobile money) can be added later without redesign. No integration with a specific payment provider is required at this stage.

13.0	Training volumes and delivery approach	Phase 3 describes extensive training, ToT, and capacity building for 50 to 100 individuals and 10 to 15 trainers. Could you clarify the expected breakdown of trainees by profile (for example, operators, managers, MoA IT staff), preferred training locations, language requirements?	Phase 3 training covers an indicative 50-100 individuals and 10-15 trainers-of-trainers. An indicative breakdown is approximately 60% AMSC operators, 25% AMSC managers, and 15% MoA/RETRAP IT and M&E staff; this will be refined during inception. Training is expected to be delivered at regional centers and at MoA, combining in-person and practical (field-based) sessions. Training materials and delivery must be in English. The Consultant will propose a detailed training plan, including a Training-of-Trainers approach, for MoA approval.
14.0	Post-handover support expectations and SLA details	Phase 4 and the Service Level Agreement require at least 12 months of post-handover support. Could you clarify the expected support model (for example, remote versus on-site, business hours versus 24x7), priority classification of incidents, and any specific performance metrics (such as maximum response and resolution times) that should be reflected in the SLA?	The TOR requires at least 12 months of post-handover support. The expected model is primarily remote support, with on-site support for major incidents or as scheduled, during standard business hours, with a defined escalation path. Incidents will be classified by priority (Critical / High / Medium / Low). Indicative SLA targets, to be finalized in the SLA, are: Critical - response within 4 hours, resolution within 1 business day; High - response within 1 business day, resolution within 3 business days; Medium/Low - response within 3 business days, resolution by agreement. The Consultant will propose the full SLA for MoA approval.
15.0	National rollout phasing and target AMSCs	The TOR anticipates scale-up to approximately 20 to 30 AMSCs nationally. Could you clarify the current number and distribution of operational AMSCs, any prioritization criteria for rollout waves (for example, agro-ecological zones, connectivity, or readiness), and whether the Consultant is expected to physically support deployments at all sites?	No AMSCs are currently operational; all 5-13 AMSCs anticipated for national rollout are planned. Rollout will therefore proceed in waves as AMSCs are established. Prioritization criteria are expected to include agro-ecological zone coverage, the priority value chains (rice and cassava), and site readiness including connectivity; final criteria will be set by MoA/RETRAP. The Consultant is expected to support deployment and provide remote onboarding for all sites, with on-site support for an initial set of pilot AMSCs; the Consultant is not expected to be physically present at every site. Specific deployment expectations will be confirmed during inception.

16.0	Data ownership, retention, and archival policies	The sections on Data Governance and Agricultural Data Governance clarify that MoA and RETRAP own all data. Could you provide guidance on expected data retention periods, archival strategies, and any constraints on data deletion or anonymization (for example, for closed seasons, inactive farmers, or retired equipment)?	MoA and RETRAP own all data held in the MMTS. The Consultant will propose a data retention and archival policy for MoA approval. Indicative guidance: active operational records retained online for the current and prior agricultural seasons; older records archived but recoverable; no permanent deletion of service, payment or farmer records without documented MoA authorization. The system will support archival of records relating to closed seasons, inactive farmers and retired equipment, and will support anonymization rather than deletion where personal data must be retired. Final retention periods will be confirmed during inception, consistent with applicable data protection law.
17.0	Coordination with other digital agriculture initiatives	Given the emphasis on interoperability and open APIs, could you clarify whether there are any ongoing or planned digital agriculture platforms, farmer registries, or mechanization initiatives in Liberia (outside RETRAP) that the MMTS should be designed to interoperate with or avoid duplicating?	The principal related system is the RETRAP/MEIS reporting database described in row 1.0. The National Farmer Registry (row 2.0) is planned but not yet developed, and the MMTS should be designed to interoperate with it once established. To avoid duplication and ensure interoperability, the MMTS must expose open, documented APIs and use standard data formats so that it can exchange data with current and future MoA digital agriculture systems. [MoA/RETRAP to confirm any other ongoing or planned digital agriculture platforms, farmer registries or mechanization initiatives in Liberia.
	Drafting note	Note: 'RETRAP' and 'RETRAX' are used interchangeably across project documents and refer to the same project. MoA should confirm the correct spelling and apply it consistently in the TOR and this log before issue.	It was a typo. The correct acronym is RETRAP, and it has been applied consistently throughout this harmonized response.