WWF-Myanmar
15/C, Than Taman Street,
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Terms of Reference

Consultant to Develop Sustainable Natural Rubber Traceability Tool

Supervised by: Gaurav Gupta, Sustainable Business Programme Manager
Garry Shea, Sustainable Rubber Project Manager

Work location: Home based

Duration: 01 Sept 2018 – 31 Oct 2018

WWF Myanmar is looking for a technology company or consultant to develop a web-based sustainable natural rubber traceability tool based on the requirement specifications in the ToR.

1. Background

WWF Myanmar was established in 2013 and is working to conserve the country's biodiversity and build a sustainable future for people and wildlife. The focus is on promoting green economy within national policies, and sustaining and protecting biodiversity and ecological connectivity of the transboundary Dawna Tenasserim Landscape (DTL) through an integrated landscape approach, and the Ayeyarwady river basin through an integrated river basin approach. Find out more at www.panda.org/greatermekong

WWF and its partners aim to develop a traceability tool to trace sustainable natural rubber supply chain with high degree of robustness, accuracy and verifiability. The key objective is to achieve 100% traceability using, so called, Blockchain technology in the natural rubber supply chain and thereby to contribute to the current development of standardization and traceability requirement.

2. Consultancy objectives

Develop software as a product or adapt existing software platform as a service to trace natural rubber supply chain.

3. Scope of work

The scope of the traceability system is limited to growers, collection centers and processing factories for one product only (latex). About 3000 smallholders are expected to be on-board. A total of about 12-15 handheld devices (or accounts) will be used to capture all the registration level data as well as the transaction level data. A total of 2-3 desktop accounts will be required to analyse and verify data.

This pilot will be implemented on the ground with the members of Tanintharyi Rubber Planters and Producers Association. One of its members has already agreed to test pilot this tool while two more

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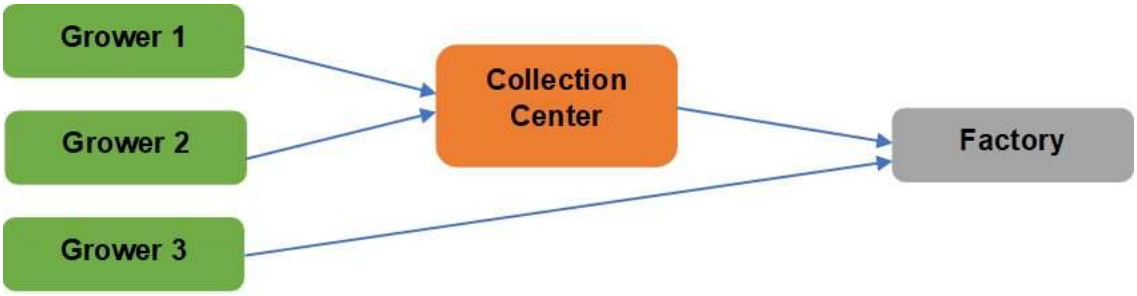
members have expressed interest. It is expected that at least 1 large factory, 4 collection centers and 500 farmers will be covered in the first year and another 5 collection centres and 2500 farmers will be covered in the second year.

The consultant is expected to develop software as a product or adapt existing software platform as a service (preferred) to trace natural rubber supply chain.

- *Overview of Simple Transaction in Natural Rubber Production*

This phase of the software development will only focus on three blocks. The diagram below illustrates flow of transactions across the stakeholder groups.



- **Growers** are independent farmers responsible for cultivating rubber trees and organizing tapping activities.
- **Collection Center** is a location where Growers in a cluster of villages can sell their latex directly to the Factory representative. Collection Center is a satellite operation of Factory aimed for the purchase and collection of latex from Growers in relatively remote and inaccessible areas to Factory.
- **Factory** purchases the rubber via Collection Center(s) in addition to purchasing from Grower(s) directly.

The proposed traceability system will use the top down approach to uphold the chain of responsibility, meaning that Factory shall transact with the registered Growers and Collection Centers only and that Collection Center shall transact with the registered Growers for the end product to be compliant with the Full Traceability System. Such structure enforces registration of all relevant parties in all stakeholder groups and prevents any unknown and non-traceable raw materials from entering in the supply chain within Full Traceability System.

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- *Data Collection Scheme for Proposed Traceability System*

Each stage of transaction will be recorded using an application on a hand-held device (tablets) which may be accessible both on- and off-line. Data collection involves i) one-time, initial registration of all stakeholders and ii) documentation of each and every transaction at the point of sale across the supply chain.

- *Registration of Stakeholders*

A one-time, initial registration of each stakeholder on the tool will be mandatory. A unique code and a password will be generated and assigned upon submission of the following key information for each stakeholder.

Each actor in the supply chain will be responsible for registering the immediate supplier. For instance, factory will be responsible for registering collection centres or relevant growers. Collection centres will be responsible for registering growers. Factory will purchase a hand-held device for the proposed traceability system onto which the registration of the collection centres and self-registration can be done. A unique ID and a password for each stakeholder will be issued upon successful registration. Factory and Collection Center are required to transact only with registered Growers. Any unregistered Grower must be rejected from any transactions and advised to get registered.

Registration of Stakeholders

Registrant	Grower	Collection Center	Factory
Required Information	1. Grower's name (text) 2. Field location a. Address b. Phone numbers c. GPS coordinate d. District* 3. Field size (ha) (number) 4. Year of planting (dropdown) 5. Type of land tenure (Legal status of land ownership) 6. Clone type (drop down) 7. Total number of trees (number) 8. Previous land use (text) 9. Chemical used in maintenance of plantation** (text)	1. Name (text) 2. Location a. Address b. Phone number c. GPS coordinates 3. Ownership type 4. Name and contact details of CEO 5. Land use certificate 6. GPS coordinate and unique code of regular buyers 7. Buying capacity 8. Measurement and quality control instrument 9. Verified by whom, and when	1. Name 2. Location a. Address b. Phone number c. GPS coordinates 3. Legal registration 4. Land ownership and registration 5. Land use before factory established 6. Code of Conduct and Ethics 7. Anti-corruption policy 8. Child Protection Policy 9. HR Policy 10. Wages 11. Employees (number, age, gender)

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	10. Number of lbs. of rubber sold last year** (text) 11. Labour status (number, age, gender)** (text) 12. Verified by whom, and when		12. Complaint handling system 13. EIA and EMP 14. Source of water 15. Waste Water Treatment System and biogas 16. Amount and source of wood used in drying and smoking process 17. Use of solar hybrid drying system 18. Chemical used – management and protection 19. Safety equipment used in factor and by latex collectors 20. Verified by whom, and when
Registered by	WWF, collection centres, Factory	Factory	Factory
Lead Time for Validating Unique ID	Up to 24 hours (Uploading of registration data must be done within 24 hours from field visit). Password to be sent by phone to the registered number.	Immediately (Uploading of registration data can be done immediately). Password to be sent by phone to the registered number.	Immediately (Uploading of registration data can be done immediately). Password to be sent by phone to the registered number.

*Auto-populated fields
** Regular physical verification required

- *Record of Transactions*

At each point of sale, the buyer will confirm the delivery of the rubber by entering data on a hand-held device. The digital documentation of the rubber at every point of transaction will enable all parties to trace the rubber supply chain with high certainty. The transaction details detail will remain the same for different types of transactions.

Information Required at Each Transaction

Transacting Parties	**Grower - Collection Center**	**Grower - Factory**	**Collection Center - Factory**
Recorder	Collection Center (Satellite operation of Factory)	Factory	Factory
Required Information	1. Seller's unique code	1. Seller's unique code	1. Seller's unique code

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	2. Buyer's unique code 3. Time and date of delivery* 4. Volume 5. Dried rubber content (DRC) 6. Total price 7. Verified by seller by entering the password 8. Delivery transaction code generated	2. Buyer's unique code 3. Time and date of delivery* 4. Volume 5. Dried rubber content (DRC) 6. Total price 7. Verified by seller by entering the password 8. Delivery transaction code generated	2. Buyer's unique code 3. Time and date of delivery* 4. Volume 5. Dried rubber content (DRC) 6. Total price 7. Verified by seller by entering the password 8. Delivery transaction code generated
Data Gathering Method	Collection Center will use the hand-held device to enter and submit the information. Transaction with any unregistered Grower cannot be entered into the record and therefore is prohibited.	Factory will use the hand-held device to enter and submit the information. Transaction with any unregistered Grower cannot be entered into the record and therefore is prohibited.	Factory will use the hand-held device to enter and submit the information. Transaction with any unregistered Collection Center cannot be entered into the record and therefore is prohibited.

*Auto-populated fields

- *Auto-verification to detect leaks*

Subsequent to uploading all registration and transaction data onto Blockchain, the following validation mechanisms will check for any inconsistencies or leaks in the system.

a. *Space based verification*: each grower can grow and sell only a certain amount of rubber/week based on the clone type. Any significant deviation from what is feasible should trigger physical verification. The tool administrator should be able to set and adjust the threshold against each clone type.
b. *Time based verification*: This is prevent any mixing of rubber at the grower level. The amount of rubber sold by grower should not differ significantly from one week to next. If grower sells rubber from a third party, a sudden significant shift in rubber quantity over a period of time will increase the standard deviation beyond a threshold. This will trigger a physical verification. The tool administrator should be able to set and adjust the threshold.
c. *Block neutrality test*: Over a period of time (usually one week), for each block in the chain (except the extreme two blocks), the total purchase (of DRC) must not significantly differ from total sale. If this happens, there might be un-registered purchase or sale. This sill trigger a physical verification. The tool administrator should be able to set and adjust the standard deviation.

- *Analysis and generating report*

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The tool should provide enough flexibility for the users to be able to generate reports using different parameters and combination.

- *Monitoring Deforestation and Forest Conversion*

WWF will use various remote sensing tools to map deforestation. The traceability tool should provide an API along with a manual on how to overlay the coordinates of the rubbers supply chain actors with the deforestation hot-spots.

- *Output and deliverables*

No.	Activity	Expected outputs	Date (negotiable)
1	Finalizing the project document	A final project requirement specification document based on which the traceability tool will be prepared	End of Sept
2	Developing a prototype	A prototype screen for registration data for one type of stakeholder (grower)	Mid of Oct
3	Completing of the development phase	A fully developed solution ready for testing	Mid of Nov
4	Completing the alpha phase testing	Completing the first phase of ground testing (with 10-20 farmers) and incorporating any changes - Training on using the tool and with a user manual to be provided by the technology company	End of Nov
5	Deployment (and beta testing)	Deployment of the tool to 50-100 farmers and fixing any errors	End of Dec (only support)
6	Full deployment	Deployment of the tool with 3000 farmers	(Only support)

4. Required Profile

Essentials:

- Extensive experience in developing supply chain traceability tool (preferably have an already existing platform that can be adapted)
- Demonstrated experience working with widely known organizations. WWF may ask for reference
- 5+ years of relevant work experience (or at least one team member) in developing software as a service

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- Good understanding of smallholder agriculture supply chain
- Fluency in English

Desirables:

- Myanmar based organization will be preferred

Closing Date for submission of proposal: 10th Sept 2018

Interested applicants may submit their proposal, clearly stating their fit for this position, together with expected consultancy fee (including breakdown) and CVs to vacancy.mm@wwf.org.mm or deliver to WWF Myanmar office at 15C Than Taman Street, Dagon Township, Yangon.

For additional information or clarification you can email to gaurav.gupta@wwf.org.mm

Only shortlisted applicants will be contacted.