ToRs for measuring input use efficiency (water & nutrients) and gas emission on rice plots under iMAP4CSA project in Iringa District.
Introduction

IMAP4CSA is a 2-year project (June 2019 – June 2021) funded by the Belgian governmental cooperation through their development agency Enabel. The project falls under the Enabel’s Digital for Development (D4D) program called Wehubit on scaling up digital solutions in Iringa region. The project targets to benefit 12,000 smallholder paddy farmers by mapping 10,000 plots in Iringa region. This project is implemented in collaboration with Rikolto.

The project aims to achieve the following results:

a) Mitigation actions to climate change contributing to a reduction of GHG emissions up to of 20%, reduction of water use of 15% and higher nutrient use efficiency of 15%. Rice cultivation is both an important sequester of carbon dioxide from the atmosphere and an important source of greenhouse gases (e.g. methane and nitrite oxide) emission.

b) Adaptation to climate change contributing to increased access to digital solutions of 50%. Contributing to increasing farmers’ adaptation to climate change by providing them with actionable information services, based on digital data systems, supports them in better decision-making in risk management e.g. contractual obligations with rice millers and input providers and adjusting the cropping calendar to suit weather changes.

c) Productivity and income: increase with 50%. The digital solutions proposed and in-field support by KT and Rikolto to farmers is expected to contribute to a 50% increase in yields in 4 rice irrigation schemes directly benefitting 10,000 farmers. A higher SRP score increases farmers’ attractiveness to agribusinesses, enabling an increased access to market and potential increase in income, and contributes to efficient use of inputs leading to production cost reduction.

Rationale of the assignment

The project started its operation in Iringa since July 2019 for the production season of 2019/2020 which is just being concluded this September before starting new season of 2020/2021 in October. For the intervention done this year, the project aims to measure the success of attaining achievement a) as mentioned above. The measurement will be done in Idodi, Mapogoro, and Tungamalenga villages in Idodi ward and Makifu village in Mahuninga ward.
Purpose of the assignment

The consultant or company will support Kilimo Trust (KT) to.

I. Measure and provide data on the water use efficiency (water productivity and quality) in rice farming schemes from the mentioned wards above.

II. Measure and provide data on the greenhouse gases (carbon dioxide and methane) in rice farming schemes as mentioned above.

III. Measure and provide data on the nutrient use efficiency (N and P) in rice schemes mentioned above.

IV. Compare the Carbon dioxide, Methane gas emissions, water and nutrient use efficiencies in these schemes vs the indicators of the project.

V. Make recommendation on the necessary mitigation measures to reduce GHG gas emissions (Carbon dioxide and Methane) and increase water and nutrient use efficiencies in the paddy fields

Deliverables

The following are the expected deliverables from the assignment:

a) Data set on Carbon dioxide and Methane gas emissions per scheme

b) Data set on Nutrient (N & P) and water use efficiencies (water productivity and quality) per scheme.

c) Data set of Comparison of Carbon dioxide and Methane gas emission rate measured in the scheme vs project indicators targets.

d) Data set of Comparison of the water use efficiency (water productivity and quality) rate measured in the schemes vs projects indicators targets.

e) Report of recommendations on the necessary mitigation measures to reduce GHG gas emissions (Carbon dioxide and Methane) and increase water and nutrient use efficiencies in the paddy fields.
Duration and Reporting

The total number of man days for this assignment is **10 days** distributed as bellow:

<table>
<thead>
<tr>
<th>Days Allocated</th>
<th>Activity</th>
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<tbody>
<tr>
<td>1 days</td>
<td>Inception meeting with KT Team</td>
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<tr>
<td>6 days</td>
<td>Field visit to measure Gas emission and water &amp; nutrient use efficiency in Idodi, Mapogolo, Tungamalenga and Makifu Schemes (2 days for each scheme-1 day for meeting and setting up and 1 day for measuring for each scheme).</td>
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<tr>
<td>2 days</td>
<td>Report Writing and submission of Draft report.</td>
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<tr>
<td>1 days</td>
<td>Finalizing report after receiving and addressing comments</td>
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</tbody>
</table>

Requirement

Consultant(s) must possess an Agricultural engineering/irrigation and water use management/rice agronomy with at least 3 years’ experience in implementation and or design of climate change adaptation strategies or projects in rural communities in Tanzania or EAC countries.

Interested and qualified consultant/consulting firm are requested to submit a proposal by 25th September 2020 to eafrica@rikolto.org mentioning ‘**IMAP4CSA: Input use efficiency and gas emission on rice plots in Iringa**’ in the subject line and detailing the following:

- Description of how the consultant will address the above
- Qualifications of the consultant(s) (attach CV)
- Similar assignments carried out in the recent past
- Workplan and confirmation ability to complete the assignment in 10 days
- Budget indicating the consultancy fees per day and all involved costs in Tanzanian shillings.

In case you won’t hear from us a week after the deadline for submission of interest, you can consider yourself unsuccessful.