

Terms of Reference

Consultants/Consultancy Team for (two-part) Feasibility Study (FS) of E-Bike Project:

FS - Part 1: Integrated Social Business Model (incl. innovative technology and disabled people)
FS - Part 2: Innovative Technology (incl. E-Bikes and Solar Recharge Stations)

Project Title:	Promotion of Electric Two-Wheelers and Solar Energy in Vietnamese Cities: An Explorative Project Initiated and Tested in Hanoi
Time:	21 June – 4 August 2013

1. Project Background and Goal

Caritas has started up a new project in April 2013 called *Promotion of Electric Two-Wheelers and Solar Energy in Vietnamese Cities: An Explorative Project Initiated and Tested in Hanoi*. Overall goal of the project is to contribute to sustainable development in Vietnam by providing CO2-reducing technology solutions, while at the same time supporting viable pro-poor business options for the poor and disabled. Specifically, the project aims to:

- Increase knowledge and awareness among relevant actors by communicating innovative and feasible solution of renewable energy (through the ebike and solar energy promotion); and to
- Put forward an innovative and viable business approach/ model that enables a combination of ebike technology promotion and pro-poor business.

The project is being implemented between April 2013 and September 2014.

A Baseline Study was carried out in May 2013. A Feasibility Study incl. two parts (1 – Integrating Social Business Model, and 2 – Innovative Technology) - shall be carried out in June and July in order to provide recommendations for the final design of the pilot project. These TORs describe the terms for conducting the Feasibility Study – part 1 and 2.

Caritas Switzerland in Vietnam is looking for a group of (national/international) consultants (can apply separately, or preferably, as a team/consulting company) to carry out this two-part study. The assignment is expected to be completed by the end of July 2013.

A project overview on goal, objectives, results and project components of the project can be found in the Annex.

2. Scope of Work

Overall Objective

Overall objective of the consultancy work is to develop concrete recommendations for the final design of the pilot project. The pilot project is planned to start in August 2013 and run over a period of 10-12 months. The feasibility includes two parts:

Feasibility Study (1) should develop a viable pro-poor business model that can help alleviate poverty by using innovative technology (=integrated social business model), and Feasibility Study (2) should propose feasible technology solutions to reduce CO2 by using innovative technology (i.e. Ebikes recharged with Solar Recharge Stations). The two study parts are strongly interlinked with each other in order to account for a coherent project design (pilot study). Consultants working on the different study parts are therefore required to closely cooperate.

Tasks and Activities for Feasibility Study – part 1 and 2

The two parts of the Feasibility Study have a different set of questions that need to be answered. The findings to the questions should lead to concrete and detailed recommendations on the project design for the pilot study. The questions are not limited to the below but give an overview of the type of research that needs to be done. The questions are based on the Baseline Study that was carried out in April-May 2013.

1) Tasks and questions regarding **Feasibility Study (1) – on Integrated Social Business Model** – are the following:

1. Gain thorough understanding of project goal and objectives (see project documents).
2. Develop detailed methodology, tools and work-plan for the carrying out of the Study – part 1.
3. Do research on technology and costs of ebikes (see Project Logframe - Act. 2.1.2).
4. Develop an **innovative business model** (including a detailed business plan and budget), which integrates poor/disabled people with innovative technology (Act. 2.1.3)
5. Propose/select suitable project partners (i.e. disabled organisation) (see Project Logframe - Act. 2.1.4).
6. Produce feasibility study report with concrete suggestions for implementation of pilot project – in/after discussion with the consultancy team of Feasibility Study - Part 2 (see Project Logframe - Act. 2.1.5).
7. Co-organise a workshop with your recommendations for the design of the pilot project by taking into account the results from the feasibility studies and research results. This activity is carried out together within the whole consultancy team of Feasibility Study 2 and the Caritas Project Manager (see Project Logframe - Act. 2.3.).

2) Tasks and questions regarding **Feasibility Study (2) – on Innovative Technology (Ebikes and SRS)** – are the following:

1. Gain thorough understanding of project goal and objectives (see project documents).
2. Develop detailed methodology, tools and work-plan for the carrying out of the Study – part 2.
3. Do research on the potentials of CO2-reductions by using ebikes (see Project Logframe - Act. 2.2.2).
4. Do research on the potential of solar energy, the feasibility of SRS, and their commercial potential in Hanoi/Vietnam (see Project Logframe - Act. 2.2.3).
5. Propose/select suitable project partners (i.e. university/-ies with suitable location for SRS, SRS and ebike providers, etc.) (see Project Logframe - Act. 2.2.4).
6. Produce feasibility study report with concrete suggestions for implementation of pilot project - in/after discussion with the consultancy team of Feasibility Study - Part 1 (see Project Logframe - Act. 2.2.5).
7. Co-organise a workshop with your recommendations for the design of the pilot project by taking into account the results from the feasibility studies and research results This activity is carried out together within the whole consultancy team of Feasibility Study 1 and the Caritas Project Manager (see Project Logframe - Act. 2.3).

The **Feasibility Study** should give **concrete recommendations** for the implementation of the pilot project. Below you find detailed questions, which should be covered by the studies FS1 and FS2 respectively:

(1) Feasibility Study on the Integrated Social Business Model			
Activities acc. to Project Logframe		Findings	Recommendations
Act. 2.1.2	Do research on technology and costs of ebikes		
2.1.2 - a	Do research on technology of ebikes		
1	What are the popular electric bikes used in Hanoi?		
2	What are the technical specifications of these (see above)? (esp. in regard to: the motors and drivetrains, batteries, controllers? What are the technical and economical features of these devices?)		
3	Which of these (above) is the best model for the project (reliability, battery life, costs)?		
4	Give information about suppliers. CRS:		

	certified suppliers.		
5	What are production, terms of payment and delivery time?		
6	Where can spare parts be obtained? Where is replacement methodology with factories?		
7	What are common malfunctioning and what are the needs regarding repair and maintenance of the selected electric bike types?		
8	What are the legal aspects related to electric bicycles, especially import taxes?		
9	What are other technical issues relating to select ebikes and ebike usage?		
10	How to recharge bicycle batteries? (i.e. plug straight into bikes while parked, swap batteries?)		
11	What are the benefits of CO2-emissions reduction by using ebikes?		
2.1.2 - b Do research on costs of ebikes			
12	Choose the best model for the project and define costs.		
13	What are import taxes and import costs? (depends on business model and entity type chosen)		
14	What are costs expected/associated with malfunctioning and repairs of the selected ebike types?		
Act. 2.1.3	Develop an innovative business model, which integrates poor/disabled people with innovative technology.		
2.1.3 - a Develop an innovative business model			
15	Do a market analysis (to answer the question whether young students are really the right target group/segment of customers for this study?) The questions to be answered here would be: <ul style="list-style-type: none"> a) Are e-bikes already established on the market? b) Should the e-bike project more address target groups of innovators or followers? c) Identify the target group that could serve as (i) innovator or (ii) follower d) What is the bigger segment of customers? e) Which group of customers is most suitable to improve the image of e-bikes? 		

16	How can – if students are the right target group for this study (see above) - the project rent ebikes among students when the Baseline Study has shown that students have no intention to do so? (i.e. Could business incl. e-bike workshops, E-bike service shops, or E-bike charging stations.... be an option?)		
17	How to operate an eventual rental/lease? Deposits, ID cards...?		
18	How to make a profitable business (how avoid non-profitable business)? And how to make it sustainable ?		
19	What legal issues have to be considered?		
20	How many bicycles and solar charging stations are required?		
2.1.3 - b	Develop an innovative business model, which integrates poor/disabled people with innovative technology.		
21	What are the types of services, ebike sales, spare parts sales, rental, leasing, batteries, maintenance, repair, etc, ... that should be involved in the project?		
22	What are service models relating to electric bikes with the participation of the disabled/poor in Hanoi? The target customers and competitors? Cost and benefit analysis?		
23	Develop a detailed Business Plan (that is to be tested by the pilot project)		
24	What is the financial potential of this business? Propose a detailed business plan by using the results of the information above.		
Act. 2.1.4	Propose/select suitable project partners (i.e. disabled organisation)		
25	Who can be potential partners (which disabled/poor groups) to implement the required services?		
26	What are the capacities of potential partners needed to implement the proposed services mentioned above?		
27	What kind of trainings would be needed?		
28	What are the challenges and obstacles of potential partners for the implementation of these services?		
29	Propose/select suitable project partners (i.e. university/-ies with suitable location for SRS, SRS and e-bike providers, etc.)		

(2) Feasibility Study on Innovative Technology			
Activities acc.to Project Logframe		Findings	Recommendations
Act. 2.2.2	Do research on the potentials of CO2-reductions by using e-bikes		
30	What are the potentials of CO2-reductions by using e-bikes (as opposed to other means of transportation)?		
Act. 2.2.3	Do research on the potential of solar energy, the feasibility of SRS, and their commercial potential in Hanoi/Vietnam ¹		
2.2.3 - a	Define the potential of solar energy and feasibility of SRS in Hanoi		
31	What is potential of solar energy in Hanoi?		
32	What is the potential of using SRS in Hanoi?		
2.2.3 - b	Do research on the technology of solar energy in Hanoi panels charging stations		
33	Research on type of panels, solar controller, energy collector, battery storage, stall (structure, material, minimum size required). With technical specifications of each.		
34	Select the best model for the project in terms of nature of it, location and future, and define costs.		
35	Preliminary technical designs (give at least 3 options) of a SRS which can recharge for 25-30 e-bikes at a university in Hanoi and develop budget for each option		
36	Information about suppliers. CRS: certified suppliers		
37	Production, terms of payment and delivery time		
38	Description of the operation and maintenance of the SRS		
39	Spare parts and replacement methodology with factory		
40	Common malfunctioning and what are the needs for repair and maintenance of selected solar charging stations		
41	Other technical issues relating to solar charging stations		

¹ Here a cost benefit analysis would be helpful. PV charging stations should be compared with the public grid. Criteria for the evaluation should include costs, life cycle wide carbon foot print, customers convenience (charging at home or at a charging station), added value for promotion (through greener and more innovative character)

42	Benefits of using solar panels to produce electricity		
43	Security: how to keep solar recharge stations safe		
2.2.3 - b	<i>Do research on costs of solar charging stations</i>		
44	Choose the best model for the project and define costs		
45	Import taxes and import costs to be done together with FS1 since it will also depend on business model and entity type chosen.		
46	Costs associated to malfunctioning and repairs		
47	Do research on the potentials of CO2-reductions by using e-bikes		
2.2.4	Propose/select suitable project partners (i.e. university/-ies with suitable location for SRS)		
48	Which kind of conditions do potential solar recharging station locations require?		
49	What are the technical knowledge requirements to operate solar charging stations?		
50	What mechanical and technical skills are required for the selection of best potential candidates?		
51	What kind of conditions should be considered in regards to the location of SRS at Universities - and how should they be ensured (i.e. acceptance and cooperation of the Universities selected for the installation, operation, protection and maintenance of the SRS)?		
52	Propose/select suitable project partners		

3. Methodologies

Suggested methodologies include, but are not limited to, desk study, focus groups discussions, face-to-face in-depth interviews (based on interview guideline/questionnaire), questionnaires, financial business calculations etc. Consultants are encouraged to propose supplementary methodologies, techniques and tools.

4. Tasks and Process

1. Gain full understanding of the project goal and its objectives (see project documents).
2. Develop a detailed workplan to carry out all required tasks (incl. suggested methodologies, timeframe, resources, task allocation between consultants/project team, report structure, etc.).
3. Carry out Feasibility Studies part 1 and 2 respectively (see Specific Questions/Tasks above).

4. Meet with consultants/consultancy team of FS1 and FS2 respectively to discuss results of FS1 and FS2.
5. Develop a common report (where you give specific details and recommendations for the design of the pilot project).
6. Organize a meeting/workshop (together with the Caritas Senior Project Manager) to give recommendations and present the final design for the pilot project.
7. Finalise the Report.

5. Tentative Agenda

Activities		Tentative Date	Time	Comments/Notes
1	Gaining thorough understanding of project goal and objectives	21 - 24 June		Incl. consultation with Caritas Project Team to answer questions
2	Development of detailed methodology, tools and work-plan	25 - 26 June		Consultants will get final comments/approval from Caritas latest by 28 June
3	Carry out Feasibility Study - parts 1 and 2 respectively	1 – 21 July		See specific questions in Section 2
4	Meet and discuss with consultants/consultancy team of F1 and F2 respectively for sharing results	22 - 23 July		Agree on common report format.
5	Develop a common report (with specific details and recommendations for the design of the pilot project).	24 - 28 July		May have two sub-parts by F1 and F2.
6	Organize a meeting/workshop to give recommendations for the final design of the pilot project.	31 July		In coordination with the Caritas Senior Project Manager
7	Finalize the report	1 - 4 August		
	Total estimated working days			No. of Days to be proposed by the consultants/consultancy team

6. Outputs/Deliverables

Outputs/Deliverables		Remarks/Description	Deadline
1	Thorough understanding of project goal and objectives		24 June 2013
2	Detailed methodology, tools and work-plan submitted to Caritas	The workplan should contain suggested methodologies, timeframe, resources, task allocation between consultants/project team, report structure, etc	26 June 2013
3	Feasibility Study Report - findings parts 1 and 2 respectively - submitted to Caritas		21 July 2013
4	Findings of your study (FS1 and/or FS2) shared with consultants/consultancy team of FS1 and F2 respectively, and format for common report agreed on		23 July 2013
5	Common Feasibility Report with Findings of Consultants/Consultancy Team of FS1 and FS2 (with specific details and recommendations for the design of the pilot project (including detailed business plan – see FS 1).	The report can be divided into 2 parts (FS1/FS2) but should have a common introduction, executive summary, conclusions and recommendations for the pilot project.	28 July 2013
6	Successful workshop with Caritas EBike Project Team and Consultants/Consultancy Team	In coordination consultants/consultancy team of F1 and F2 respectively, you present findings of your study and give detailed recommendations for the final design of the pilot project.	31 July 2013
7	Final Report (submitted to Caritas)		4 August 2013

7. Contract Duration

Period of Working/Timeline: 17 June – 21 July 2013

Total No. of Working Days: **xy** Days

(to be suggested by the consultants/consultancy team)

8. Payment and Reimbursement

Consultants are asked to send their financial proposal (incl. specification of work time).

9. Annex/Materials

- a) Project Overview (Chart), with Goals, Objectives, Results, and Project Components
- b) Internal Caritas Project Proposal
- c) Project Logical Framework
- d) REEEP Declaration (incl. Flyer and Info Materials)
- e) Baseline Study Report
- f) PPT of Baseline Study Report

10. Application

Interested consultants/consulting companies are invited to send their proposal and CVs, addressing their understanding of the assignment, short methodology and workplan (incl. time plan), and budget proposal as well as reference details to Caritas Switzerland at the following email address: Vietnam@caritas.ch by 13 June 2013.

For any further information, please contact the Caritas Desk Officer of the E-bike Project:

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