



Terms of reference (ToR) for the procurement of services up to the value of EUR 20,000

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Terms of reference for investigating the problems of the KOFIH project installed PV Power systems in 12 out 14 health centers in Jimma zone including preferring solutions.

1. General information

1.1. Background

The Energising Development (EnDev) is a multi-donor, multi-implementer energy access partnership currently financed at global level by six donor countries; the Netherlands, Germany, Norway, the United Kingdom, Switzerland, Sweden and the Korean Foundation for International Healthcare (KOFIH). As a part of the global programme, EnDev Ethiopia has additional co-funding from Ireland, Korea and the European Union. The Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH acts as lead agency for the implementation of the programme and cooperates closely with the Netherlands Enterprise Agency at global level as well as other implementation partners at country level. Currently, EnDev is implemented in 25 developing countries of Africa, Asia and Latin America. EnDev promotes access to modern energy services that meet the needs of the poor, is long lasting, affordable, appreciated by users, and creates positive economic, social and/or environmental impacts. Since its initiation in 2005, EnDev has attained a more and more prominent position in the international process promoting energy access. As one of the first outcome and performance based programmes in the energy sector, EnDev pioneers innovative approaches, develops new markets for pro poor energy access and scales-up successful programmes in a large number of countries with a broad spectrum of technologies and a variety of different project concepts and instruments.

1.2. Context

Following the contract agreement signed between GIZ-EnDev-ET and the Korea Foundation for International Health Care (KOFIH), the Oromia Regional office and the EnDev solar infrastructure component have jointly managed the installation of solar PV systems in fourteen health centers, in four woredas of Jimma Zone. As a result, the fourteen health centers were electrified using PV Power system with different installation capacity, Two sample sites with 1.75kWp and 12 HC with 2.4kWp for better service provision.

The electrification of these health institutions has profoundly improved the provision of better health services. Regular technical support as well as training to operators was provided to ensure sustainability of the system. Moreover, Partial and fully replacement of Battery made for some sites. Nonetheless, there have been regular reports of non-functional systems owing to different types of problems. E.g. low-quality LED bulbs and malfunctioning batteries. Still worse, there are reports of non-functionality of 7 health centers, namely; Oddo Hidhata (temporary), Korjo, Lalo, Defkela, Ofole, Kusaye, and Yala Sesecha. GIZ-EnDev wants to outsource a consultant to investigate the problems the installed solar system in the 12 health centers in Jimma zone as well as proffer solutions.



1.3. Objectives of this assignment.

The main objective of this assignment is to investigate the core problems of installed solar system in Jimma zone implemented by the KOFIH project and proffer solutions to ensure functioning and sustainability of the systems.

1.3.1. Specific objective.

Investigate the main problem of the installed PV Power system and system components starting from design to implementation.

Examine the Possible potential factors those could be causes for non-functionality of the system and system components. Recommend a solution for sustainable use of the system. Check the quality of the component installed specially the battery. Check the system configuration.

1.4. GIZ shall hire the consultant for the anticipated contract term from 11/03/2021 to 01/04/2022. This will depend on actual contract agreement date.

1.5. Scope of the work.

Assess the problem faced on the solar system from design to implementation and proffer the solutions for sustainable use of the systems.

Tasks to be performed by the contractor and Responsibility of project partners.

The place of assignment will be in Jimma zone 12 health centers

No.	Woreda	Name of Health Centre	From Jimma to site(km)	GPS Data			Installation Capacity (kWp)
1	Dedo	Korjo	13	North	South	Elevation	
2	Dedo	Lalo	28	07°.32.620'	036°.49.486'	2379	2.4
3	Dedo	Gera	37	07°.29.086'	036°.46.577'	2312	2.4
4	Dedo	Defkela	55	07°.26.874'	036°.47.792'	2697	2.4
5	Mencho	Darge	57	07°.23.014'	036°.46.261'	2530	2.4
6	Mencho	Irgibo	41	07°.27.490'	037°.01.728'	1931	2.4
7	Mencho	Kusaye	70	07°.34.228'	036°.59.906'	1761	2.4
8	Dedo	Ofole	11	NA	NA	NA	2.4
9	Omo Nada	Chefe Nega	102	07°.36.922'	037°.20.612'	2148	2.4
10	Omo Nada	Nada Bidaru	84	07°.32.643'	037°.11.301'	2350	2.4
11	Omo Beyem	Yala Sesecha	134	07°.28.2148'	037°.16.4458'	2491	2.4
12	Omo Beyam	Sombo Bedelle	129	07°.25.9035'	037°.8.6796'	2519	2.4

Table 1



2. Description of the work

Work package 1: - Investigation of failed solar system

- Check the System design and specification and installation manual, with the help of the datasheet of every component.
- Assess Overall system handling and operational management
- Check the configuration of the systems.
- Observation of twelve health institutions
- Discuss with Jimma Zone Water and Energy Office, Jimma Zone Health Office and Jimma Zone KOFIH and collect all necessary information regarding the system installed.
- Review all back to office reports, technical, testing and commissioning documents submitted by the installing companies after installation and first handover.
- Discuss with the installing companies (via phone calls) and EnDev technical staff supervising and maintaining the system after installation

3. Deliverables.

- Detail assessment report which show the potential problem on site within 7 days of completion of field work. The report should show the solution in bulletin points.
- Well edited report in both hard and soft copy in word format and pictures JPG.
- Present the report to SI component via PPT.

Certain milestones, as laid out in the table below, are to be achieved by certain dates during the contract duration:

Milestone	Deadline / person responsible
Assessment of the selected sites	24 days after contract signature
Desk review and report writing	26 days after contract signature
Final report submitted	28 days after contract signature.
Presentation of the report	30 days after contract signature



4. Tender requirements

4.1. Qualification of proposed staff.

4.1.1. Expert 1 Lead Consultant

Responsible for the contract and first point contact with GIZ-EnDev. Academic qualification MSC or BSC in electrical engineering, mechanical engineering, management or other related field of study natural or social sciences.

Minimum 10 years' experience in similar assignments. Have basic technical knowledge on PV Power System Design, installation and Service maintenance and understand PV Power system components, if Victron system is an asset.

4.1.2. Expert 2. The technical expert

Responsible for supporting the lead consultant and should have an academic degree preferably BSC in electrical engineering, mechanical engineering, energy engineering, renewable energy technology or related field of study.

Minimum of 8 years' experience in similar assignments.

4.1.3. Expert 3. Support expert

Responsible to collect the data and interview the mentioned stakeholders.

Have diploma in statics, management or other related field of study.

Minimum 2 years' experience.

5. Remuneration

The payment will be made in accordance with contractual agreement and on GIZ rules and regulation.

6. Management of Assignment

The consultant is accountable to the assigned GIZ EnDev experts based in the respective regions and Addis Ababa as well including the regional managers and Manager of the Social Infrastructure Component of EnDev Ethiopia.

7. Specification of inputs.

Fee days	Number of experts	Number of days per expert	Comments
• Preparation/debriefing	2	3	
• Field trip	1	24	
• Desk review	1	1	
• Reporting	2	2	



Travel expenses	Number of experts	Number of days/nights per experts	Comments
<ul style="list-style-type: none"> Per-diem allowance for field trip 	1	24	Field research including travel time. Consultant is to cater for his own transport throughout the assignment.
<ul style="list-style-type: none"> Travel costs (rented / private vehicle) 	1	24	
Other costs	Number of experts	Amount per experts	Comments

Note:

If restrictions are introduced to combat coronavirus/COVID-19 (restrictions on air travel and travel in general, entry restrictions, quarantine measures, etc.), GIZ and the contractor are obliged to make adjustments to their contractual services to reflect the changed circumstances on the basis of good faith; this may involve changes to the service delivery period, the services to be delivered and, if necessary, to the remuneration.

