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RePower

Project number:	101096250
Project name:	Improving Renewables Penetration Through Plug and Play Microgrids
Topic:	HORIZON-CL5-2022-D3-01ZON-CL5-2022-D3-01
Type of action:	HORIZON-IA
Starting date of action:	1 October 2023
Project duration:	48 months
Project end date:	30.09.2027
Deliverable number:	D8.1
Deliverable title:	AGTN Report on Stakeholder Analysis and Community Engagement
Document version:	FINAL
WP number:	WP8
Lead beneficiary:	2.2 - AGT Niger
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Nature of deliverable:	R (Report)
Dissemination level:	PUB (Public– to be published)
Delivery date from Annex 1:	M12
Actual delivery date:	M12

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1. Executive Summary

Two missions were carried out in Dabaga in March and April 2024 as part of the data collection of the RePower project. The objective of these surveys is to assess the stakeholders needs and define some technical data for the electrification of the marketplace, the installation of solar pumps for irrigation, the preservation of fresh vegetables and public lighting. All these activities are part of the feasibility study that was conducted as part of the Tasks under Work Package (WP8).

This report presents the findings of the stakeholders interviewed and on the community engagement. The aim is to ensure that key stakeholders, including local authorities, community leaders, and residents, are actively engaged and their perspectives are integrated into the project design and implementation. It reports on the basis of the data and information collected, the appropriate options and details of the activities to be implemented.

Abbreviations

AC	Alternating current
AGT	Africa Greentech (partner in RePower)
AGT N	AGT Niger
ANPER	Nigerien Agency for the Promotion of Rural Electrification
ARSE	Nigerien Energy Regulatory Authority (ARSE)
BESS	Battery energy storage system
BCHP	Biomass based combined heat and power unit
D	Deliverable
EC	European Commission
EFL	Energy Flex Lab
FAT	Final acceptance test
MASH	Mash Makes (partner in RePower)
PV	Photovoltaic
SAT	Site acceptance test
WP	Work Package

Table of Content

1. Executive Summary	2
Abbreviations	3
Table of Content.....	3
2. Introduction	4
3. Stakeholder Analysis and Community Engagement.....	6
4. Overall Feasibility Study Results	10
5. Conclusions and Recommendations	12
6. References	12

2. Introduction

The Dabaga village is located 45 km north-east of Agadez, at the crossroads of the tracks leading to the areas of Elmiki, Timia, Iférouane to the north and Tabelot to the east in Niger. This area is the densely populated Telwa valley, at the gateway to the Aïr region, 45 km from Agadez. Therefore, this position makes it ideal for trade, farming (market gardening) and pastoral activities. It is the administrative centre of one of the region's rural communes.

The population is large and active in terms of income-generating activities. In addition to agriculture, some households have secondary activities such as trade, crafts, livestock rearing and gold panning.



Photos Dabaga market

Meanwhile, Dabaga market (where the project will be implemented), is located at the entrance of the village coming from Agadez. It is separated from the village by the seasonal Telwa river. Thus, the Dabaga market is a block in its own right. Even if you can find a few households around the market.

Table 1 Dabaga information

Region	Agadez
Department	Tchirozerine

Municipality	Dabaga
Village	Dabaga
Number of inhabitants	1837 (source : RGPS 2012 INS)
Number of households	329 (source : RGPS 2012 INS)
Geographical coordinates	17.2828970502714164, 8.168031742649866

The objective of this Deliverable 8.1 is to report on the stakeholder analysis and community engagement activities carried out at the Dabaga market. The analysis has been carried out and is designed to inform decision-making in the project, create trust, instil the local ownership, and ensure the project aligns with the community's needs.

Methodology

AGT Niger through another existing project in Dabaga has already established contacts with various stakeholders, community chiefs, clients and a number of groups. However, since the RePower project is mainly focused on the market, AGT N needed to re-establish contact and to do a stakeholder mapping. Stakeholder mapping identified relevant actors both at the national and local level namely:

- **Local Government Authorities:** Representatives of the Dabaga local municipality, regional energy committees, and community leaders.
- **National Government Entities:** Niger's Ministry of Energy, Nigerien Agency for the Promotion of Rural Electrification (ANPER), and regulatory bodies.
- **Community Leaders:** Village chiefs, religious leaders, women's associations, youth groups, and cooperatives.
- **Private Sector and NGOs:** Local businesses, international NGOs, and local sustainability groups.
- **International Partners:** Development organizations (such as GIZ), financial institutions, and foreign donors involved in rural electrification.

Data Collection Method

The methodology for data collection included:

- **Surveys:** Conducted with 51 potential new SME who will be connected to the micro-grid. These SMEs were identified in a previous AGTN feasibility study and have been expanded to include new stakeholders. This survey was a comprehensive questionnaire on the Kobo Platform as indicated below:

Validation	start	end	abc 1. Nom & Prénom de l'interviewer	abc 2. Information sur le client	abc 3. Nom & Prénom du potentiel client
–	Feb 22, 2024...	Feb 22, 2024...	Sahiboul	• PMEs	Ghissa Abdo
–	Feb 22, 2024...	Feb 22, 2024...	MOUSSA SAL...	• PMEs	AGRICULTEUR BALA ISMAGH
–	Feb 22, 2024...	Feb 22, 2024...	moussa salaou...	• Autre	agriculteur MOHAMED H.
–	Feb 22, 2024...	Feb 22, 2024...	SAHIBOUL	• Autre	AGRICULTEUR LIMAN ZARKE
–	Feb 22, 2024...	Feb 22, 2024...	ALHOUSSEINI...	• PMEs	VENDEUR DE... YAHYA OUSS.
–	Feb 22, 2024...	Feb 22, 2024...	ALHOUSSEINI...	• PMEs	BOUTIQUE ABADDO MA...
–	Feb 22, 2024...	Feb 22, 2024...	ALHOUSSEINI...	• PMEs	BUREAU ENV... DJIBRIL IBRAH
–	Feb 22, 2024...	Feb 22, 2024...	ALHOUSSEINI...	• PMEs	PETIT RESTA... OUMAROU S.
–	Feb 22, 2024...	Feb 22, 2024...	ALHOUSSEINI...	• PMEs	BOUTIQUE V... AMOUMOUNE
–	Feb 22, 2024...	Feb 22, 2024...	ALHOUSSEINI...	• PMEs	BOUCHER AMAN OUSM.
–	Feb 22, 2024...	Feb 22, 2024...	ALHOUSSEINI...	• PMEs	BOULANGERIE... OUIHA AL MPO

Figure of Kobo survey

- Focus Group Discussions: With farmers, traders, and community leaders to gather insights on energy needs for irrigation, cooling, and lighting.
- Direct Interviews: With local authorities, including the village chief and the municipal council, to ensure support for the project and obtain permissions.

Survey Process

Two missions were carried out; one in February (focused on engaging the stakeholders) and in April 2024 (focused on technical feasibility). During these missions:

- A customer survey targeted 51 potential customers from a previous feasibility study, along with 93 new potential customers identified during field visits.
- Training sessions were conducted for local data collection assistants to administer the survey using Kobo Toolbox.
- Site visits were made to identify appropriate locations for the solar power plant, solar pumps, and public lighting.

3. Stakeholder Analysis and Community Engagement

As mentioned in Session 2, AGT Niger already have contacts in Dabaga through an existing project in the village, however, through the RePower project, it required re-establishing contact with key

village actors, local authorities, and potential customers. During the trip, a number of stakeholders were identified that will play a significant role in the project.

At the national level, engagement efforts focused on coordinating with the Ministry of Energy and ANPER. These agencies are instrumental in aligning project objectives with the national electrification master plan. From the visit, the stakeholders have expressed the strong need for the electrification, cooling, irrigation solutions as these are important to address the challenges they face on an everyday basis. Currently, some of the people do not have access to electricity and for those that have access are dependent on the diesel generators. Below are the photos of some of the stakeholders met by the team:





Photos: On field activities, training for data collector, meeting at the town hall with the Secretary General, Meeting with Chief of Village and other local authorities, surveys.

From the findings, it has been noted that there is a different level of influence in the village that will also be important in the project. This level of influence can be noted from high to low as below:

- **High Influence/High Interest:**
 - Local government:
 - Traditional leaders:
 - Africa GreenTec Niger, as they have already had connections in the village and the country through previous projects.
- **High Influence/Low Interest:**
 - Regional government
 - National government authorities.
- **Low Influence/High Interest:**
 - Local market store owners
 - Farmers
 - Women's groups.

a) Community engagement outcome

The stakeholder and community engagement in Dabaga started with a planned meeting by one of the AGTN team members at the Dabaga market. The village chief, who was already aware of the mission, invited the project team for a formal discussion. Farmers and municipal representatives were also present. After introductions, the project team explained the RePower project and its goals using supporting documents. A detailed discussion followed, with a Q&A session to clarify how the community would contribute to the project.

During the meeting, the village chief highlighted several key points on behalf of the community: the need to provide electricity to all the market shops, involve the local community in the project, and pay the local agents working on it. He also named Mr. Ehadj SIDI as the community's contact person for the project. The chief emphasized the need for solar pumps with a 160 HP engine to improve farmers' irrigation, citing issues with less powerful pumps from past projects. He also requested cold storage for fertilizers and harvests and asked for instalment payment options for farmers purchasing solar pumps.

On Sunday, February 18th, a training session was held to teach data collection assistants how to use the questionnaire. The following day, another meeting took place at the town hall with the Secretary General, local representatives, and the project team. The project's goals were restated, and the Secretary General expressed gratitude for choosing Dabaga for the project, giving permission to begin the community survey.

From February 19th to 22nd, the team visited shops and farms to conduct the survey using paper questionnaires and the Kobo Toolbox platform. After running out of questionnaires, more were printed to continue the survey. By the last day, all data were entered into the Kobo Toolbox platform for analysis, and the mission was completed on February 23rd, 2024.

b) Outcomes of stakeholder engagement

i) Stakeholder perspectives and concerns

Engagement with the local stakeholders in Dabaga was extremely positive and many local people showed interest in the RePower project. They have expressed the need for electrification at the market, as this is the backbone for Dabaga to flourish. The market will not only sell the products, but it will be the hub for job creation, for increasing the income generation so that the owners could support their families, and also contribute to the local economic growth.

Various key stakeholders from the village chief to the SME owners were actively involved in the discussions and provided recommendations for a smooth implementation for the project. The chief of Dabaga, who acted as the facilitator and spoke on behalf of the store owners and the community, he stated that the RePower project should:

- Ensure, if possible, that all the shops in the market are electrified,
- Engaged the local community in the implementation of the Project and pay agents working in the field,
- Designates **Mr. Ehadj SIDI** as focal point at the community level and at the market level during the implementation of the project,
- Pleads for the provision of effective equipment talking about solar pumps in order to satisfy the real needs of the target. He also insisted that the solar pumps needed are those with an engine of **160** power, which will allow farmers to better irrigate their fields. He highlighted the example of a previous project which provided solar pumps with an engine of **120** power, and which did not provide successful results that they needed,
- Expresses a pressing need for a cold room to allow the population to store fertilizers if possible and harvests after the season,
- Asks to allow farmers to pay in installments, especially for solar pumps.

c) Challenges and lessons learned

- **Limited Accessibility:** Some market traders and shop owners were unavailable during the survey period, leading to not including their feedback and concerns.
- **Technical Mismatches:** Previous projects had provided inadequate solar pump capacity (120 instead of 160), leading to concerns about the efficiency of future installations.

4. Overall Feasibility Study Results

1) Findings from the site

From the data collection survey, all clients can be classified at level 0 or T1 of energy consumption. They either currently have no electrical charge or they have a few bulbs powered by individual solar kits. It should be noted that there is a customer who already has a fridge powered by a solar kit. He sells ice cream and cold drinks.

Potential customers were asked what they would like to install once the energy is available. 31 customers want to install one or two fridges. Following the answers given by customers about their future installations when energy will be available, we have deduced the following table:

Table 3 of type of customers to be electrified at Dabaga market

Type of customers	Number	Tariff
Shops	26	T4
Shops	10	T3
Garage	3	T4
Phone charging	3	T4
Welding shop	4	T4
Gas station	1	T3
Money tranfert	2	T3
Video Game	1	T3
Restaurant	1	T4
Restaurant	2	T3
Total	53	

This survey shows that for the market, there is a large use of refrigerators and freezers to produce ice and cold for the sale of fresh beverages. Hence the need to increase the capacity of the storage batteries from 58 to double to 116 KWh, in order to be able to meet the need.

a) Technical feasibility

Part of the visit was to discuss with the community chiefs and the locals on where to install the systems, and also to figure out if the site is feasible to install the Solartainer.

The team together with the locals selected a site that is located along the Dabaga-Agadez road. It straddles the village of Tacha and Babaré. It is a flat lateritic terrain limited by rocks.

NB: The site is the private property of **Mr. MOUNTA** (Municipal Councilor, Sarkin Kassoua) who agrees to rent it to AGTN.

Departme nt	Communi ty	Locali ty	Site	Coordinates	
	Dabaga			Latitude	Longitude

Tchirozerine		Dabaga	Site for installation of the power plant	17.2948	8.12864
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Solartainer installation Coordinates

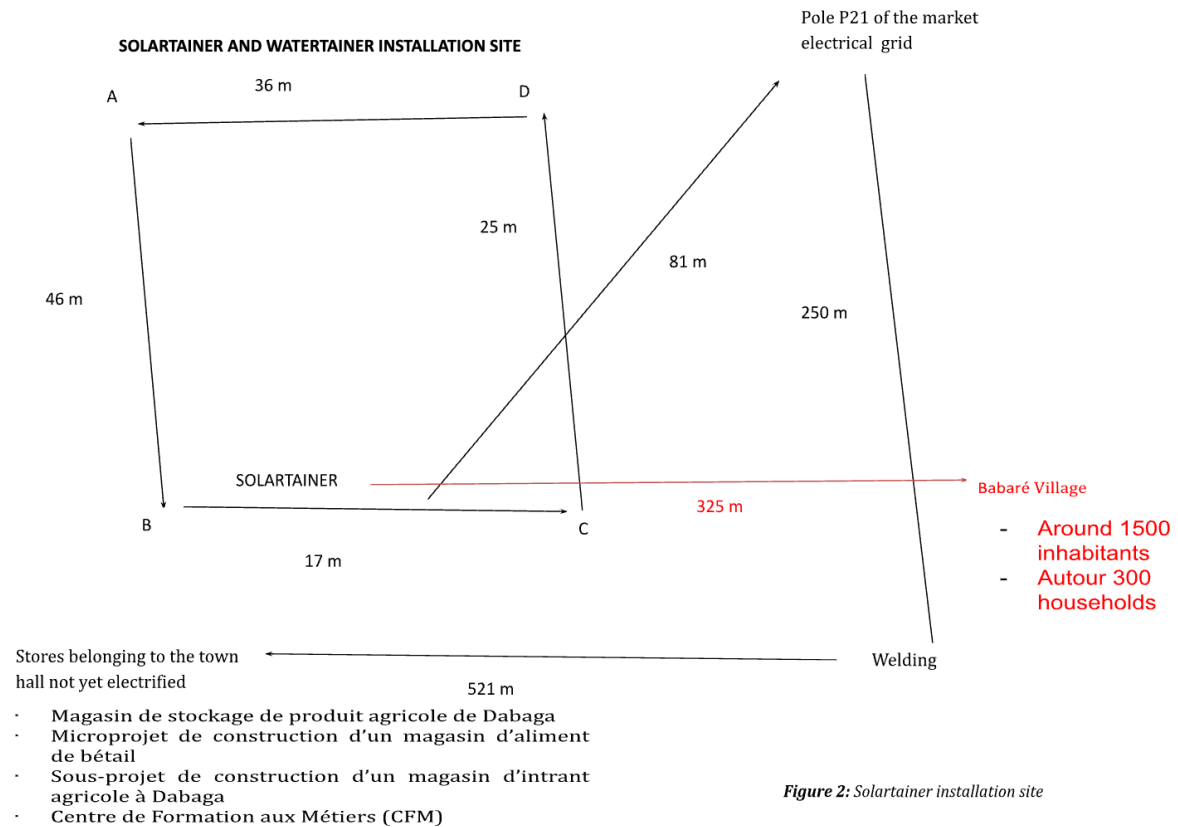


Figure 2: Location of where the Solartainer will be installed

Streetlights

The technical director proposed for the RePower project in Niger to install solar streetlights will be installed on the 21 electric poles throughout the market and others at the Gendarmerie post of Dabaga.

Cooltainer

After several visits and exchanges with the stakeholders in the village, it emerged that there is no conservation of market garden products in Dabaga. Indeed, the farmers harvest and load the trucks directly from their fields to bring for sale to the market in Agadez. However, once on the market in Agadez, in the event of poor sales, farmers lose part of their produce or sell it off at a low price. Since they have farmers' organizations, a Cooltainer could be rented out to farmers' organizations on behalf of the gardeners of Dabaga on the market of Agadez. This way, market gardeners can keep their produce in the Cooltainer and bring it back on the next day of the market.

Water system

As a result of the survey, the only source of water available in the marketplace is well water that is drawn from a garden and sold to traders. So, the need for water is high on the market. Since this well belongs to a gardener who can refuse the distribution of water at any time, AGT N team discussed and proposed with the town hall to draw water from an existing borehole and then build 2 to 3 water stations to which the water treatment system will be installed. This borehole is built by a partner and handed over to the Dabaga City Council. Our water treatment system still very relevant because the water from the borehole is salty, so people don't consume enough of it.

b) Environmental and social impact

Regarding the environmental study, an official letter, along with the project's executive summary, was submitted to the Ministry of the Environment. In response, the Ministry reviewed the document and, based on the information provided, classified the RePower project as Category C. This classification is in accordance with the annex to Decree No. 2019-027 of January 11, 2019, which outlines the application terms of Law No. 2018-28 of May 14, 2018, defining the fundamental principles of Environmental Assessment in Niger. As a result, the project is subject to basic environmental and social requirements. The Ministry of the Environment has granted Africa GreenTec Niger permission to proceed with the project, provided all relevant laws and regulations are adhered to. However, they noted that any future expansion or modification of the project could potentially alter its classification.

Annex: Correspondence with the Ministry of the Environment.

5. Conclusions and Recommendations

The stakeholder analysis and engagement efforts in Dabaga have laid a solid foundation for the RePower project. Training and capacity-building initiatives are needed to onboard local technicians and community members, ensuring the sustainability of the project. Site visits and feasibility studies confirmed the technical, economic, and social viability of deploying the Solartainer, Cooltainer, solar pumps, streetlights and water purification systems in the village.

Further national-level engagement and local capacity building will be critical to the long-term success of the project, with the potential to significantly improve the lives of people in Dabaga and set a precedent for rural electrification across Niger.

6. References

- Feasibility Study of a Rural Electrification Project in the Community of Dabaga in the Agadez Region in Niger by SAHIBOUL RADDIA I MAMANE AMADOUU, March 2024
- Dabaga Repower Technical Project prefeasibility report by Adamou Ousmane, Chayaou March 2024