SOCIAL SAFEGUARDS

FOR THE DEVELOPMENT OF ENERGY INFRASTRUCTURE FOR THE MARROON AND INDIGENOUS PEOPLE IN THE EAST OF SURINAME

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List of abbreviations and terms

Abbreviations	Meaning
ACT-S	Amazon Conservation Team Suriname.
BIC	Bestuurs Informatie Centrum (Management Information Center)
EBS	Energie Bedrijven Suriname (Energy Companies Suriname)
IDB	Inter-American Development Bank.
KPI	Key Performance Indicator.
KRI	Key Risk Indicator.
MZ	Medical mission (Medische Zending)
SIA	Social Impact Analysis.
SRA	Social Risk Analysis.
SWM	Surinaamsche Waterleiding Maatschappij (Surinamese Water infrastructure company).
Terms	**Meaning**
Bioeconomy	The bioeconomy is the knowledge-based production and use of biological resources to provide products, processes and services in all economic sectors within the frame of a sustainable economic system

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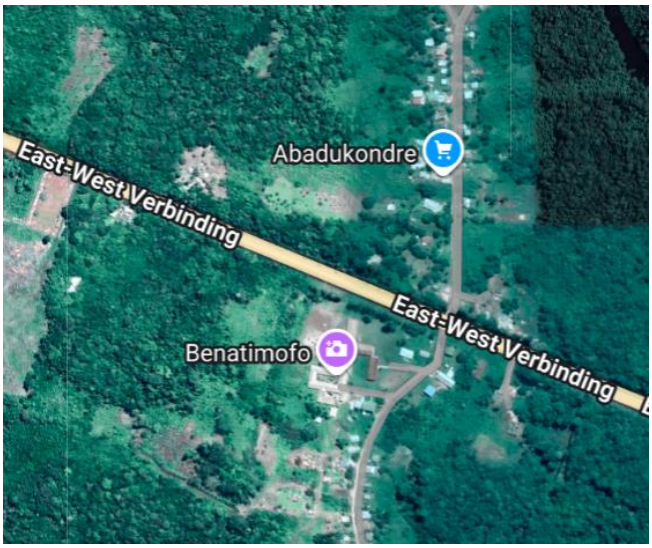
1. Introduction.

1.1 IDB's sustainable development project.

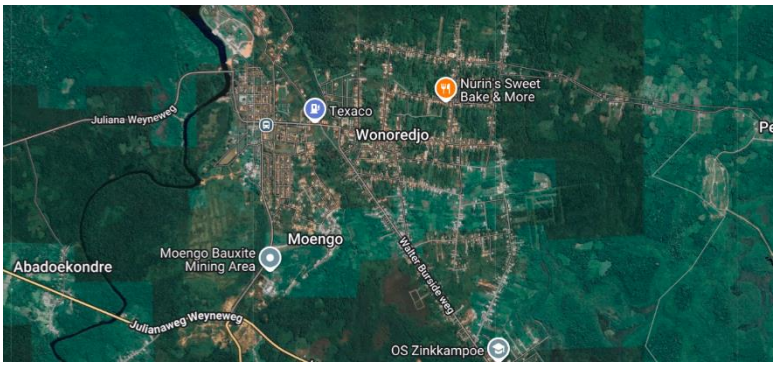
The Inter-American Development Bank (IDB) is the main source of financing for sustainable, social, economic and institutional development in Latin America and the Caribbean. In Suriname they have initiated among others an energy, water and telecommunications project for the sustainable development of Maroon and Indigenous peoples living in various villages and 2 small towns in the east of Suriname.

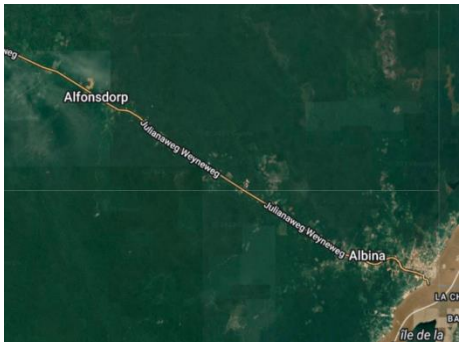
The villages of cluster I are: Wanhatti and surrounding villages: Langa Uku I and II, Lantiwee, Pikin Santi, Pinatjarimi and Tamarin.

The villages of cluster II are: Abadoekondre, Benhatti mofo, Akalekondre.



The 2 small towns in the east of Suriname are Moengo and Albina.





The project phases include:

1. Information gathering in 2020 and 2025;
2. Preparation and planning in 2025;
3. Start project in second half 2025.

This report serves as a key output deliverable in order to contribute to the information gathering process.

The N.V. EBS (National Energy Company) is part of the Ministry of Natural Resources (NH). The Ministry of NH is responsible for the energy supply in Suriname, but responsibility for this task has been assigned to the NV Energy Companies Suriname, the EBS. The EBS is the company in charge of production, transport and distribution of electricity. Due to relatively low population density and difficulty of access, some areas are not connected to the EBS grid. In these rural areas, till now, a separate department of the ministry of natural resources namely DEV provided electricity to isolated villages, with small diesel generators, during 3 to 5 hours per day.

The EBS has identified a project of which pre- feasibility and the detail feasibility has been completed to connect isolated systems to the EBS main grid and thus reducing operational cost.[1]

1.2 Research questions.

The analysis in this report answers the following research questions.

Main research question per cluster:

Cluster I. What are the social safeguards and guidelines for IDB's energy projects in the communities of, Wanhatti and surrounding villages: Lantiwee and Langa Uku I en II, Tamarin, Pinatjarimi, Pikin Santi.

Sub- research questions:

1. What are the socio-cultural and socio-demographic characterizations of the locations?
   a. What are the traditional structures?
   b. Who are the key stakeholders per location?
   c. What are the household characteristics?
   d. What are the government structures?

[1] Electrification East to West Region and Rural Electrification. Jerry Aseja

e. What are the demographics?
f. What are other socio-cultural observations?

2. What are the baseline household energy needs and environmental considerations of the Indigenous peoples and Maroons and others in each location?
3. What are the potential positive impacts of improved energy on the Maroons and Indigenous peoples' and others social best practice indicators?
   a. What are the relevant social key performance indicators (KPI's)?
   b. What are guidelines to enhance these positive impacts (enhancement policies)?
4. What are the potential social risks that can damage the long-term sustainability of improved energy and/or damage the Maroons and Indigenous peoples' natural environment?
   a. What are the relevant environmental key risk indicators (KRI's)?
   b. What are policies and action plans to mitigate the risks (safeguard policies)?
5. What are the Free Prior and Informed Consent (FPIC) considerations per location?
6. Is there local expertise and what are the capacity gaps for the energy project in each location?
7. What socio-economic activities can be potentiated with improved energy access in each location?
8. What are potential community ownership models that can lead to the sustainable maintenance of the project's investments.

1.3 Protecting the Maroon and Indigenous peoples: theory of change and creating social safeguards.

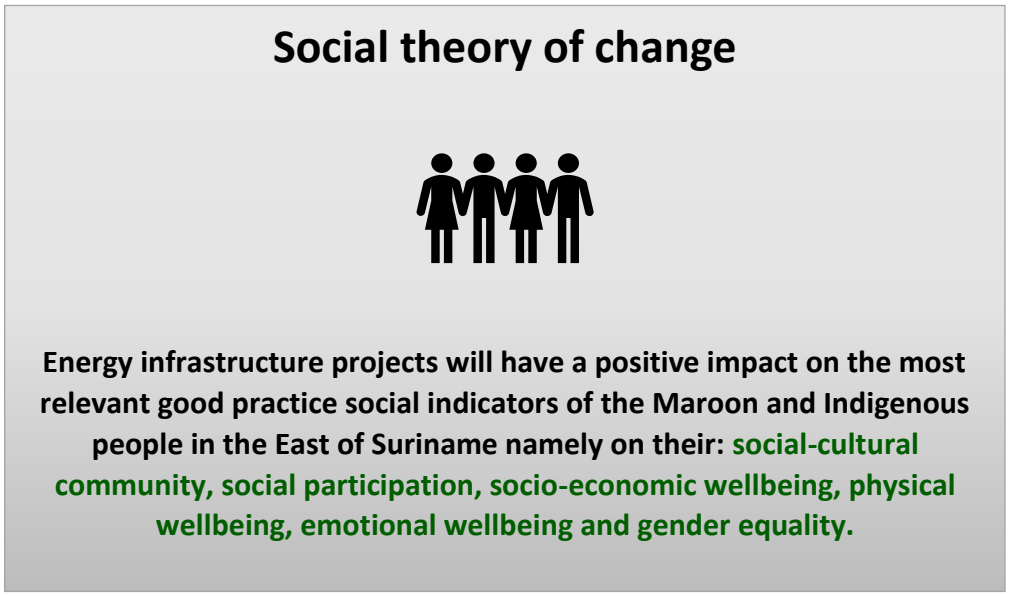


Figure 1. Social theory of change

A 'social theory of change' has to be formulated to help inform and guide policy decisions. This theory consists of a vision for the environment that can be referred back to throughout the project's phases and activities. The environmental theory of change on which the analysis of this report is based on is as follows: *"Energy infrastructure projects will have a positive impact on the most relevant good practice social indicators of the Maroon and Indigenous peoples in the East of Suriname, namely on*

their: social-cultural community, social participation, socio-economic wellbeing, physical wellbeing, emotional wellbeing and gender equality."

This report contains an Social Impact analysis (SIA) and a social risk analysis (SRA). From the ESIA, indicators for SRA were extracted to formulate relevant safeguards. Social safeguards are principles, policies, regulations or procedures designed to ensure positive social goals and outcomes. Best practice indicators and policies for Maroon and international quality of life frameworks were taken into consideration in the analysis of this report and the formulation of metrics and safeguards.[2, 3.]

Figure 2. Social safeguards.

Figure 3. Krutu villagers Wanhatti and surrounding villages

2. Legal and Institutional Framework Governing Indigenous and Tribal Peoples in Suriname

2.1 International Legal Commitments

While Suriname does not yet have a formal national policy on collective rights for Indigenous and Tribal Peoples (ITPs), it is a party to several international human rights treaties, including the *International Covenant on Civil and Political Rights* (ICCPR), the *International Covenant on Economic, Social and Cultural Rights* (ICESCR), the *Convention on the Rights of the Child* (CRC), the *Convention on the Elimination of All Forms of Discrimination against Women* (CEDAW), and the *International Convention on the Elimination of All Forms of Racial Discrimination* (CERD). Furthermore, Suriname voted in favor of the *United Nations Declaration on the Rights of Indigenous Peoples* (UNDRIP) in 2007, thereby endorsing its principles (United Nations, 2007). However, Suriname has not ratified the International Labour Organization's *Convention No. 169* on Indigenous and Tribal Peoples, making it one of the few countries in South America not to have done so (ILO, 1989).

2.2 National Legal Landscape and Structural Gaps

The domestic legal system in Suriname, which is still largely based on colonial legislation, fails to recognize Indigenous and Tribal Peoples as distinct legal entities. No statutory framework currently exists that governs Indigenous land tenure or collective rights. This legal absence has far-reaching implications, especially considering the increasing extraction of natural resources—such as gold, oil, forests, and water—in or near traditional ITP territories (Forest Peoples Programme, 2020; BIO-SWEET Consultancy Report, 2024).

2.3 Draft Legislation on Collective Rights

To address these gaps, a *Draft Framework Law on the Collective Rights of Indigenous and Tribal Peoples* was submitted to the National Assembly in 2021. This legislative initiative aims to bring Suriname's legal framework in line with international human rights standards by establishing the foundational principles for protecting the collective rights of ITPs. The proposed law is designed to be complemented by sector-specific laws and to ensure legal certainty for all citizens.

A central challenge addressed in the draft law is the integration of traditional legal customs into a formal legal structure. Customary rights—deeply rooted in oral traditions and cultural practices—require interpretation based on Indigenous understandings rather than Western legal constructs. This makes the codification process complex and necessitates active community engagement to define the nature and scope of such rights (Ministry of Regional Development, 2021).

At the time of writing, the second parliamentary round of debates is pending. Amendments are being prepared by coalition members, and the law is expected to pass by May 2025. Priority legislative areas identified for development upon passage include:

- Legal procedures for Free, Prior, and Informed Consent (FPIC),
- Integration of traditional governance systems into decentralized public administration,
- Establishment of a conflict-resolution mechanism,
- Legal demarcation of Indigenous and Tribal lands.

Ten additional sectoral laws are also expected to be developed or amended to ensure coherence across government policies.

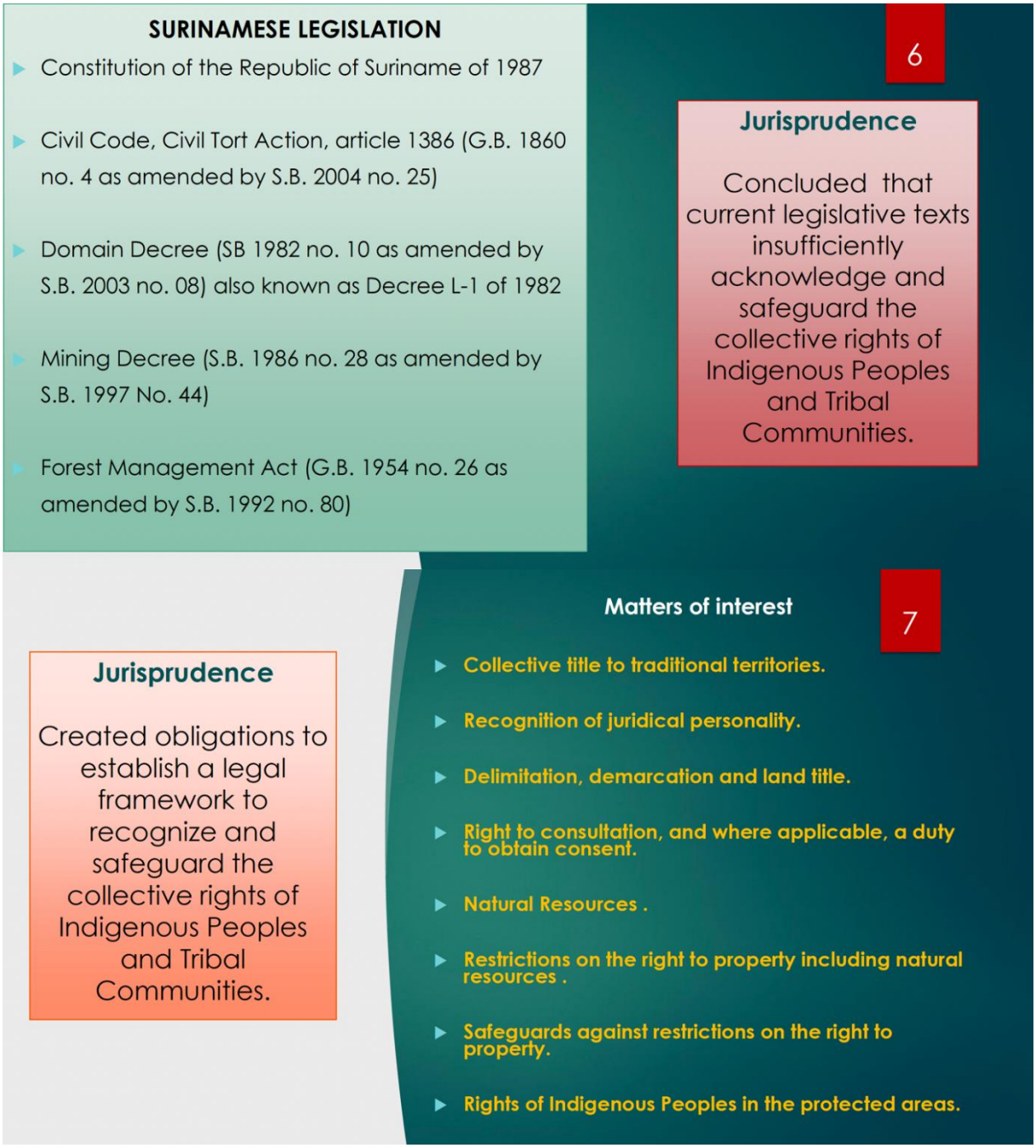


Figure 4: Acts to be designed and or developed

2.4 Current Situation: Policy-Practice Gaps and Challenges

Despite Suriname's formal commitments under international law, the practical implementation of Indigenous rights remains limited. This has been highlighted by multiple recent assessments, including the environmental and social documentation prepared for the BIO-SWEET rural electrification project, which is being implemented in the Sipaliwini district with support from multilateral partners (BIO-SWEET Consultancy Report, 2024).

Key issues are summarized below, aligned with the *Environmental and Social Performance Standard (ESPS) 7* of the Inter-American Development Bank (IDB, 2020):

- **Governance and Participation**: Traditional leadership structures of ITPs are not systematically integrated into local or national governance. Consequently, communities are often unaware of concession-granting processes and policy developments that directly affect their territories.

- **Cultural Heritage and Territorial Rights**: The absence of legally recognized land rights jeopardizes the survival of cultural heritage. Indigenous identity is closely linked to their ancestral lands, including sacred sites, traditional knowledge, language, and natural resource use. These are under threat in the absence of official recognition and protection (BIO-SWEET Consultancy Report, 2024).

- **Education**: Access to quality education in rural Indigenous areas is limited. While primary education is somewhat available, it is often inadequate, and opportunities for secondary or vocational training are scarce.

- **Healthcare**: Although health posts are present across the interior regions, most villages do not have permanent physicians, who are only based in larger towns. This restricts timely access to medical services for many Indigenous communities.

- **Benefit Sharing from Economic Activities**: While models for benefit sharing do exist—particularly in sectors such as logging, mining, and tourism—these arrangements are often limited to paper and are not operationalized equitably. Instances of elite capture and mismanagement have also been reported (BIO-SWEET Consultancy Report, 2024).

- **Environmental Degradation**: Extractive activities such as mining and logging continue to have detrimental effects on Indigenous territories. Communities are often not compensated adequately, and rehabilitation or restoration programs are either lacking or insufficient.

3. Method

In order to answer social and environmental research questions and formulate safeguards, the following action steps have been followed:

3.1. Data gathering via krutus.

Krutus, or community gatherings, are the traditional engagement method for the Maroons and Indigenous peoples in the East of Suriname. Data was gathered via krutu sessions per cluster of villages with written informed consent. The social and environmental fieldwork was done simultaneously in one krutu session. Semi-structured interview questions, also called 'qualitative' interviews or 'in-depth' interviews were performed to open dialogue about environmental and social issues regarding the project (table 1).

The questions were pre-structured to cover diverse best practice social and environmental indicators. Open-ended, yes/no and 5 point likert-scale statement questions (strongly agree/ agree/ neutral/ disagree/ strongly disagree) were used to determine social and environmental metrics of the Maroon at that moment in time. The raw data of the interview results is summarized in Appendix 1. Written informed consent forms during krutu sessions are included in Appendix 2. In the consent forms it is stated in Dutch that the data gathered via the survey, photos or audio recordings, can be used for internal use or publication to third parties, namely IDB. The Maroons main language is Aucaans and Srenan so there was no need for a translator to perform the interviews. An overview of the sample sizes is given in table 2.

Table 1. Semi-structured interview questions.

Semi-structured interview questions.
1. Social factor: baseline village info
1a. How many people live in your village? 1b. How many households live in your village? 1c. How many houses? 1d. How many males live in this village/ How many females/ How many children?
2. baseline energy, water and telecom usage
2a. What energy systems does your village currently have? 2b. Does the village have a generator? 2c. If yes, do you use an electric cooking stove? 2d. Do you use diesel motors for fuel generation? 2e. How much do you need? 2f. And what do you need it for? 2g. Where do you get the oil from and who pays for it? 2h. Do you use kerosene fuel for light lamps or power? 2i. Inside your house or outside your house? 2j. Do you use candles or have battery powered lights ? How many? 2k. Do you need light at night and what do you use? 2l. Where do you fetch your current drinking water? 2m. Are you able to save drinking water? 2n. What is the source of your current bath water? 2o. Where do you bathe?

2p. What alternative water sources do you have?
2q. What is the current telecom operation system in the village
2r. Do you have phone reception here?
2s. Who is responsible for maintaining it? (write down names).
2t. Do you have radio reception in the village?
2u.Do you own mobile phones?
2v.Do you have internet connection?
2w.Have you been 'on' the internet/ do you know what the internet is?
2x.Wired internet or via a phone?

3. Demand assessment

3a. Do you feel you need electricity in your village?
Yes, we need it.
We don't need it, but we want it.
No, we don't want it or need it.
3b. Do you feel you need radio in your village?
Yes, we need it.
We don't need it, but we want it.
No, we don't want it or need it.
3c. Do you feel you need telephone access in your village?
Yes, we need it.
We don't need it, but we want it.
No, we don't want it or need it.
3d.Do you feel you need telephone access in your village?
Yes, we need it.
We don't need it, but we want it.
No, we don't want it or need it.

3d. Is light at night important to you?
Yes, very important. No not so important. Unimportant. Very unimportant.

4. Physical wellbeing: health and nutrition status, food security and agricultural production

4a. How do you currently keep food conserved?
4b. How do you feel about storing food and drinks in a fridge?
4c. Comment on the following:
If there were electricity, I would a fridge to store food.
Strongly agree/ agree/ neutral/ disagree/ strongly disagree
4d. I will only store my fruits and crops in the fridge
Strongly agree/ agree/ neutral/ disagree/ strongly
disagree.
4e. I will store hunted game in the fridge/freezer.
Strongly agree/ agree/ neutral/ disagree/ strongly disagree.
4f. Comment on the following:
I would love a fridge.
I am not fond of the idea.
Why/ elaborate.
4g. If you had a fridge or freezer, would you want to save more food as a reserve for the village?
Water:
4h. Has your current drinking water caused illnesses? What kinds?
4i.Have people ever gotten seriously sick from contaminated water?
4j. Optional: Is diarrhea or pneumonia something villagers often deal with?]

4k.What water source do you use for your agricultural plots?
4l. Do you think that a clean water system will help increase your agricultural crop production? why?
4m. Do you have enough crops in the dry season?
Telecom:
4n. How do you currently reach Medical aid if there is a medical emergency in your village?

5. Physical wellbeing: leisure/devide dependancy

5a. Would you like a tv for entertainment
Absolutely yes/Yes/Neutral/No/Definitely not.
5b. Would you like radio for entertainment?
Absolutely yes/Yes/Neutral/No/Definitely not.
5c. comment on the following:
No I do not want a tv or radio, otherwise nobody would want to work.
Strongly agree/ agree/ neutral/ disagree/ strongly disagree.
5d. If you had a fridge, would you enjoy drinking cold beverages like coca cola?

6. Emotional wellbeing: safety, security, contentment, lack of stress.

6a. Will having more light in the village at night make you feel safer?
Why?
6b.Could you see snakes or other wild animals better with light at night?
6c. I feel that personal phone access would make me feel safer.
Ask the men: Absolutely yes/Yes/Neutral/No/Definitely not.
Ask the women: Absolutely yes/Yes/Neutral/No/Definitely not.
6d.Listening to the radio would ease my daily stressors in life.
yes/Yes/Neutral/No/Definitely not.
Elaborate/ What would you want to listen to on the radio?

7. Material wellbeing: housing, possessions (impact socio-economic differences and preferences)
Independence: personal value.

7a.Would you eventually like electricity access right to your house.
Or would central community lighting be enough for you. Why?
7b.How many of you own a cellphone or would love to own a cellphone?
7c.How many of you own a radio of would love to own a radio?
7d. How many of you have no interest in owning a radio?
7e. How many of you have ever personally used a computer?
7f. How many of you would love to learn how to use a computer?
7g. How many of you have completely no interest in learning how to use a computer?

8. Socio-economic: existing businesses that could cover the operational and maintenance costs

Once installed, the operational and maintenance costs of this project, can be expensive.
8a. With what businesses could you pay for it?
8b.Would you want to pay for it together as a community?
8c.Or would you rather only those that want to use energy, water or telecom pay for it?
Comment on these statements:
8d.We'd rather be dependent on outside funding.
Strongly agree/ agree/ neutral/ disagree/ strongly disagree.
8e.I do not want outside funding because we can't trust that they always have enough money for us.
Strongly agree/ agree/ neutral/ disagree/ strongly disagree.
8f. We want to pay for the maintenance costs ourselves.
Strongly agree/ agree/ neutral/ disagree/ strongly disagree.

8g. We want to learn how the installations work. Strongly agree/ agree/ neutral/ disagree/ strongly disagree. 8h. Have you ever been promised funding for water or electricity before? By whom or what organization/political party?
9. Socio-economic: creation of sustainable business opportunity
9a. Do you see tourism as a business opportunity for your village? 9b. If yes, do you think more energy, water and telecom access would allow more tourists to visit your village?
10. Innovation or elevation of business opportunity/ use of new tools
10a. Would you work longer hours if you had (electric) light at night?
11. Social participation: social networks (feeling supported)
11a. Do you feel excited about the potential of energy? 11b. Do you feel excited about telecom opportunities? Radio/ phone/ internet? 11c. Would you feel more supported if this project came to your village?
12. Social participation: rights (human rights and legal rights/access, justice).
12a. Would you feel like you have equal rights as people in the city if you have access to water energy and telecom? To help frame for them: Comment on the following statements: 12b. I want equal rights to people in the city. Strongly agree/ agree/ neutral/ disagree/ strongly disagree. 12c. I think having energy, telecom or water systems would give me equal rights. Strongly agree/ agree/ neutral/ disagree/ strongly disagree. Elaborate
13. Independence: personal development (educational status, access to quality education)
13a.Will energy create extended study hours? /Would your kids be able to study more/longer with access to light? 13b. Do you think more elementary school teachers would come to the village if you had energy, water and telecom?
14.Independence, self-determination (choices, autonomy)
14a.Decision making process: How would you decide as a village if this project is feasible?
14b.Would you vote to see if all villagers agree with the terms? 14c.What would the role of the captain be in this process?
15. Socio-cultural community: highlighting traditional knowledge. Socio-economic.
15a. Would you like to share your knowledge of traditional medicine with outsiders? 15b.Do you see selling medicinal products as business opportunity?
16.Socio-cultural community: maintaining a traditional way of living

16a. Do you think the energy, water and telecom projects would make you become a different person?
16b. Would you rather live as you live right now?
Strongly agree/ agree/ neutral/ disagree/ strongly disagree.
16c. Would you want call family members in the city?
Strongly agree/ agree/ neutral/ disagree/ strongly disagree.
16d. I wouldn't want my children to watch tv, I'd rather they play outside.
Strongly agree/ agree/ neutral/ disagree/ strongly disagree.

17. Socio-cultural: promoting gender equality/ consideration of traditional gender roles. Culture shifts: gender behaviour. Traditional use of land./women empowerment.

17a. Do you think men would hunt more, or less, if you had a fridge to save food in?
17b. Women: would you keep cooking with fire or would you want an electric stove to cook quicker? What would you do with your freed up time?

18. Socio-cultural/environmental territories: access to indigenous spiritual or other important sites.

18a. Are there areas in your village where you don't want outsiders to come and build things or walk through? For what reason:
Spiritual
Personal property
Other.
18b. Can you mark these on a map for us?

19. Environmental: land (climate change, natural disasters).

19a. Can you mark for us on a map where you experience a lot of flooding during rain seasons.

20. Environmental: land (wildlife protection and ecosystem shifts).

20a. Where are your hunting grounds
20b. Where are your fishing ground
20c. Are there park rangers in your village?
Rangers help with forest monitoring and management.
20d. Are there more people interested to become a park ranger to help protect and monitor your lands and the animals during project building activities?

21. Environmental: land (flora and fauna and water protection/deforestation.)

21a. Are you okay with possible deforestation to build the solar, water and telecom systems?
Strongly agree/ agree/ neutral/ disagree/ strongly disagree.

22. Environmental: Land (discarding of waste/ waste management system/pollution, recycling)

22a. Where do you discard of fuel carriers?
22b. Are the fuel carriers brought back to the city.

22c. Where do you discard of empty batteries or old motors?

23. Environmental: Territories and Resources (use of local materials/ repurposing.)

23a. If you used less wood to cook your food and water for, because of electric appliances. Would you use wood for other purposes? Like what?
23b. Would you help find materials to help build project objectives

24. Environmental: potential for allowing research of land and biodiversity systems during project activities as an environmental safeguard.

24a. Villagers: would you be willing to let scientific researchers assess whether the animals and land will be disturbed during the project building?
(wildlife and biodiversity research by universities through funding? As an environmental safeguard).

25. Socio-economic/ social participation/ social inclusion/ capacity gap analysis/ independence/ self-determination/ ownership models.

25a. Would any of the villagers like to work on the solar/ water or telecom energy project?
Write down names.
25b. Would you like to up keep (operation and maintenance) all these new projects yourself?
25c. Would you rather outside people get paid to do the building work? Or woud you like to help?
25d. Would you rather outside people get paid for general operation and maintenance?
25e. Would you accommodate those people in your village?
25f. Would you like to be educated on how to maintain the solar panel, water networks and telecom in your village by yourselves?

26. Grievance mechanism, environmental examples.
Aspect: land, indicators: air quality and noise.

With the building activities, there might be some noise and dust production.
26a. Would you be okay with this?
26b.Where would you not be okay with this? School for example? Other places? Mark for us on a map.
26c. If you still experience grievance from this in other places, they would like you to tell them. Who would you want to go to?

27. Grievance mechanism, social examples.
Aspect: social conflicts, indicators: social inclusion.

27a.What if you do decide to continue with this project: if outsiders come to help with project building, and you get conflicts with them.
Who would you tell about this? Or would you keep it to yourself?

28. Concluding statements.

Comment on the following statement
Strongly agree/ agree/ neutral/ disagree/ strongly disagree.
28a. I am content with the way things are. I don't need energy or telecom
Strongly agree/ agree/ neutral/ disagree/ strongly disagree.
28b. I am looking forward to the project
Strongly agree/ agree/ neutral/ disagree/ strongly disagree.
28c. I am worried about finances for this project.
Strongly agree/ agree/ neutral/ disagree/ strongly disagree.
28d. I am worried about deforestation in this project
Strongly agree/ agree/ neutral/ disagree/ strongly disagree.
28e. I am worried that it won't fit our way of life
Strongly agree/ agree/ neutral/ disagree/ strongly disagree.
28f. I am worried about the game/animals that will go away with too much noise.
Strongly agree/ agree/ neutral/ disagree/ strongly disagree.
28h. I trust that this project will be good for my village.
Strongly agree/ agree/ neutral/ disagree/ strongly disagree.

Table 2. Sample sizes: the number of krutu participants.

Village	Men	Women	Total	Total Population of the village	Total population interviewed
Amaloko kondre	4	2	6	19	33%
Langa oekoe I	7	2	9	32	25%
Langa oekoe 2	2	1	3	12	25%
Lantiwee	1	0	1	60	0,5%
Pikin Santi	1	0	1	60	0,5%
Pinatjarimi	2	1	3	15	20%
Tamarin	1	0	1	21	5%
Wanhatti	22	23	45	450	10%
Totaal	40	29	69	669	10 %

3.2. Data analysis.

KPI's are metrics used to evaluate whether the environmental theory of change can be met by IDB's energy infrastructure project on tribal Maroon land in the East of Suriname. Figure 3 shows the Key Performance Indicators (KPI's) that were extracted from interview results of identical communities.

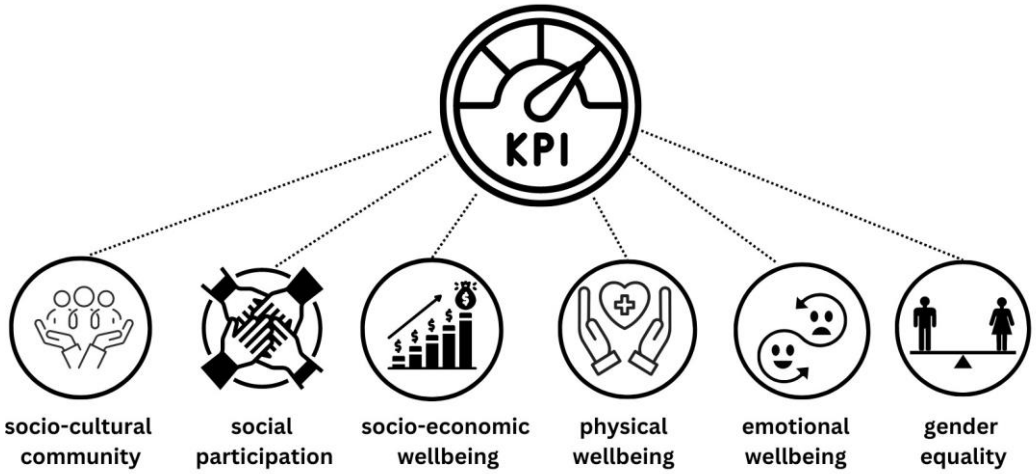


Figure 5. KPI's for the development of energy infrastructure on tribal Maroon land in the East of Suriname.

In order to rate the KPI, a 3-level positive impact analysis was done to see what potential positive impacts could occur (high, medium or low potential positive impact, see table 3).

Table 3. Potential positive impact rating.

Potential positive Impact rating	Description	Proceed with:
High potential positive impact.	Certain to benefit the social group and/or solves a major issue they are dealing with.	Guidelines to enhance or optimize this potential positive impact or opportunity should be formulated.
Medium potential positive impact.	May benefit the social group and/or may solve minor issues they are dealing with.	Guidelines to enhance or optimize this potential positive impact or opportunity should be formulated.
Low potential positive impact.	Can benefit the social group, but may not solve any issues they are dealing with.	Guidelines to enhance or optimize this potential positive impact or opportunity should be formulated.

From the KPI's, Key Risk Indicators (KRI's) were extrapolated (figure 4). KRI's are metrics that can evaluate potential risks that could negatively impact the environmental theory of change for IDB's energy infrastructure projects on tribal Maroon land in the East of Suriname.

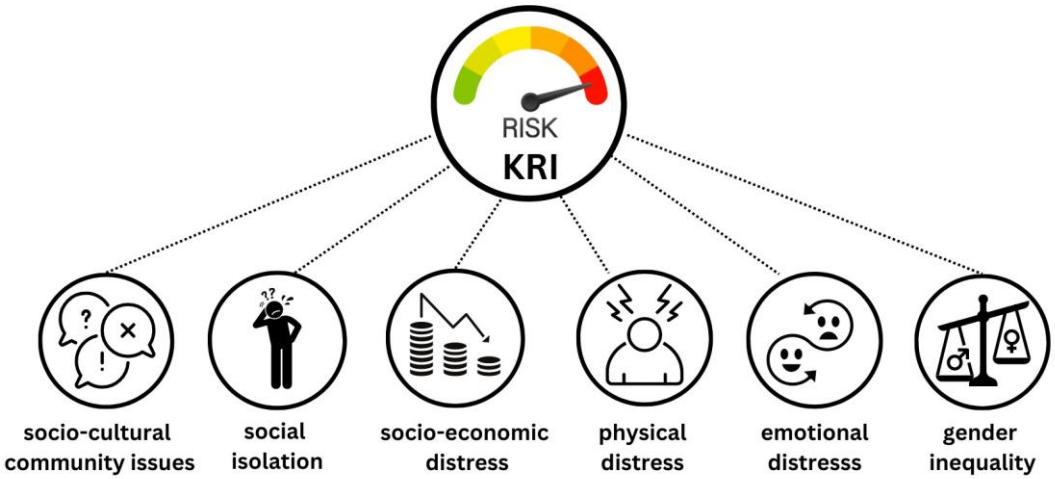


Figure 6. KRI's for the development of energy infrastructure on tribal Maroon land in the East of Suriname.

A risk analysis was carried for these KRI's by:

- Rating the potential negative impact (table 4).
- Rating the likelihood of this negative impact; likelihood is the level of probability that a risk will occur (table 5).
- Evaluating the risk with a risk matrix (risk= potential negative impact x likelihood) (table 6). The potential risks is defined by 4 categories: low risk, moderate risk, substantial risk and high risk. The risk per category is described in table 7, with subsequent plan of actions.

Table 4. Potential negative impact rating.

Potential negative Impact rating	Description	Proceed with:
Very high negative impact	Irreparable damage to social functions, processes or cultural items.	Risk analysis
High negative impact	Significant damage to social functions, processes or cultural items.	Risk analysis.
Medium negative impact	Considerable damage to social functions, processes or cultural items.	Risk analysis.
Low negative impact	No or insignificant damage to social functions, processes or cultural items.	Risk analysis.

Table 5. Likelihood rating.

Likelihood	Description
Very likely	Certain to occur
Likely	Can occur

Possible	May occur
Unlikely	Almost never occur

Table 6. Risk matrix.

Likelihood- very likely	**Moderate**	**Substantial**	**High**	**High**
Likely	**Low**	**Moderate**	**Substantial**	**High**
Possible	**Low**	**Moderate**	**Moderate**	**Substantial**
Unlikely	**Low**	**Low**	**Low**	**Moderate**
Negative impact	**Low**	**Medium**	**High**	**Very High**

Table 7. Social risk rating and action plan.

Risk rating	Description	Actions
High	Energy infrastructure activities may cause irreparable direct or indirect damage to tribal Maroons' socio-cultural community, social participation, socio-economic wellbeing, physical wellbeing, emotional wellbeing or gender equality.	Risk mitigation: The risk can be avoided, reduced to as low as reasonably practical (ALARP), or transferred. The risk is not acceptable. Safeguards should be formulated.
Substantial	Energy infrastructure activities may cause significant direct or indirect damage to tribal Maroons' socio-cultural community, social participation, socio-economic wellbeing, physical wellbeing, emotional wellbeing, or gender equality.	Risk mitigation: The risk can be avoided, reduced to as low as reasonably practical (ALARP), transferred or retained. The risk may be acceptable. Safeguards should be formulated.
Moderate	Energy infrastructure activities may cause considerable direct or indirect damage to tribal Maroons' socio-cultural community, social participation, socio-economic wellbeing, physical wellbeing, emotional wellbeing or gender equality.	Risk mitigation: The risk can be avoided, reduced to as low as reasonably practical (ALARP), transferred or retained. The risk may be acceptable. Safeguards should be formulated.
Low	Energy infrastructure activities cause no or insignificant damage to tribal Maroons' socio-cultural community, social participation, socio-economic wellbeing, physical wellbeing, emotional wellbeing or gender equality.	Further risk reducing measures may not be needed. Guidelines could be formulated.

4. Results: potential positive impact analysis and risk analysis.

The following tables show the potential positive impact analysis per location.

Table 8. Positive impact analysis of Amalokokondre

Village: Amaloko kondre		
Key Performance Indicator	Potential positive impact rating	Comments
Socio-cultural community		
1.Optimizing their way of life.	High	Amaloko kondre source of electricity currently is a generator system that is used in the village from 7 PM to 11 PM, if they have fuel. What deepens their risk is that they also have no access to potable water options. Their drinking water consists of creek water, rain water. Their phone reception is not working well. With a better telecom service they would have easier access to the city or other villages for emergencies.
2.Engagement method in place.	High.	The traditional krutu method serve as the best way to engage with the villagers. Project purposes, planning and goals can be discussed during krutu's.
3.Cultural heritage and territories maintained.	High.	There are no restricted areas in the village. The women would still want to cook the traditional herbal baths with medical leaves on fire.
Social participation		
4. Easy access to the city for family.	Medium	Yes, they noted that calling or reaching family more easily is one of the reasons why they would like the project to be executed as soon as possible. They want their children to eat well. They have family members that live in the city, Paramaribo and in Moengo. They have phones but the reception is poor.
5. Feeling supported.	High	Actual fruition of this project would make them feel very supported.
6. Willing to accommodate workers to achieve project goals.	Low	Good for training possibilities because they want to learn. However, they do not want to be deceived.
7. Willing to be trained for operation and maintenance.	High	They are willing to let people come and train them. They are open to follow up training via videos/ video calls. They insisted on periodic training to help with maintaining the services.
8. Increased personal development.	high	The villagers are very eager to get training to be able to maintain the services which would help their personal development.
9. Increased sense of equal rights.	high	They would like to be up to date with the news like the rest of the world. They do not want to be "held back and live old-fashioned". They want to participate and have access to services like the rest of the country. They are eager to have access to electricity and also clean water and telecom.
10. Willing to learn new technologies.	High	They would like the younger villagers to learn about the internet. They are open to being trained online once people have shown them the basics of operation and maintenance. None of this is possible without funds for computers or electronic devices enabling internet connection.
Socio-economic wellbeing		
11. Willingness to work for operation and maintenance.	High	Men as well as women want to work for the energy project.
12. Increased business opportunity.	Medium	With support, there is potential to develop tourism.
13. Elevation of existing businesses.	High	With improved energy they have more potential to develop tourism and other businesses

14. Use of new tools.	High	The women did mention that if they had the funds, they would buy a rice-cooker. They could use this to cook food quicker in the future.
Physical wellbeing		
15. Improved medical care.	High	Better energy access such as light at night could improve their emergency health care.
16. Improved health and nutrition status.	High.	With improved energy access they could store food longer and improve on their nutrition intake.
17. Improved food security.	High.	With improved energy access they could buy freezers to save food longer. The women would buy a rice cooker for quicker food access if they had the funds.
18. Improved sense of leisure.	High.	With the ability to save food in freezers, the men would have to hunt less.
Emotional wellbeing		
19. Improved sense of safety.	Low	Light would help with spotting dangerous animals: "Yes because in the dark you can't see everything and snakes are a danger." They think that light at night will probably make this animal appear less frequently and if it appears they can spot it in time.
20. Less stress.	High	Especially for the women who can use more electrical appliances.
Gender equality		
21. More business opportunity for women.	Medium	With the right support and mindfulness of project investors and other organization, the following business opportunities could be created for women: • Direct business opportunity: The women are willing to work for operation and maintenance of the projects. If the women are actively included in gender-environment nexus during project building work and are given compensation for contributing to the waste management and recycling team of building workers or other site workers. • Indirect business opportunity: Improved energy access could potentiate the development of tourism which could lead to more business opportunity for women. They could serve as tour guides, cooks, cleaners
22. Improved physical wellbeing for women.	High	The women can use electrical appliances to do part of the daily work.
23.Men having more time for family or household activities.	Low	The men would have increased sense of leisure.

Table 9. Positive impact analysis of Langa-oekoe 1.

Village: Langa-oekoe 1		
Key Performance Indicator	Potential positive impact rating	Comments
Socio-cultural community		
1. Optimizing their way of life.	High	Langa oekoe 1 has electricity with a diesel generator and a telecom network from Telesur. For water the village is still dependent on rain, creek and river water. The creek near the agricultural lands is also used as a water source. Sometimes villagers get sick from the water, especially from the river water. Not everyone cooks their water before drinking. Clean water is very important for the health of the villagers. -They are not happy with their diesel generator as they have only limited light and sometimes no light at all if there is no diesel delivered.
2. Engagement method in place.	High.	The traditional krutu method serve as the best way to engage with the villagers. Project purposes, planning and goals can be discussed during krutu's.

3. Cultural heritage and -territories maintained.	High.	-The cultural heritage the "Fraga Tiki', is in the middle of the village, in plain sight, so they are not worried. -"We will always keep boiling our medical leaves with fire", krutu participants.
Social participation		
4. Easy access to the city for family.	Medium	They already have phones and easy access to family but the reception is poor.
5. Feeling supported.	High	-They strongly agree that they would feel supported. Because they would have the same possibilities as the people in the city. -Politicians promised electricity 24/7 but it never happened so they do not trust the government and want to see first.
6. Willing to accommodate workers to achieve project goals.	Medium	They are willing, but would rather work their selves on the project.
7. Willing to be trained for operation and maintenance.	High	They want to help with building and they are willing to let people come and train them, at least the youngsters in the village.
8. Increased personal development.	High	They want to assist with building work, collecting local material in the forest and they would prefer to do all the minor maintenance themselves.
9. Increased sense of equal rights.	Medium	Electricity is a beginning. Water is also important
10. Willing to learn new technologies.	High	Villagers are open to being trained and also have the young adults learn the basics of operation and maintenance.
Socio-economic wellbeing		
11. Willingness to work for operation and maintenance.	High	Yes, they want to do minor maintenance themselves and if possible also operations.
12. Increased business opportunity.	Medium	With support, there is potential to develop tourism because historical sight (Fort Boekoe).
13. Elevation of existing businesses.	Medium	With improved energy they have more potential to develop tourism
14. Use of new tools.	High	They will buy household appliances, so the household tasks become easier and time saving.
Physical wellbeing		
15. Improved medical care: safety	Medium	They have light until 1 in the morning.
16. Improved health and nutrition status.	High.	With the possibility to store fresh food, fruit in the fridge and improve intake of healthy food.
17. Improved food security.	High	Possibilities to increase income, by assisting in the project and executing new business ideas
18. Improved sense of leisure.	High.	With improved energy access, the women would have more time for leisure.
Emotional wellbeing		
19. Improved sense of safety.	Low	They already have light from 18.00 to 1 at night
20. Less stress.	Medium	Less worries about safety.
Gender equality		
21. More business opportunities for women.	High	Since Langa oekoe 1 and 2 are very close in distance and in family ties they have almost the same circumstances. With the right support and mindfulness of project investors and other organization, the following business opportunities could be created for women: • Direct business opportunity: if the women are actively included in gender-environment nexus during project building work and are given compensation for contributing to the waste management and recycling team of building workers or other site workers. • Indirect business opportunity: Improved energy potentiate the development of tourism which could lead to more business opportunities for women. They could serve as tour guides and cook meals or other tasks in the hospitality business.

		Improved energy could lead to investment opportunities.
22. Improved physical wellbeing for women.	High	The women can use electrical appliances to do part of the daily work.
23. Men having more time for family or household activities.	low	N.A.

Table 10. Positive impact analysis of Langa oekoe 2.

Village: Langa-oekoe 2		
Key Performance Indicator	Potential positive impact rating	Comments
Socio-cultural community		
1. Optimizing their way of life.	High	Langa oekoe 2 has electricity with a diesel generator from 18.00u till 1 in the morning and a telecom network from Telesur. For water the village is still dependent on rain, creek and river water. The creek near the agricultural lands is also used as a water source. Sometimes villagers get sick from the water, especially from the river water. Not everyone cooks their water before drinking. Clean water is very important for the health of the villagers. -They are not happy with their diesel generator as they have only limited light and sometimes no light at all if there is no diesel delivered.
2. Engagement method in place.	High.	The traditional krutu method serve as the best way to engage with the villagers. Project purposes, planning and goals can be discussed during krutu's.
3. Cultural heritage and -territories maintained.	High.	-The cultural heritage the "Fraga Tiki', is in the middle of the village, in plain sight, so they are not worried. -They will always keep boiling frequently used medical leaves with fire, krutu participants.
Social participation		
4. Easy access to the city for family.	Medium	They already have phones and easy access to family but the reception is poor.
5. Feeling supported.	High	-They strongly agree that they would feel supported. Because they would have the same possibilities as the people in the city. -Politicians promised electricity 24/7 but it never happened so they do not trust the government and want to see first.
6. Willing to accommodate workers to achieve project goals.	Medium	They are willing, but would rather work their selves on the project.
7. Willing to be trained for operation and maintenance.	High	They want to help with building and they are willing to let people come and train them, at least the youngsters in the village.
8. Increased personal development.	High	They want to assist with building work, collecting local material in the forest and they would prefer to do all the minor maintenance themselves.
9. Increased sense of equal rights.	Medium	Electricity is a beginning. Water is also important
10. Willing to learn new technologies.	High	Villagers are open to being trained and also have the young adults learn the basics of operation and maintenance.
Socio-economic wellbeing		
11. Willingness to work for operation and maintenance.	High	Yes, they want to do minor maintenance themselves and if possible also operations.
12. Increased business opportunity.	Medium	With support, there is potential to develop tourism because historical sight (Fort Boekoe).
13. Elevation of existing businesses.	Medium	With improved energy they have more potential to develop tourism

14. Use of new tools.	High	They will buy household appliances, so the household tasks become easier and time saving.
Physical wellbeing		
15. Improved medical care: safety	Medium	They have light until 1uur pm.
16. Improved health and nutrition status.	High.	With the possibility to store fresh food, fruit in the fridge and improve intake of healthy food.
17. Improved food security.	High	Possibilities to increase income, by assisting in the project and executing new business ideas
18. Improved sense of leisure.	High.	With improved energy access, the women would have more time for leisure.
Emotional wellbeing		
19. Improved sense of safety.	Low	They already have light from 18.00 to 1 at night
20. Less stress.	Medium	Less worries about safety at night
Gender equality		
21. More business opportunities for women.	High	With the right support and mindfulness of project investors and other organization, the following business opportunities could be created for women: • Direct business opportunity: if the women are actively included in gender-environment nexus during project building work and are given compensation for contributing to the waste management and recycling team of building workers or other site workers. • Indirect business opportunity: Improved energy potentiate the development of tourism which could lead to more business opportunities for women. They could serve as tour guides and cook meals or other tasks in the hospitality business. Improved energy could lead to investment opportunities.
22. Improved physical wellbeing for women.	High	The women can use electrical appliances to do part of the daily work.
23. Men having more time for family or household activities.	Low	N.A.

Table 11. Positive impact analysis of Lantiwee.

Village: Lantiwee		
Key Performance Indicator	Potential positive impact rating	Comments
Socio-cultural community		
1. Optimizing their way of life.	High	Lantiwee has a generator from 6 till 11 at night. There is a telecom network from Telesur with a poor signal. For water the village is still dependent on rain and river water. Rainwater stored in duro tanks; sometimes river water is used for drinking. Electricity is very important for the village as it is seen as a catalyst for development, especially for schoolchildren who would be able to study. It would also stimulate entrepreneurial activities. The use of TVs would also offer educational benefits.
2. Engagement method in place.	High.	The traditional krutu method serve as the best way to engage with the villagers. Project purposes, planning and goals can be discussed during krutu's.
3. Cultural heritage and -territories maintained.	High.	There are no restricted areas in the village. The women would still want to cook the traditional herbal baths with medical leaves on fire. Territories will be maintained because project sites will be chosen in consultation with the villagers.

Social participation		
4. Easy access to the city for family.	**Medium**	**Every household has a cell phone but the reception is poor.**
5. Feeling supported.	**High**	**Yes, they would feel supported. False promises were made in the past by the Health department.**
6. Willing to accommodate workers to achieve project goals.	**Medium**	**They are willing.**
7. Willing to be trained for operation and maintenance.	**High**	**Yes, they want maintenance by EBS with local community involvement. They are willing to learn about maintenance and operations.**
8. Increased personal development.	**high**	**They want their youngsters to learn new things and say the children can have a better future. New opportunities for personal development are also there with freed up time when less physical manual labor that is necessary to chop wood and to hunt for fresh food.**
9. Increased sense of equal rights.	**Medium**	**Yes but not fully**
10. Willing to learn new technologies.	**Medium**	**For their children they are open to online trainings.**
Socio-economic wellbeing		
11. Willingness to work for operation and maintenance.	**High**	**They indicated a willingness.**
12. Increased business opportunity.	**Medium**	**With support, there is potential to develop tourism.**
13. Elevation of existing businesses.	**High**	**With improved energy they have more potential to develop tourism and other businesses**
14. Use of new tools.	**High**	**They did not mention use of new tools in the krutu's, but with improved energy they could use household appliances.**
Physical wellbeing		
15. Improved medical care	**High**	**There is poor telecom (phone reception) available in Lantiwee.** **The women say that with the possibility of light at night could improve the way they respond to medical emergencies such as with births.** **Improved water and energy access could improve their medical care.**
16. Improved health and nutrition status.	**High.**	**With improved water quality and access they would have improved physical wellbeing.** **With energy access to more households they could have improved nutrition, as they could save their foods instead of smoking it to preserve for a few days.**
17. Improved food security.	**High**	**Cleaner water and more energy access will enable them to buy more freezers to save food.**
18. Improved sense of leisure.	**Medium**	**There is already tap water available in the village.** **The men might hunt or fish less if there was more food security (food chilling options per household).**
Emotional wellbeing		
19. Improved sense of safety.	**Medium**	**More light at night could help them prevent accidents.**
20. Less stress.	**Medium**	**A feeling of safety regarding snakes at night or strangers.**
Gender equality		

21. More business opportunity for women.	Medium	With the right support and mindfulness of project investors and other organization, the following business opportunities could be created for women: • Direct business opportunity: The women are willing to work for operation and maintenance of the projects. If the women are actively included in gender-environment nexus during project building work and are given compensation for contributing to the waste management and recycling team of building workers or other site workers. • Indirect business opportunity: Improved energy could potentiate the development of tourism which could lead to more business opportunity for women. They could serve as tour guides, cook meals and other work in the hospitality business.
22. Improved physical wellbeing for women.	High	The women will have less physical work because of the household appliances they can use.
23. Men having more time for family or household activities.	Low	N.A.

Table 12. Positive impact analysis of Pikin Santi.

Village: Pikin Santi		
Key Performance Indicator	Potential positive impact rating	Comments
Socio-cultural community		
1. Optimizing their way of life.	High	They already have a generator in the village, but it's not working as regularly as they would like. At the moment the generator is defect so they are in the dark. Water from the SWM, the Surinam Water Company operates on electricity. So as long as the generator is defect they have no access to potable water. There is not always enough water available 24/7.
2. Engagement method in place.	High.	The traditional krutu method serve as the best way to engage with the villagers. Project purposes, planning and goals can be discussed during krutus.
3. Cultural heritage and -territories maintained.	High.	Territories for building purposes will be chosen in consultation with the villagers. There are no restricted areas in the village. The women would still want to cook the traditional herbal baths with medical leaves on fire.
Social participation		
4. Easy access to the city for family.	Medium	N.A. They already have phones and access to family via ACT's wifi/telecom.
5. Feeling supported.	High	Yes, they would feel supported. False promises were made in the past by political parties.
6. Willing to accommodate workers to achieve project goals.	Medium	They are willing.
7. Willing to be trained for operation and maintenance.	Medium	Yes, they are willing to learn as much as possible about operation and maintenance. They would also like to get paid for it.

		Online trainings would be more difficult because the majority of the krutu participants did not know what a computer is and have not been on the internet.
8. Increased personal development.	**High**	**They would like to learn.**
9. Increased sense of equal rights.	**Medium**	**Yes but not fully**
10. Willing to learn new technologies.	**Medium**	**For their children they are open to online trainings.**
Socio-economic wellbeing		
11. Willingness to work for operation and maintenance.	**Medium**	**Yes, for maintenance**
12. Increased business opportunity.	**High**	**With support, there is potential to develop tourism. Yes, tourism is a potential opportunity. The village boasts the most beautiful beach. Additionally, the location can be used in the context of historical significance, particularly for Fort Boekoe.**
13. Elevation of existing businesses.	**High**	**Tourism can became important because of history.**
14. Use of new tools.	**High**	**The men and woman say that with 24/7 electricity the men would buy a circular saw and a planer to make planks. The women can use electrical household appliances.**
Physical wellbeing		
15. Improved medical care	**High**	**Improved water and energy access could improve the response to emergency medical care.**
16. Improved health and nutrition status.	**High.**	**With improved water quality and access they would have improved physical wellbeing.** **With energy access to more households they could have improved nutrition, as they could save their foods instead of smoking it to preserve for a few days.** **It is important that there is meat for children that go to school. The way it is now we often have to throw away meat that has gone bad.** **With closer water access the women would not have to fetch water from the creek or river.**
17. Improved food security.	**High**	**Clean water and more energy access will enable them to buy freezers to save food.**
18. Improved sense of leisure.	**High**	**The women would like a service where they do not have to go back and forth to fetch water, as there is no water from 6pm onwards.** **In general men and women would like entertainment on tv or radio, mainly to be able to hear the news.**
Emotional wellbeing		
19. Improved sense of safety.	**Medium**	**More light at night could help them prevent accidents.**
20. Less stress.	**Medium**	**Especially regarding their water quality and related health issues.**
Gender equality		
21. More business opportunity for women.	**Low**	**With the right support and mindfulness of project investors and other organization, the following business opportunities could be created for women:** • **Direct business opportunity:** **The women are willing to work for operation and maintenance of the projects.** **if the women are actively included in gender-environment nexus during project building work and are given compensation for contributing to the waste management and recycling team of building workers or other site workers.** • **Indirect business opportunity:** **Improved energy and water access could potentiate the development of tourism which could lead to more business opportunity for women. They could serve as tour guides, sell their arts and crafts, honey and tea products or cook meals.**

22. Improved physical wellbeing for women.	Medium	The women already have improved physical wellbeing due to tap water (if electricity is working). For the electricity they will have less physical work because of the household appliances they can use.
23. Men having more time for family or household activities.	Low	N.A.

Table 13. Positive impact analysis of Pinatjarimi.

Village: Pinatjarimi		
Key Performance Indicator	Potential positive impact rating	Comments
Socio-cultural community		
1. Optimizing their way of life.	High	They have a generator and electricity from 7 till 11. The generator is used for household electricity needs in the evening. So they have a freezer Food is conserved by storing in the freezer (only power 5 hours a day) and also by smoking and to salt meat So they have freezers but not enough capacity to store their food. Their drinking water is rainwater and river water and can cause illness.
2. Engagement method in place.	High.	The traditional krutu method serve as the best way to engage with the villagers. Project purposes, planning and goals can be discussed during krutu's.
3. Cultural heritage and -territories maintained.	High.	Territories for building purposes will be chosen in consultation with the villagers. There are no restricted areas in the village. The women would still want to cook the traditional herbal baths with medical leaves on fire.
Social participation		
4. Easy access to the city for family.	Medium	N.A. They have phones and access to family via Telesur but with poor signal and in busy period like weekend or holidays no access at all.
5. Feeling supported.	High	Yes, they would feel partly supported. Yes, it will improve living conditions and develop the village. A lot of false promises have been made in the past.
6. Willing to accommodate workers to achieve project goals.	Medium	They are willing.
7. Willing to be trained for operation and maintenance.	High	Yes, they are willing to learn for maintenance together with people from EBS.
8. Increased personal development.	High	The villagers want to be trained on the job.
9. Increased sense of equal rights.	High	Yes, they want the same services as other people also for water. They do not want to have to work so hard for light and water. We would like it to be a given, just like people in the city
10. Willing to learn new technologies.	High	Villagers are open to being trained and also have the young adults learn the basics of operation and maintenance
Socio-economic wellbeing		
11. Willingness to work for operation and maintenance.	High	Yes they want to work and learn. They want to get paid for it.
12. Increased business opportunity.	Medium	There is an opportunity to develop tourism with the right support. They would want to further develop in tourism by selling souvenirs to tourists or give tours. The women would like to sell and cook food for tourists.

13. Elevation of existing businesses.		No Info.
14. Use of new tools.	High	Use of electric household appliances and technical tools
Physical wellbeing		
15. Improved medical care.	High	Improved energy access could improve the response to emergency medical care.
16. Improved health and nutrition status.	High.	More and diverse food available because of a fridge to store food
17. Improved food security.	High	Food can be stored in the fridge and also bread, fruit , milk. A better diet is possible.
18. Improved sense of leisure.	High	The women say they would have an improved sense of leisure.
Emotional wellbeing		
19. Improved sense of safety.	Medium	Yes, because they can see dangers in time, like snakes.
20. Less stress.	Medium	.Feeling safe at night
Gender equality		
21. More business opportunity for women.	High	With the help of ngo's of other organizations
22. Improved physical wellbeing for women.	High	Because of the use of electrical appliances
23. Men having more time for family or household activities.	Medium	Indirect impact. Yes, the women noted that with more food chilling capacity and food safety, the men would hunt less and have more time for their family.

Table 14. Positive impact analysis of Tamarin.

Village: Tamarin		
Key Performance Indicator	Potential positive impact rating	Comments
Socio-cultural community		
1.Optimizing their way of life.	High	Tamrin source of electricity currently is a generator system that is used in the village from 18.30 PM to 11.30 PM, if they have fuel. There is no electricity in daytime so the school does not have access to electricity. What deepens their risk is that they also have no access to potable water options. Their drinking water consists of rain water and if accessible creek water. Their phone reception is not working well. The Telesur mast is in Pikin Santi, a nearby village.
2.Engagement method in place.	High	The traditional krutu method serve as the best way to engage with the villagers. Project purposes, planning and goals can be discussed during krutu's.
3.Cultural heritage and -territories maintained.	High	There are no restricted areas in the village. The women would still want to cook the traditional herbal baths with medical leaves on fire using coal and woods.
Social participation		
4.Easy access to the city for family.	Medium	They have phones and access to family via Telesur but with poor signal and in busy period like weekend or holidays no access at all.
5.Feeling supported.	Medium	-They agree that they would feel supported. Because they would have the same possibilities for electricity as the people in the city. -Politicians promised electricity 24/7 but it never happened so they do not trust the government and want to see first.
6.Willing to accommodate workers to achieve project goals.	High	Yes

7. Willing to be trained for operation and maintenance.	High	Yes
8. Increased personal development.	High	Yes ,they want to be trained. Learn how to use a computer
9. Increased sense of equal rights.	High	They feel that they have the same rights
10. Willing to learn new technologies.	High	They would like to learn about the internet. They are open to being trained online once people have shown them the basics of operation and maintenance. None of this is possible without funds for computers or electronic devices enabling internet connection
Socio-economic wellbeing		
11. Willingness to work for operation and maintenance.	High	yes
12. Increased business opportunity.	Medium	There in an opportunity to develop tourism with the right support. The fort Boekoe location is in this area and already tourists from Afrika and other countries came to visit. So the villagers need ngo's and other business organizations to help develop the tourist sector.
13. Elevation of existing businesses.	High	The tourism business can elevate because of the historical site located in that area. The selling of agricultural goods for the tourism business, the development of the hospitality business, fishing and hunting sales
14. Use of new tools.	High	With improved energy they can use all kinds of household appliances, also water cooker so they have boil the rain and river water more easier.
Physical wellbeing		
15. Improved medical care	High	Currently they have to go to Lantiwee for medical emergencies. They can charge the phones so they will be able to reach first aide medical help quickly in emergency cases.
16. Improved health and nutrition status.	High.	Yes they noted they need electricity for better food security and better quality drinking water. They can store food in the fridge and they do not have to salt their fish and meat. Too much salt is bad for their health.
17. Improved food security.	High	Energy access would improve their food security. They can keep food longer, store it in the fridge. They can buy more divers food; it last longer if it is stored.
18. Improved sense of leisure.		Not answered.
Emotional wellbeing		
19. Improved sense of safety.	High	They currently do not feel safe at night. Because there is no light at night and they cannot see snakes.
20. Less stress.	High	No worries about safety, no hard physical work because of the use of washing machines, rice cookers, water cookers, radio, and TV.
Gender equality		
21. More business opportunity for women.	Medium	With improved energy and boiled water access, tourism could be developed in this village and this area. It can be used to be a stopping area for tourists where women could make food and drinks as refreshments. They could have traveling camps for tourists and be a tour guide.
22. Improved physical wellbeing for women.	HIgh	They will have less physical work because of the household appliances they can use.
23. Men having more time for family or household activities.	low	Not answered.

Table 15. Positive impact analysis of Wanhatti.

Village: Wanhatti		
Key Performance Indicator	**Potential positive impact rating**	**Comments**
Socio-cultural community		
1. Optimizing their way of life.	**High**	**Now they have a generator that operates from 6:00 PM to 6:00 AM. Previously, it ran from 6:00 PM to midnight. The village has access to drinking water through an SWM network. The water is purified river water There is a telecom provider Telesur, but the system is weak. During busy periods or holidays, there is no reception at all.**
2. Engagement method in place.	**High**	**The traditional krutu method serve as the best way to engage with the villagers. Project purposes, planning and goals can be discussed during krutu's.**
3. Cultural heritage and -territories maintained.	**High**	**There are no restricted areas in the village. The women would still want to cook the traditional herbal baths with medical leaves on fire using coal and woods.**
Social participation		
4. Easy access to the city for family.	**Medium**	**N.A. They have phones but because of a weak Telesur connection, the access is not optimal.**
5. Feeling supported.	**High**	**Yes, if the project is executed. They are looking forward to the improvement. False promises were made, so they don't trust the government.**
6.Willing to accommodate workers to achieve project goals.	**Medium**	**They are willing.**
7.Willing to be trained for operation and maintenance.	**High**	**Small maintenance they would like to do and get trained and work together with the professional workers of the EBS.**
8.Increased personal development.	**High**	**The villagers would like to help and work with the potential of project activities. With longer energy access, they could be even more productive.**
9.Increased sense of equal rights.	**Low**	**They said they already feel a sense of equal rights but the telecom has a weak signal.**
10.Willing to learn new technologies.	**High**	**They are willing to learn and to be trained online for project and more. They would like for the school children to make use of the possibility to be trained on line. They are willing to learn new technologies.**
Socio-economic wellbeing		
11.Willingness to work for operation and maintenance.	**High**	**Yes they are willing.**
12. Increased business opportunity.	**Medium**	**They are willing to explore the potential of tourism development and medicinal plants.**
13. Elevation of existing businesses.	**High**	**With improved energy access they could expand tourism which can improve sales of their locally made products such as traditional medicine.**
14. Use of new tools.	**High**	**They did not mention use of new tools in the krutus, but with improved energy and water systems they could cook quicker to sell food to potential tourists.**
Physical wellbeing		
15.Improved medical care.	**High**	**They have light at night so in case of an emergency they can move easier .**
16.Improved health and nutrition status.	**High.**	**More and diverse food available because of a fridge to store food**

17.Improved food security.	**High**	**Energy access would improve their food security. They can keep food longer, store it in the fridge. They can buy more divers food; it last longer if it is stored.**
18.Improved sense of leisure.	**High**	**The women say they would have an improved sense of leisure. With improved energy access, the women would have more time for leisure**
Emotional wellbeing		
19.Improved sense of safety.	**Low**	**They have light at night and they say it helps them feel safer.**
20.Less stress.	**High**	**The women say they would have less stress and be more peaceful if they could use electric appliances in doing the household work. And they can watch television and listen to the radio to relax.**
Gender equality		
21.More business opportunity for women.	**Medium**	**With the right support and mindfulness of project investors and other organization, the following business opportunities could be created for women:** • **Direct business opportunity:** **The women are willing to work for operation and maintenance of the projects. Further women are actively included in gender-environment nexus during project building work and are given compensation for contributing to the waste management and recycling team of building workers or other site workers.** • **Indirect business opportunity:** **Improved energy and access to water could potentiate the development of tourism which could lead to more business opportunity for women. They could serve as tour guides. or cook meals.** **They could look into ways of developing traditional medicine as a business opportunity, especially if optimal electricity is available. With electricity, more people will stay permanently, which will naturally lead to more business activities.**
22. Improved physical wellbeing for women.	**HIgh**	**They can make use of all electrical appliances and save hard physical work. Washing machines, rice cooker, freezers and fridges.**
23. Men having more time for family or household activities.	**medium**	**The women say that with their improved energy access, the men are able to help more with household and wicker work.**

Table 16. Risk analysis of Amaloko kondre.

Village: Amaloko kondre	**Risk analysis**			
Key Risk Indicators	**Potential negative impact rating.**	**Likelihood.**	**Potential risk rating.**	**Comments.**
Socio-cultural community issues				
1. Indecisiveness about community ownership models.	**Low**	**Possible**	**Low**	**They decided that their payment model would be that everyone who uses it should pay for it and that usage should be measured per household, just like in the city.**
2. Temporary displacement due to project building activities.	**Low**	**unlikely**	**Low**	**Is unlikely to occur. People will not have to move from their current location due to the construction work of the project.**
Social isolation				

3. Unequal distribution of energy services.				N.A.
4. Lack of local capacity and expertise to sustain maintenance or operation of the systems.	High	Likely	Substantial	There is no technical local expertise for energy, water or telecom operations. Maintenance could be done by the villagers if they are trained. There is a need for training in maintaining and operating the system among the communities.
5. Lack of trust due to past false promises.	Medium	Possible	Moderate	They have complete confidence in the project.
Socio-economic distress				
6. Lack of paid jobs or employed villagers to upkeep ongoing costs.	Medium	Possible	Moderate	The men said that they have no objection to paying for electricity each month with their own income, including small farming costs and selling hunting products (Hustle). Also, Podisiri and people working in Moengo. They want to pay individually for their usage.
7. Inability to buy freezers, electronic devices or other electrical tools.	Low	Possible	Low	Not anwered, but can be possible due to lack of income. Perhaps they already have electrical tools.
Physical distress				
8. Physical injury while supporting project objectives.	Low	Possible	Low	N.A. right now, but may occur.
9. Noise disturbance at critical locations.	Low	Possible	Low	The villagers are okay with it.
10. Distance for fetching water too far, especially for the elderly.				N.A./ not answered.
11. Dust production during building activities.	Low	Possible	Low	The villagers are okay with it.
Emotional distress				
12. Worries and stress about generating the finances for the projects.	Medium	Likely	moderate	The neutral response to financial concerns suggests that there is no strong concern, but also no complete certainty about the financing of the project. If they do not have enough funds, they will not be able to maintain the services or upkeep the maintenance.
13. Temporary distress due to project building activities.	Low	Possible	Low	Villagers said they would be okay with dust or noise production to reach project goals.

Gender inequality				
14. Gender inequality in the ability to pay for and maintain services.	**Low**	**Likely**	**Low**	**Both men and women have jobs and can contribute to the maintenance or operating costs of energy, water or telecom services. Although there are more men than women working in the village and the men have no objection to paying for the services.**
15. Gender inequality in potential job creation.	**Low**	**Possible**	**Low**	**The villagers want to help with project building objectives. There could be options for women and men in the field of tourism.**

Table 17. Risk analysis of Langa-oekoe 1.

Village: Langa-oekoe 1.	**Risk analysis**			
Key Risk indicators	**Potential negative impact rating.**	**Likelihood.**	**Potential risk rating.**	**Comments.**
Socio-cultural community issues				
1. Indecision about community ownership models.	**Low**	**Possible**	**Low**	**They decided that their payment model would be that everyone who uses it should pay for it and that usage should be measured per household, just like in the city.**
2. Temporary displacement due to project building activities.	**Low**	**unlikely**	**Low**	**Is unlikely to occur. People will not have to move from their current location due to the construction work of the project.**
Social isolation				
3. Unequal distribution of water, energy or telecom services.				**N.A.**
4. Lack of local capacity and expertise to sustain maintenance or operation of the systems.	**Medium**	**Likely**	**Moderate**	**There is no technical local expertise for energy, water or telecom operations. There is only some expertise there, as they have been trained twice by the Ministry of Natural Resources about working on their generator, but this is minor.**

				They are willing to be trained for maintenance or operation of the systems.
5. Lack of trust due to past false promises.	Medium	Possible	Moderate	The political parties have promised a lot of services, but have not completed those projects. However they have trust in this project.
Socio-economic distress				
6. Lack of paid jobs or employed villagers to upkeep ongoing costs.	Medium	Possible	Moderate	The men have no objection to paying for electricity each month with their own income, including small farming costs and selling hunting products (Hustle). Also, Podisiri and people working in Moengo.
7. Inability to buy freezers, electronic devices or other electrical tools.	Low	Possible	Low	Not anwered, but can be possible due to lack of income. Perhaps they already have electrical tools.
Physical distress				
8. Physical injury while supporting project objectives.	Low	Possible	Low	N.A. right now, but may occur.
9. Noise disturbance at critical locations.	Low	Possible	Low	The villagers are okay with it.
10. Distance for fetching water too far, especially for the elderly.				N.A./ not answered.
11. Dust production during building activities.	Low	Possible	Low	The villagers are okay with it.
Emotional distress				
12. Worries and stress about generating the finances for the projects.	High	Likely	Substantial	Yes, the villagers are stressed about this.
13. Temporary distress due to project building activities.	Low	Possible	Low	They are okay with temporary distress as long as builders take the school and church into account in the case of any nuisances.
Gender inequality				
14. Gender inequality in the ability to pay for and maintain services.	Low	Likely	Low	Both men and women have jobs and can contribute to the maintenance or operating costs of energy, water or telecom services. Although there are more men than women working in the village and the men have no objection to paying for the services.

15. Gender inequality in potential job creation.	Low	Possible	Low	The villagers want to help with project building objectives. There could be options for women and men in the field of tourism.

Table 18. Risk analysis of Langa-oekoe 2.

Village: Langa-oekoe 2.	Risk analysis			
Key Risk indicators	Potential negative impact rating.	Likelihood.	Potential risk rating.	Comments.
Socio-cultural community issues				
1. Indecision about community ownership models.	Low	Possible	Low	They decided that their payment model would be that everyone who uses it should pay for it and that usage should be measured per household, just like in the city.
2. Temporary displacement due to project building activities.	Low	unlikely	Low	Is unlikely to occur. People will not have to move from their current location due to the construction work of the project.
Social isolation				
3. Unequal distribution of water, energy or telecom services.				N.A.
4. Lack of local capacity and expertise to sustain maintenance or operation of the systems.	Medium	Likely	Moderate	There is no technical local expertise for energy, water or telecom operations. There is only some expertise there, as they have been trained twice by the Ministry of Natural Resources about working on their generator, but this is minor. They are willing to be trained for maintenance or operation of the systems.
5. Lack of trust due to past false promises.	Medium	Possible	Moderate	They have complete confidence in the project.
Socio-economic distress				
6. Lack of paid jobs or employed villagers to upkeep ongoing costs.	Medium	Possible	Moderate	The men have no objection to paying for electricity each month with their own income, including small farming costs and selling hunting products (Hustle). Also, Podisiri and people working in Moengo.

7. Inability to buy freezers, electronic devices or other eletrical tools.	Low	Possible	Low	Not anwered, but can be possible due to lack of income. Perhaps they already have electrical tools.
Physical distress				
8. Physical injury while supporting project objectives.	Low	Possible	Low	N.A. right now, but may occur.
9. Noise disturbance at critical locations.	Low	Possible	Low	The villagers are okay with it.
10. Distance for fetching water too far, especially for the elderly.				Not answered.
11. Dust production during building activities.	Low	Possible	Low	The villagers are okay with it.
Emotional distress				
12. Worries and stress about generating the finances for the projects.	Medium	Likely	Moderate	The neutral response to financial concerns suggests that there is no strong concern, but also no complete certainty about the financing of the project. If they do not have enough funds, they will not be able to maintain the services or upkeep the maintenance.
13. Temporary distress due to project building activities.	Low	Possible	Low	They are okay with some minor temporary distress such as noise or dust.
Gender inequality				
14. Gender inequality in the ability to pay for and maintain services.	Low	Likely	Low	Both men and women have jobs and can contribute to the maintenance or operating costs of energy, water or telecom services. Although there are more men than women working in the village and the men have no objection to paying for the services.
15. Gender inequality in potential job creation.	Low	Possible	Low	The villagers want to help with project building objectives. There could be options for women and men in the field of tourism.

Table 19. Risk analysis of Lantiwee.

Village: Lantiwee	Risk analysis			
Key Risk indicators	**Potential negative impact rating.**	**Likelihood.**	**Potential risk rating.**	**Comments.**
Socio-cultural community issues				
1. Indecision about community ownership models.	**Low**	**Possible**	**Low**	**The villagers decided to pay the operational and maintenance costs collectively as a community.**
2. Temporary displacement due to project building activities.	**Low**	**unlikely**	**Low**	**Is unlikely to occur.**
Social isolation				
3. Unequal distribution of water, energy or telecom services.				**N.A.**
4. Lack of local capacity and expertise to sustain maintenance or operation of the systems.	**High**	**Likely**	**Substantial**	**Depends on the individuals they are willing to learn as much as possible to do operation and minor maintenance. However they do not have existing frameworks for maintenance or technical capacity.**
5. Lack of trust due to past false promises.	**Medium**	**Possible**	**Moderate**	**They have been made false promises before by the Health Department. However they have trust in the project.**
Socio-economic distress				
6. Lack of paid jobs or employed villagers to upkeep ongoing costs.	**Medium**	**Possible**	**Moderate**	**The villagers derive their income from agricultural and forestry products (Hustle). However, they are not concerned about the costs associated with regular operation and maintenance.**
7. Inability to buy freezers, electronic devices or other eletrical tools.	**Low**	**Possible**	**Low**	**Not anwered, but can be possible due to lack of income.**
Physical distress				
8. Physical injury while supporting project objectives.	**Low**	**Possible**	**Low**	**N.A. right now, but may occur.**
9. Noise disturbance at critical locations.	**Low**	**Possible**	**Low**	**The villagers are okay with it.**

10. Distance for fetching water too far, especially for the elderly.				No info. They only said that Water access is very important for daily survival.
11. Dust production during building activities.	Low	Possible	Low	The villagers are okay with it.
Emotional distress				
12. Worries and stress about generating the finances for the projects.	Low	Unlikely	Low	No. The villagers are not worried.
13. Temporary distress due to project building activities.	Low	Possible	Low	They are okay with some minor temporary distress such as noise or dust.
Gender inequality				
14. Gender inequality in the ability to pay for and maintain services.				Not answered.
15. Gender inequality in potential job creation.	Low	Possible	Low	There could be options for women in the field of tourism or in the field.

Table 20. Risk analysis of Pikin Santi.

Village: Pikin Santi	Risk analysis			
Key Risk indicators	Potential negative impact rating.	Likelihood.	Potential risk rating.	Comments.
Socio-cultural community issues				
1. Indecision about community ownership models.				Not answered.
2. Temporary displacement due to project building activities.	Low	unlikely	Low	Is unlikely to occur.
Social isolation				
3. Unequal distribution of water, energy or telecom services.				N.A.
4. Lack of local capacity and expertise to sustain maintenance or operation of the systems.	High	Likely	Substantial	Depends on the individuals they are willing to learn as much as possible to do operation and minor maintenance. However they do not have existing

				frameworks for maintenance or technical capacity.
5. Lack of trust due to past false promises.				Not answered.
Socio-economic distress				
6. Lack of paid jobs or employed villagers to upkeep ongoing costs.				Not answered.
7. Inability to buy freezers, electronic devices or other electrical tools.				Not answered.
Physical distress				
8. Physical injury while supporting project objectives.	Low	Possible	Low	N.A. right now, but may occur.
9. Noise disturbance at critical locations.	Low	Possible	Low	The villagers are okay with it.
10. Distance for fetching water too far, especially for the elderly.				No info. They only said that Water access is very important for daily survival.
11. Dust production during building activities.	Low	Possible	Low	The villagers are okay with it.
Emotional distress				
12. Worries and stress about generating the finances for the projects.	Low	Unlikely	Low	There are no worries about the finances.
13. Temporary distress due to project building activities.	Low	Possible	Low	They are okay with some minor temporary distress such as noise or dust.
Gender inequality				
14. Gender inequality in the ability to pay for and maintain services.				Not answered.
15. Gender inequality in potential job creation.	Low	Possible	Low	There could be options for women in the field of tourism or in the field.

Table 21. Risk analysis of Pinatjarimi.

Village: Pinatjarmi	Risk analysis			
Key Risk indicators	Potential negative impact rating.	Likelihood.	Potential risk rating.	Comments.
Socio-cultural community issues				
1. Indecision about community ownership models.				Not answered.
2. Temporary displacement due to project building activities.	Low	unlikely	Low	Is unlikely to occur.
Social isolation				
3. Unequal distribution of water, energy or telecom services.				N.A.
4. Lack of local capacity and expertise to sustain maintenance or operation of the systems.	High	Likely	Substantial	Depends on the individuals they are willing to learn as much as possible to do operation and minor maintenance. However they do not have existing frameworks for maintenance or technical capacity.
5. Lack of trust due to past false promises.	Medium	Possible	Moderate	The political parties have promised a lot of services, but have not completed those projects.
Socio-economic distress				
6. Lack of paid jobs or employed villagers to upkeep ongoing costs.				Not answered.
7. Inability to buy freezers, electronic devices or other electrical tools.				Not answered.
Physical distress				
8. Physical injury while supporting project objectives.	Low	Possible	Low	N.A. right now, but may occur.
9. Noise disturbance at critical locations.	Low	Possible	Low	The villagers are okay with it.
10. Distance for fetching water too far, especially for the elderly.				No info. They only said that Water access is very important for daily survival.
11. Dust production during building activities.	Low	Possible	Low	The villagers are okay with it.

Emotional distress				
12. Worries and stress about generating the finances for the projects.	**Low**	**Unlikely**	**Low**	**There are no worries about the finances.**
13. Temporary distress due to project building activities.	**Low**	**Possible**	**Low**	**They are okay with some minor temporary distress such as noise or dust.**
Gender inequality				
14. Gender inequality in the ability to pay for and maintain services.				**Not answered.**
15. Gender inequality in potential job creation.	**Low**	**Possible**	**Low**	**There could be options for women in the field of tourism or in the field.**

Table 22. Risk analysis of Tamarin.

Village: Tamarin	**Risk analysis**			
Key Risk indicators	**Potential negative impact rating.**	**Likelihood.**	**Potential risk rating.**	**Comments.**
Socio-cultural community issues				
1. Indecision about community ownership models.	**Low**	**Possible**	**Low**	**They decided that their payment model would be that everyone who uses it should pay for it individually.**
2. Temporary displacement due to project building activities.	**Low**	**unlikely**	**Low**	**Is unlikely to occur.**
Social isolation				
3. Unequal distribution of water, energy or telecom services.				**N.A.**
4. Lack of local capacity and expertise to sustain maintenance or operation of the systems.	**High**	**Likely**	**Substantial**	**There is no technical local expertise for energy, water or telecom operations. Maintenance could be done by the villagers if they are trained.** **There is a need for training in maintaining and operating the system among the communities.**
5. Lack of trust due to past false promises.	**High**	**Likely**	**Substantial**	**The political parties have promised many services but have not completed those projects. Because of this, they do not have fully trust in this project will be good for their village.**

Socio-economic distress				
6. Lack of paid jobs or employed vilagers to upkeep ongoing costs.	**Low**	**Possible**	**Low**	**There is income in the village.**
7. Inability to buy freezers, electronic devices or other eletrical tools.	**Low**	**Possible**	**Low**	**There is income but can be possible due to lack of income.**
Physical distress				
8. Physical injury while supporting project objectives.	**Low**	**Possible**	**Low**	**N.A. right now, but may occur.**
9. Noise disturbance at critical locations.	**Medium**	**Possible**	**Moderate**	**They are okay with it, but would rather not have disturbance close to the school.**
10. Distance for fetching water too far, especially for the elderly.				**Not anwered.**
11. Dust production during building activities.	**Medium**	**Possible**	**Moderate**	**They are okay with it, but would rather not have disturbance close to the school.**
Emotional distress				
12. Worries and stress about generating the finances for the projects.				**Not answered.**
13. Temporary distress due to project building activities.	**Low**	**Possible**	**Low**	**They are okay with some temporary distress.**
Gender inequality				
14. Gender inequality in the ability to pay for and maintain services.				**Not answered.**
15. Gender inequality in potential job creation.	**Low**	**Possible**	**Low**	**There could be options for women in the field of tourism or in the field.**

Table 23. Risk analysis of Wanhatti.

Village: Wanhatti	**Risk analysis**

Key Risk indicators	Potential negative impact rating.	Likelihood.	Potential risk rating.	Comments.
Socio-cultural community issues				
1. Indecision about community ownership models.	Low	Possible	Low	They decided that their payment model would be that everyone who uses it should pay for it using their personal income.
2. Temporary displacement due to project building activities.	Low	unlikely	Low	Is unlikely to occur.
Social isolation				
3. Unequal distribution of water, energy or telecom services.				N.A.
4. Lack of local capacity and expertise to sustain maintenance or operation of the systems.	High	Likely	Substantial	There is no technical local expertise for energy, water or telecom operations. Maintenance could be done by the villagers if they are trained. There is a need for training in maintaining and operating the system among the communities.
5. Lack of trust due to past false promises.	Medium	Possible	Moderate	There have been false promises made by the government. However they have trust in the project.
Socio-economic distress				
6. Lack of paid jobs or employed villagers to upkeep ongoing costs.	Low	Possible	Low	The villagers have a personal income and they are not concerned about the costs associated with regular operation and maintenance.
7. Inability to buy freezers, electronic devices or other eletrical tools.	Medium	possible	moderate	Not full answered. But there are already freezers in the village and the acuteness of this risk has most likely been resolved.
Physical distress				
8. Physical injury while supporting project objectives.	Low	Possible	Low	N.A. right now, but may occur.

9. Noise disturbance at critical locations.	Low	Possible	Low	The villagers are okay with it.
10. Distance for fetching water too far, especially for the elderly.				Not answered.
11. Dust production during building activities.	Low	Possible	Low	The villagers are okay with it.
Emotional distress				
12. Worries and stress about generating the finances for the projects.	Low	Unlikely	Low	There are no worries about the finances.
13. Temporary distress due to project building activities.	Low	Possible	Low	They are okay with some temporary distress, just not close to the school or in the middle of the village.
Gender inequality				
14. Gender inequality in the ability to pay for and maintain services.				Not answered.
15. Gender inequality in potential job creation.	Low	Possible	Low	There could be options for women in the field of tourism or in the field.

5. Discussion

5.1. Socio-cultural characterization.

5.1.a.Traditional structures

The traditional structure in the Maroon villages Amalokko kondre, Langa-oekoe 1, Langa oekoe 2, Lantiwee, Pikin Santi, Pinatjarimi, Tamarin and Wanhatti is the village captain is head of the village. One village can have multiple captains. Every captain has 1 or 2 basja's available to help organize events and spread the message of the captain in the village.

In these Maroon communities, traditional governance is structured hierarchically, with the **captain (kapitein)** acting as the primary authority, supported by **basjas**, who serve as intermediaries, messengers, and organizers of daily village affairs. Leadership roles are typically inherited but require community consensus, reflecting a blend of traditional lineage and social legitimacy.

Decision-making processes rely heavily on **krutus** (community meetings), where elders, captains, and basjas deliberate and reach consensus. **Elders** hold significant advisory power, valued for their wisdom and experience. **Women**, while not always in formal leadership roles, are influential in communal decisions, especially those concerning family welfare, cultural practices, and dispute resolution. **Youth** are generally expected to observe and learn, though their voices are increasingly incorporated in krutus on topics related to technology, education, and development.

Cultural norms and behaviors emphasize respect for hierarchy, communal sharing, and oral communication. Customs such as **ritual bathing, traditional healing, and spiritual reverence** for sacred sites (e.g., *Fraga Tiki*) are maintained in varying degrees across villages.

Gender-based vulnerabilities do exist. In several communities, **women's participation in formal decision-making is limited**, and their access to training, economic opportunities, and representation in consultations is lower. Therefore, FPIC engagement and project implementation must ensure **gender-equitable participation**, using women-specific sessions and female facilitators where necessary.

Table 24. Key stakeholders.

villages	function	familyname & first name
Amolokokondre	**Captian**	**Thalea Makka**
	Basja	**Velanti Rudi**
Langa oekoe 1	**Captian**	**Asinga Paulis**
	Basja	**Velanti Ervin**
Langa oekoe 2	**Captian**	**Pinas Djoel**
	Captain	**Boeki Kownoe**
	Basja	**Prika Kenneth**
Lantiwee	**Captian**	**Francis Stenfanus**
	Basja	**Pinas Jona**

Pinatjarimi	**Captian**	**Vogelland**
	Basja	**Awana Boyke**
Pikin Santi	**Captian**	**Atjong**
	Basja	**Boisa**
Tamarin	**Captian**	**Pinas Alwin**
	Basja	**Maitel Virginia**
Wanhatti	**Captian**	**Afania Charles**
	Basja	**Domini Carlo**
	Administrative supervisor	**Botai**

5.1.b. Household characteristics: traditional gender roles.

In all Maroon[2] communities in Suriname there were historically traditional gender roles: the men hunted to provide food for their family and the women fetched water, cooked and took care of the children. But the Maroons living in the north-east of Suriname and belonging to the Aucan tribe are since decades part of the money economy. So besides the traditional tasks, both men and women also have other hustles as a means of income: Acai sales, land clearing, but also government jobs like board supervisor and assistant-board supervisor.

5.1.c. Belief systems.

The villages Amalokko kondre, Langa-oekoe 1, Langa oekoe 2, Lantiwee, Pikin Santi, Pinatjarimi, Tamarin and Wanhatti belong predominantly to the Roman Catholique church. Akalekondre belong to the Presbytherian church. Historically the Aucans used traditional shamanic healing methods. In general, even if they are baptized the Aucans still have the knowledge of traditional medicine, but many of them don't use the knowledge anymore, only "for villagers and at the request of the basja". There are no known traditional clinics active today in those villages.

5.2 Government structures.

The villages have official government workers: below the district commissioners there are board supervisors and assistant board supervisors at the village level. Their official tasks are listed in 31 and 32.

Table 25. Official tasks of the Board supervior.

Official tasks of the Board supervisor:
1. Receives assignments and instruction from the district-secretary and in some cases from the district-commissioner.

[2] Maroons are descendants of enslaved people who fled and initially lived in tribes in the interior of Suriname.

2. Is tasked with inventorying, discussing, and suggesting solutions administratively in their resort.
3. Monitors the construction, repair, and maintenance of secondary and tertiary roads.
4. Monitors the regular maintenance works; cleaning maintenance of roadsides, squares, strips, cemeteries and, waste sites.
5. Checks the operation of regularly maintenance of civil/build/technical activities in consultation with the Technical Staff.
6. Checks, in consultation with the civil engineering department, the work performance of third parties, according to the specific conditions;
7. Conducts research into permit requests for setting up and exploiting industries, businesses, shops, and retail companies.
8. Checks the compliance of permit conditions of industries, businesses, shops, and retail companies.
9. Conducts research before giving advice to the district-secretary and/or district-commissioner.
10. Is present for meetings/'krutus', with people of the resort and/or villagers to inventorize and give solutions to specific problems.
11. Supervises for optimal waste disposal and cleaning services in their resort.
12. Mediates in simple civil cases.
13. Attends audiences at the district-commissariat.
14. Prepares for visits to their resort from state official and policymakers.
15. Takes care of the administrative processing for documents pertaining to their resort.
16. Regularly prepares reports pertaining to social, cultural, economic, and ecological developments in their resort for the district-commissioner or the district-secretary.
17. Takes care of the proper functioning of the board service in their resort.
18. Is intimately involved in the general, free, and secret elections in their district/resort.
19. Takes care of order in the resort.

20. Stays on top of managerial developments.
21. Delivers advice/opinions to the district-commissioner, district-secretary, and the adjunct district-secretary.
22. Conducts all activities in the extension of their function.

Table 26. Official tasks of the Assistant Board Supervisor.

Official tasks of the Assistant Board Supervisor
1. Makes an inventory, discusses or advises on (possible) solution(s) at the administrative level in his/her jurisdiction;
2. Also supervises the construction, repair and maintenance of secondary and tertiary roads and the regular maintenance and/or cleaning of roadsides, strips, squares, general cemeteries, rubbish dumps, etc.;
3. Also checks the implementation and regular maintenance of various Civil, Construction/Technical activities;
4. Also supervises, in collaboration with the Civil Engineering Department, the proper execution of work by third parties and others in accordance with specifications;
5. Co-investigates(s) license applications for setting up and operating industries, companies, companies, retail companies, etc. and also checks compliance with permit conditions of industries, companies, companies, retail companies, etc.;
6. Be closely involved in organizing the general, free and secret elections in the relevant district/administrative district;
7. Participate in field research before issuing an advice to the Board Overseer;
8. Attends meetings/krutus with resort and/or villagers to make an inventory or possibly propose solutions to various problems and also mediates in simple civil matters;
9. Supervises an optimal waste collection and cleaning service in the relevant resort;
10. Attends co-audiences at the district commissariat;
11. Helps prepare official visits by policy and/or state officials
to the district/administrative resort or resort;

12. Is also responsible for the overall administrative processing of documents from the relevant jurisdiction and is also responsible for the overall order and peace in the district/administrative jurisdiction or jurisdiction;
13. Keeps himself regularly informed of developments in the field of public administration;
14. Regularly reports both orally and in writing to the Board Overseer;
15. Carry out all activities related to the position.

5.3 Demographics.

In table 27 the population number and household info as gathered during krutu sessions.

Table 27. Cluster I.

Village	Population of the village	Households per village
Amaloko kondre	19	10
Langa oekoe I	32	32
Langa oekoe 2	12	50
Lantiwee	60	30
Pikin Santi	60	50
Pinatjarimi	15	7
Tamarin	21	19
Wanhatti	450	150

While the demographic data outlines population and household counts, it is essential to recognize that **demographic patterns are intrinsically linked to traditional social structures**. Villages are organized around extended families led by senior males or matriarchs, and household sizes vary widely depending on seasonal migration and urban employment.

Governance and leadership remain **informed by tradition**: even with increasing exposure to formal governmental systems, most inhabitants defer to the authority of captains and basjas in daily governance and external negotiations. **Krutus remain the cornerstone of collective decision-making** and have been consistently respected across generations.

While **elders** are pivotal in preserving oral history and spiritual guidance, **women** often lead in domains related to child-rearing, education, and food security. **Youth**, especially in Wanhatti and Lantiwee, show aspirations to engage in modern governance and technological use but often lack structured platforms.

Gender-based participation barriers include lower literacy among adult women, caregiving responsibilities that limit attendance at krutus, and underrepresentation in income-generating activities. These factors must be addressed when planning consultations, training, or awareness campaigns.

5.4 Other socio-cultural observations.

Wanhatti is the biggest village alongside the Cottica river and from the unpaved secondary road to the village; the surrounding villages can be reached via forest roads. One village, Pikin Santi is at the right sight of the river. All the villages can also be reached via the Cottica river from the jetty in Moengo. The houses in most of the villages are in a modern western style from wood and stone. A lot of villagers tend to leave and move to Paramaribo or Moengo because they have better access to basic needs there.

Literacy rates vary significantly between villages, with Wanhatti and Tamarin reporting higher access to education. However, **drop-out rates increase beyond primary education**, particularly for girls. Overall **literacy among women is lower** than men, correlating with limited access to higher education, internet, or adult learning programs.

Health indicators suggest that common issues include **waterborne diseases (diarrhea, skin infections)** and **maternal health risks due to limited emergency services**. Health centers run by the Medische Zending offer basic care, but complex cases must be referred to Moengo or Paramaribo.

Household income is generated through a blend of traditional subsistence (farming, fishing) and cash-based activities (sale of *podosiri*, crafts, bush products). In Wanhatti and Tamarin, household cash incomes are higher due to proximity to Moengo and tourism potential.

Livelihood strategies are diversified in response to climate seasonality and market shifts. These include **forest-based activities**, informal services (guiding, transport), and increasing interest in **solar maintenance and water systems management** as paid work opportunities.

Intangible cultural heritage remains central to identity. Traditional knowledge, such as the use of medicinal plants and sacred rituals (*e.g., Fraga Tiki*), is still observed, albeit declining. Project activities must **avoid cultural erosion** by mapping sacred sites, engaging traditional leaders, and ensuring **continued space for ceremonial practices**.

5.5 Baseline needs assessment. (DS)

Table 28 outlines the baseline needs per village.

Table 28. Baseline needs assessment.

Baseline needs assessment			
Village	**Energy**	**Water**	**Telecommunications**
Amalokkokondre	**The current energy situation in Amolokokondre is characterized by inconsistent electricity supply. Access to electricity is limited, and most households rely on expensive and unreliable sources such as generators, which also impact the community's economic stability. The need for a more**	**Amolokokondre faces challenges with access to clean and potable water. The community mainly depends on rivers and wells, but these water sources are often contaminated or insufficient during dry periods. There is a critical need for improved water management, such as sustainable water sources and better water purification**	**Telecommunication infrastructure in Amolokokondre is limited, with poor access to mobile and internet services. This impacts communication, access to information, and the ability to connect with external markets or government services. The community requires improved connectivity to enhance education,**

	stable and affordable energy supply is crucial. The village's energy demand far exceeds the current supply, making it difficult to support local businesses, health services, and essential community functions.	**systems, to ensure health, hygiene, and overall wellbeing for the community.**	**healthcare services, and access to economic opportunities, and to facilitate social participation in wider regional and national development.**
Langa-oekoe 1	**The current energy situation is characterized by limited access to reliable and sustainable electricity, particularly in rural and isolated areas. Most communities experience frequent power outages, and there is a high dependency on non-renewable energy sources, contributing to both environmental and economic challenges. The existing infrastructure is often outdated, resulting in inefficiencies and increased operational costs. Many households rely on generators or other alternatives to meet their energy needs, which further exacerbates the cost of living and impacts local economic activities.**	**Water access is a critical issue, with many communities lacking consistent and safe water sources. The current water infrastructure is either underdeveloped or poorly maintained, leading to unreliable supply and quality issues. As a result, people are often forced to rely on unsafe water sources, increasing the risk of waterborne diseases. In some areas, there is also a lack of water treatment facilities, and existing systems cannot meet the growing demand for clean water, especially in rural or remote locations.**	**Telecommunication services are limited and inconsistent, particularly in rural or remote regions. While urban areas may have relatively stable mobile and internet connectivity, many rural areas suffer from poor signal strength, low broadband speeds, and limited access to mobile networks. This hampers communication, access to information, and participation in digital economies. The lack of reliable telecommunications infrastructure also makes it difficult to implement social services and emergency response systems in underserved areas.**
Langa-oekoe 2	**The current energy situation in the community is characterized by limited access to reliable electricity. Many households experience inconsistent power supply, leading to disruptions in daily activities and hindering economic and social development. The energy infrastructure is underdeveloped, with some areas relying on alternative energy sources such as generators, which are costly and environmentally unfriendly. The demand for energy exceeds the supply in certain areas, and there is a need for improved connectivity to the national grid and the introduction of sustainable energy solutions.**	**Access to clean and reliable water is a significant concern in the community. While there is some access to water sources, the quality and consistency of supply are often inadequate. Water treatment facilities are limited, leading to health risks from contaminated water sources. Many households rely on surface water or wells, which are not always safe. There is a need for improved water infrastructure, better water management, and increased awareness of water conservation and hygiene practices to ensure a sustainable and healthy water supply for all residents.**	**Telecommunication infrastructure is generally underdeveloped, with limited access to reliable mobile networks and internet services. Connectivity is often slow or unavailable, particularly in more remote areas. The lack of consistent communication channels hinders social interaction, access to information, and economic opportunities. While mobile phones are used by some residents, the absence of broadband and internet access limits educational and business prospects. There is a need to expand telecommunications infrastructure to enhance connectivity and provide better access to information and communication technologies. These assessments highlight the need for urgent improvements in energy, water, and telecommunications infrastructure to support sustainable development and improve the quality of life in the community.**

Lantiwee	**The village primarily relies on diesel generators for electricity, which are costly and provide limited supply. Power is only available for a few hours per day, restricting household activities, businesses, and essential services. There is no connection to a stable electricity grid, and renewable energy sources such as solar power are minimal or non-existent. The community faces frequent power shortages, affecting refrigeration, lighting, and overall productivity**	**Residents rely on rainwater harvesting and river water for daily use. There is no structured water distribution system, and access to clean drinking water is inconsistent. During dry periods, water shortages occur, increasing dependence on untreated sources, which poses health risks. The lack of water purification infrastructure results in concerns about waterborne diseases.**	**The village has limited or no mobile network coverage, making communication with external areas difficult. Internet access is scarce, with only a few locations having weak connectivity. This restricts access to information, emergency communication, education, and economic opportunities. Dependence on physical travel for communication remains high, leading to delays in coordination and access to services.**
Pikin Santi	**The village currently lacks reliable electricity. Residents express a strong desire for household electricity, as well as community lighting for safety, especially at night. There is no infrastructure for consistent electrical power, and villagers rely on limited alternative sources, such as generators or other manual means. The absence of electricity hampers daily activities, including extended working hours, food preservation (refrigeration), and other essential needs. The villagers also express a strong interest in having access to electricity, which would significantly improve their quality of life, provide greater safety, and support business and economic development (e.g., tourism opportunities).**	**The village faces significant challenges regarding clean drinking water. The current water source (river water) is contaminated, leading to illnesses like diarrhea, which is a common health concern. There is a lack of a clean water system, with water scarcity affecting agricultural productivity, especially in the dry season. Clean water is needed to improve crop yield and reduce contamination-related health risks. The villagers express a need for a clean and reliable water supply, which would significantly enhance public health and agricultural practices, as well as overall community well-being.**	**The village has limited or no reliable telecommunications access. While some residents express an interest in owning cellphones, there is no detailed information about universal access or use. Access to a phone is considered important for safety and emergency communication. However, the lack of consistent network coverage or phone infrastructure limits connectivity. There is also a desire for radio access for entertainment and information, but no mention of universal availability of radios or broadcast services within the village. The lack of telecommunications infrastructure hampers both emergency response efforts (e.g., medical access) and social connectivity, limiting opportunities for residents to stay informed and connected.**
Pinatjarimi	**The current energy usage in Dorp Pina Tyari Mi is not explicitly detailed, but there is a strong interest in transitioning to more modern energy systems, such as solar power. The community shows willingness to support the installation and maintenance of solar systems. However, there is no mention of**	**Water quality measurements were not specified, but the community appears to be open to changes in the water system, particularly with the implementation of new technologies. While water access is not explicitly discussed, the lack of baseline data suggests that water systems may need improvements, including consistent supply and quality monitoring.**	**There is a clear interest in improving telecommunications, as the community is excited about the potential for better access. The desire to upgrade infrastructure and the willingness to involve locals in construction indicate a need for improved connectivity and communication tools in the village. There are no specific details on current telecommunications**

	significant existing infrastructure for consistent energy supply, indicating a need for reliable and sustainable energy sources.		**infrastructure, implying a gap in coverage or service quality.**
Tamarin	**The village relies on diesel generators for electricity, which are expensive to operate and have limited availability. Electricity supply is not continuous, leading to power outages that affect daily activities and economic opportunities. Some households use solar panels, but these are not sufficient to meet all energy needs. There is no formal grid connection, and maintenance of the existing energy sources is inconsistent. Lack of access to reliable electricity limits education, business development, and household productivity.**	**The primary water sources are rainwater collection, wells, and nearby rivers. During dry seasons, water shortages occur, affecting hygiene, agriculture, and daily consumption. Water quality is a concern, with reports of contamination risks due to poor sanitation and environmental factors. No centralized water distribution system exists, and treatment options are limited. Some households use filtration methods, but access to clean and safe drinking water remains a challenge.**	**Mobile network coverage is limited and unreliable, with frequent signal disruptions. Internet access is scarce, with only a few residents using mobile data when available. Lack of stable telecommunications infrastructure restricts education, business, and emergency communication.** **Many residents rely on word-of-mouth and informal networks for information dissemination**
Wanhatti	**The village receives electricity from a diesel generator, which operates from 6:00 PM to 6:00 AM. Households use candles and battery-powered lamps outside of generator hours. Electrical appliances such as refrigerators and televisions are used when electricity is available.**	**Drinking water is supplied through the SWM network, and households use river water for bathing and household tasks. There is no existing water quality monitoring for non-drinking water sources.**	**Mobile phones are widely owned, but network coverage is weak, with frequent service disruptions. Wired internet access is limited, primarily available to teachers. Radio reception is absent, restricting access to information and emergency broadcasts.**

5.6 Potential positive impact analysis: an overview.

KPI's (figure 3) were used to assess the potential positive impact on the social groups. Table 29, 30 and 31 shows the overview of the positive impact rating and analysis.

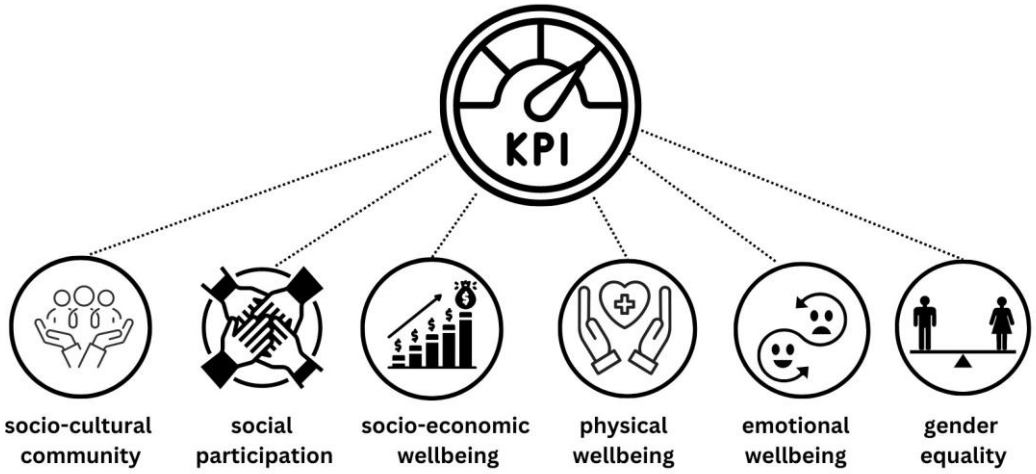


Figure 7. KPI's for the development of water, solar energy- and telecommunications infrastructure on Indigenous land in the South of Suriname.

Table 29. Potential social positive impact rating: an overview.

Social Key Performance Indicator	Amaloko kondre	Langa-oekoe 1	Langa-oekoe 2	Lanti-wee	Pikin Santi	Pina-tjarimi	Tamarin	Wanhatti
Socio-cultural community								
1.Optimizing their way of life.								
2.Engagement method in place.								
3.Cultural heritage and territories maintained.								
Social participation								
4. Easy access to the city for family.								
5. Feeling supported.								
6. Willing to accommodate workers to achieve project goals.								
7. Willing to be trained for operation and maintenance.								
8. Increased personal								

development.								
9. Increased sense of equal rights.								
10. Willing to learn new technologies.								
Socio-economic wellbeing								
11. Willingness to work for operation and maintenance.								
12. Increased business opportunity.								
13. Elevation of existing business								
14. Use of new tools.								
Physical wellbeing								
15. Improved medical care.								
16. Improved health and nutrition status.								
17. Improved food security.								
18. Improved sense of leisure.								
Emotional wellbeing								
19. Improved sense of safety.								
20. Less stress.								
Gender equality								
21. More business opportunity for women.								
22. Improved physical wellbeing for women.								
23.Men having more time for family or household activities.								

Table 30. Positive impact color legend.

Legend	
	High positive potential impact.
	Medium positive potential impact.
	Low positive potential impact.
	Not Applicable.
	No information.

Table 31. Potential positive impact analysis: an overview.

Potential positive impact analysis overview.		
The scope that was assessed is whether the KPI's benefit the social group and/or solve a major issue they are dealing with, as verbally stated during krutu sessions and by socio-cultural assessment of the location in question.		
Key Performance Indicator	**Positive impact analysis: an overview.**	**Opportunities to enhance this positive impact.**
Socio-cultural community		
1. Optimizing their way of life.	- For all villages, the electricity/energy would be specially optimized. Currently, they use a generator system in the villages that is turned on at a certain time of the day. - Their telephone reception is not working well. With a better telecom service, they would have easier access to the city or other villages for emergencies. - The water needs of Langaoekoe1 and 2 and Pinatjarimi would be specially optimized. The water they use causes diseases.	
2. Engagement method in place.	The traditional krutu is the best practice engagement method for all villages.	The krutu setting can be used to communicate with the villagers during project building grievances or guidelines for the villagers and their leaders.

3. Cultural heritage and -terriroties maintained.	-The women still want to cook the traditional herbal baths with medicinal leaves on fire. -Territories are maintained because project locations are chosen in consultation with the villagers. -In Langa oekoe 1 and 2 they want the following areas not to be entered or used: "Fraga Tiki" In Lantiwee, Tamrin and wanhatti there are no prohibited areas in the village. -In Pikin Santi and Pinatjarimi the territories for construction purposes are chosen in consultation with the villagers.	Being mindful of territories that are not allowed to be used or entered is an important social safeguard.
Social participation		
4. Easy access to the city for family.	Inhabitants of Amaloko kondre noted that they want the project to be implemented as soon as possible, because it will be easier for them to call or reach their family. They have family members living in the city, Paramaribo and Moengo. In all villages, inhabitants have telephones and easy access to family, but reception is very poor.	
5. Feeling supported	All villages would feel very supported. They have all been made false promises by various political parties or the government.	False promises made is something to consider when constructing FPIC forms and during project information sessions with villagers.
6. Willingness to accommodate workers to achieve project goals.	All villages are willing to accommodate workers to achieve project goals. The residents of Amaloko kondre emphasized that they do not want to be cheated. Langa oekoe 1 and Langa oekoe 2 and Amalokokondre are willing, but prefer to work on the project themselves.	
7. Willing to be trained for operation and maintenance.	They are all willing to be trained. In Amaloko kondre they are open to follow-up trainings via videos/video calls. They insisted on periodic trainings to help maintain the services. In pikin Santi the residents do not want online trainings because it would be more difficult. The majority of the krutu participants did not know what a computer is and had never been on the internet. They would also like to be paid for it.	The training model and compensation to the villagers for maintenance work can be discussed in the village ownership model plan.

8. Increased personal development.	New development opportunities can arise during training for the operation and maintenance of the services. All villages were eager to learn. Wanhatti noted that they could be even more productive with longer access to energy (light at night). Lantiwee noted that there are also new opportunities for personal development with freed up time when less physical manual labor is needed to chop wood and hunt for fresh food. They also want to learn how to use a computer.	
9. Increased sense of equal rights.	In Amaloko kondre, Langa Oekoe 1 and 2, Pinatjarimi they strongly agree that they would have a greater sense of equal rights. They would like to keep up with the news, just like the rest of the world. Lantiwee and Pikin Santi do feel a sense of equal rights, but not completely In Tamarin they feel they have the same rights Wanhatti said that they already have a sense of equal rights, but the telecom has a weak signal.	
10. Willing to learn new technologies.	All villages are open to learning new technologies. All villages are open to online training. They are open to online training once people have taught them the basics of operation and maintenance. None of this is possible without funds for computers or electronic devices that enable internet connection.	In training models, online training or communication is possible if needed.
Socio-economic wellbeing		
11. Willingness to work for operation and maintenance.	All villages are willing to work for the exploitation and maintenance. In Amaloko kondre both men and women want to work for the energy project. Pinatjarimi wants to be paid for the maintenance	Operation and maintenance by local villagers increase community ownership.
12. Increased business opportunity.	With the right support, tourism could be (re-) developed for all villages.	Tourism can be included in socio-economic models to sustain long term maintenance of the project building objectives.
13. Elevation of existing businesses.	In all villages, improved energy water and telecom access could improve their businesses. ● This is because with those services tourism could be developed that could increase the sales of their local products. ● They could expand their current businesses. Pinatjarimi: no information	

14. Use of new tools.	Almost all the villages will buy household appliances so that household chores become easier and time-saving. The women of Amaloko Kondre said they would buy a rice cooker if they had the means. With improved access to energy and water, all villages would have a better potential for developing tourism. With tourism, they would be able to sell food to tourists by using tools such as a rice cooker or an electric stove to cook food more efficiently when needed. Or to have access to clean water to cook in the traditional way. Lantiwee did not say anything about it.	
Physical wellbeing		
15. Improved medical care.	All villages have a health centre run by the medical mission. Improved access to water and energy could improve the response to emergency medical care. In Amaloko kondre, better access to energy, such as light at night, could improve their emergency medical care. In Lantiwee, there is poor telecommunications (phone reception). The women say that light at night could improve the way they respond to medical emergencies, such as childbirth. Improved access to water and energy could improve their medical care. In Wanhatti, they have light at night so they can move around more easily in case of emergency.	
16. Improved health and nutrition status.	With improved water quality and access, they would have improved physical well-being (less stomach aches and diarrhea). With improved energy access, they would be able to store food in the refrigerator instead of smoking or barbecuing it and improve their intake of healthy foods. Pikin Santi residents noted that with energy access for more households, they could have better nutrition because they could store their food instead of smoking it to keep it for a few days. It is important to have meat for children who go to school. As it is now, we often have to throw away meat that has gone bad.	
17. Improved food security.	They would have improved food security with fridges/ energy access. With quicker access to cleaner water they could create better food security and safety.	
18. Improved sense of leisure.	Most women would experience a greater sense of relaxation with better access to water, as they are the ones who fetch water for their families and have energy, so they can use electrical appliances and do their household chores faster. In general, people like to hear or watch the news, so they are aware of current events in other villages and the rest of the world. In Amaloko kondre With the ability to store food in freezers, men would have to hunt less.	

	In Lantiwee, tap water is already available in the village. Men would be able to hunt or fish less if there was more food security (food cooling options per household).	
Emotional wellbeing		
19. Improved sense of safety.	In general, people would feel safer with night at light to prevent accidents and to see potentially dangerous animals such as snakes.	
20. Less stress.	Women in particular who fetch water would have less stress with better access to water and fewer drinking water related diseases. They also have less stress because they can use more electrical appliances. Some men say they would also experience less stress if there was better food security. In Lantiwee there would be a sense of security with regard to snakes at night or strangers In Tamarin, residents noted that there would be no worries about safety, no hard physical work because of the use of washing machines, rice cookers, kettles, radio and TV.	
Gender equality		
21. More business opportunity for women.	With the right support and mindfulness of project investors and other organization, the following business opportunities could be created for women: ● Direct business opportunity: The women are willing to work for operation and maintenance of the projects. if the women are actively included in gender-environment nexus during project building work and are given compenstation for contributing to the waste management and recycling team of building workers or other site workers. ● Indirect business opportunity: Improved energy and water access could potentiate the development of tourism which could lead to more business opportunity for women. They could serve as tour guides, sell their arts and crafts, honey products or cook meals. Improved energy and water access could lead to investment opportunities in the field of bioeconomy, such as processing teas or the processing of cinammon bark into bottled essential oils.	Women empowerment can improve community ownership models.
22. Improved physical wellbeing for women.	The women will have less physical work because of the household appliances they can use.	
23. Men having more time for family or household activities.	In Amaloko kondre the men would have increased sense of leisure. In Pinatjarimi the women noted that with more food chilling capacity and food safety, the men would hunt less and have more time for their family.	

	In Tamarin and Wanhatti the women will have less physical work because of the household appliances they can use. No info for Langa oekoe 1 and 2, Lantiwee, Pikin Santi.	

5.7 Potential risk analysis.

KRI's (figure 4) were used to assess the potential risks that could damage the social groups or cultural functions. Table 32, 33 and 34 shows an overview of the risk rating and analysis.

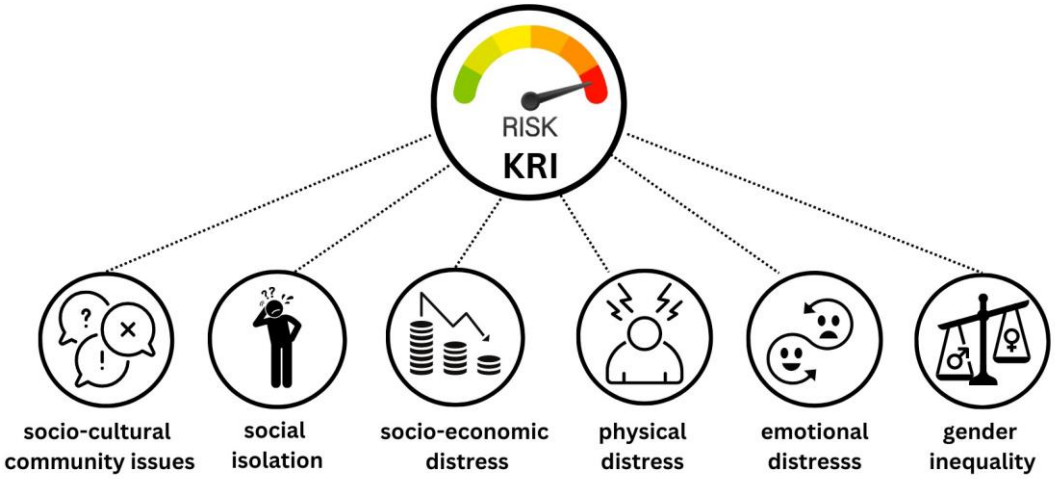


Figure 8. KRI's for solar for the development of water, solar energy- and telecommunications infrastructure on Indigenous land in the South of Suriname.

Table 32. Risk analysis rating: an overview.

Social Key Risk Indicator	Amaloko kondre	Langa-oekoe 1	Langa-oekoe 2	Lanti-wee	Pikin Santi	Pina-tjarimi	Tamarin	Wanhatti
Socio-cultural community issues								
1. Indecision about community ownership models.								
2. Temporary displacement due to project building activities.								
Social isolation								
3. Unequal distribution of water, energy or telecom services.								
4. Lack of local capacity and expertise to sustain								

maintenance or operation of the systems								
5. Lack of trust due to past false promises.								
Socio-economic distress								
6. Lack of paid jobs or employed villagers to upkeep ongoing costs.								
7. Inability to buy freezers, electronic devices or other electrical tools.								
Physical distress								
8. Physical injury while supporting project objectives.								
9. Noise disturbance at critical locations.								
10. Distance for fetching water too far, especially for the elderly.								
11. Dust production during building activities.								
Emotional distress								
12. Worries and stress about generating the finances for the projects.								
13. Temporary distress due to project building activities.								
Gender inequality								
14. Gender inequality in the ability to pay for and maintain services.								
15. Socio-cultural community issues								

Table 33. Risk analysis color legend.

Legend	
	High risk.
	Substantial risk.
	Moderate risk.
	Low risk.
	Not Applicable.
	No information.

For all risks assessed the recommended risk mitigation strategy is to absorb or transfer the risk by reducing it to ALARP by following the recommended safeguard policies and social best practices outlined in table 34.

Table 34. Potential risk analysis: an overview.

Potential risk analysis.		
The scope that was assessed is whether the KPI's damage the social group, as verbally stated during krutu sessions and by socio-cultural assessment of the location in question.		
Social KRI	**Risk analysis: an overview.**	**Recommended safeguard policies and social best practices.**
Socio-cultural community issues		
1.Indecision about community ownership models.	In Amaloko kondre, Langa oekoe 1 and 2, Tamarin and Wanhatti they decided that their payment model would be that everyone who uses it would pay for it and that the usage would be metered per household, just like in the city. In Lantiwee the villagers decided to pay the operational and maintenance costs collectively as a community. No information for Pikin Santi ans Pinatjarimi	Krutu's are needed on a village level to discuss financial ownership models that fit their village. Consent forms that state that they are aware that the operation and maintenance costs are their responsibility, use audio recording if possible.
2.Temporary displacement due to project building activities.	Is unlikely to occur. People will not have to move from their current location due to the construction work of the project.	
Social isolation		
3.Unequal distribution of water, energy or telecom services.	N.A.	
4.Lack of local capacity and expertise to sustain maintenance or operation of the systems.	In general, there is no local technical expertise present. In Langa oekoe 1 and 2 There is only some expertise there, as they have been trained twice by the Ministry of Natural Resources about working on their generator, but this is minor. They are willing to be trained for maintenance or operation of the systems.	No training is required for the maintenance and operation of that system. This is because EBS will operate the system itself.
5.Lack of trust due to past false promises.	The political parties have promised a lot of services, but have not completed those projects. However most villages have trust in this project. There is no info on this in Pikin SantiKumakapan. In Tamarin the political parties also have promised many services but have not completed	Within the informed consent process, considerable effort needs to be taken to inform the inhabitants of the project phases and what they can expect to happen next.

	those projects. Because of this, they do not have fully trust in this project will be good for their village.	
Socio-economic distress		
6.Lack of paid jobs or employed villagers to upkeep ongoing costs.	In most villages, men said they have no objection to paying for electricity each month from their own income, including small agricultural costs and the sale of hunting products (Hustle). Also Podisiri and people working in Moengo. They want to pay individually for their use. No information for Pikin Santi and Pinatjarimi. In Tamarin and Wanhatti there is income in the village.	Stimulating the local economy and creating new livelihoods with improved energy, water and telecommunications access will ensure the long term sustainability of the project building objectives.
7.Inability to buy freezers, electronic devices or other eletrical tools.	Some villages do not have a complete answer to this yet, but it may be possible due to a lack of income. They may already have power tools. No information for Pikin Santi and Pinatjarimi.	
Physical distress		
8.Physical injury while supporting project objectives.	N.A.	Within the FPIC mechanism, what they could expect to include with physical manual labor during project building objectives is recommended.
9.Noise disturbance at critical locations.	Almost all villages are okay with it. In Tamarin they would not be okay with noise disturbance close to the school.	Grievance mechanisms are expressed via krutus. The noise disturbance limits are recommended to be taken into account during project building work.
10.Distance for fetching water too far, especially for the elderly.	Not Answered.	
11.Dust production during building activities.	Almost all villages are okay with it. In Tamarin they would not be okay with dust production close to the school.	Grievance mechanisms are expressed via krutus. The possible dust production location and limits are recommended to be taken into account.

Emotional distress		
12.Worries and stress about generating the	In Amaloko kondre There is a neutral response to financial concerns suggesting that there is no strong concern but also no complete certainty about the financing of the project. If they do not have enough money, they will not be able to maintain the services or keep up the maintenance. In Langa oekoe 1 and 2, the villagers are stressed about this. Lantiwee, Pikin Santi, Pinatjarimi, Tamarin and Wanhatti No. The villagers are not worried.	In the FPIC process, worries of villagers and their leaders should be addressed. It is recommended to
13.Temporary distress due to project building activities.	The villages are okay with temporary distress as long as builders take the school and church into account in the case of any nuisances.	The pleminary FPIC process has shown that they would be okay with some temporary distress due to project building objectives.
Gender inequality		
14.Gender inequality in the ability to pay for and maintain services.	In Amaloko kondre, Langa oekoe 1 and 2 Both men and women have jobs and can contribute to the maintenance or operating costs of energy, water or telecom services. Although there are more men than women working in the village and the men have no objection to paying for the services. No info for Lantiwee, Pikin Santi, Pinatjarimi, Tamarin and Wanhatti.	Gender equality and women empowerment is recommended to be built-in in all project phases.
15.gender inequality in potential job creation.	Indirectly though, with improved energy, telecom and water access there could be potential job creation in the field of tourism for women. Additionally, most women spend a lot of time fetching water (not in Sipaliwini) the men tend to have more job opportunities. Improved water acces would give women more opportunities to earn money.	Creating jobs and compensating women during the project work is recommended. Stimulating women's livelihoods that can be potentiated with improved energy, water and telecommunications access is recommended.

5.8 Social safeguards: a three-phase model.

From the SIA and SRA, a three-phase social safeguards model has been designed to ensure the long-term sustainability of the solar, water and telecommunications infrastructure projects. Within this model the relevant safeguards take action plans, ownership models and social best practice considerations into account.

The social safeguard model includes the following phases:

Phase 1. Free Prior and Informed Consent (FPIC) safeguards.

- *Early FPIC responses.*
- *False promises and informed consent forms.*
- *Dust production and noise disturbance.*
- *Safeguarded territories.*
- *Grievance mechanism.*
- *Potential physical injury.*

Phase 2. Community Capacity Building (CBB) safeguards: technical capacity.

- *Capacity gap analysis.*
- *Technical capacity training programmes.*
- *Gender equality: women empowerment.*

Phase . CBB safeguards: socio-economic capacities and ownership models

- *Socio-economic factors to consider: willingness to pay potential, current potential to pay and future opportunities that can be potentiated with improved energy, water and telecommunications access.*
- *Financial ownership models to sustain operation and maintenance costs.*

5.8.a. Phase 1. Free Prior and Informed Consent (FPIC) safeguards.

Early FPIC responses.

The principle of Free, Prior and Informed Consent (FPIC) refers to the right of tribal Maroons and Indigenous peoples to give or withhold consent for any action that would affect their lands, territories or rights. Legally speaking there is no official recognition in Suriname's land law that states that native groups own the land they live on. However, a constitutional amendment and a draft Law on Collective Rights of Indigenous people and Tribal groups is composed by a land rights management team consisting of representatives of the government and traditional communities of Indigenous people and Maroons which addresses their right to self-determination, cultural integrity, FPIC and the composition of traditional authorities.[5]

By starting the FPIC process early in the engagement process, community ownership and responsibility is encouraged and built-in early on. In this report, early FPIC analysis has been analyzed via the positive impact analyses report with an overview of 23 KPI's in table 35. In general, all inhabitants showed significant willingness to participate in IDB's solar, energy and telecommunications projects, are excited about the opportunity and think that the projects would have a significant beneficial effect on their social group. Table 35 shows a quick overview of the preliminary FPIC considerations per village as stated during initial krutu sessions.

Table 35. Preliminary FPIC per location.

Preliminary FPIC	
village	**FPIC**
Amalokkokondre	**The villagers are excited about the project goals. They strongly agree that the 24/7 energy, will be good for them and their village. However, they noted that they do not want people to come to their village and make false promises anymore.**
Langa-oekoe 1	**They say they prefer around the clock electricity. They strongly agree that the project will be good for their villages.**
Langa-oekoe 2	**They agree that the project would be good for their village.**
Lantiwee	**They strongly agree that the project would be good for their village.**
Pikin Santi	**The villagers are very excited about potential project outcomes and would feel very supported. They strongly agree that these project would be good for their village.**
Pinatjarimi	**The villagers want and need electricity .**
Tamarin	**They agree that the projects will be good for their village. They want and need access to and around the clock electricity.**
Wanhatti	**They agree that the project could improve their lives and will be good for their village.**

False promises and informed consent forms.

Social Key Risk Indicator	Amaloko kondre	Langa-oekoe 1	Langa-oekoe 2	Lanti -wee	Pikin Santi	Pina-tjarimi	Tamarin	Wanhatti
5. Lack of trust due to past false promises.								

From KRI number 5 it is evident that in all villages the residents are marked by previous false promises of political parties and government agencies. Although the trust in this project. But in the village of Tamarin there is a lack of trust in this project due to the false promises made by parties earlier. In order to minimize social conflicts, it is recommended to clearly explain the project phases and objectives to the residents and their leaders and to explain the conditions of the project. The consent form in table 36 is a model that can be used during krutu FPIC discussions before the construction of the project begins.

The traditional leaders make the final decisions and would need to decide if the local government board supervisors should be included in the FPIC process. In addition, it is recommended to actively inform villagers in a krutu setting or, at minimum, to interview a sample percentage of villagers to test their informed consent about their head captains' final decision.

Table 36. Model consent form.

Krutu/interview date:		
I hereby declare that: o **I have been informed about the nature, methods and purpose of the IDB project.** o **that the inhabitants of [*location name*] have been informed about the nature, methods and purpose of the IDB project.** **(Optional)** **Krutu date:** **Location:** o **I will allow project workers to enter the village for the discussed time frame to perform building work.** o **I understand that operational and maintenance costs are not covered by IDB/ project investors and their working partners [*organizations name/ person's name*].**		
Location:		
Name(s) of translator(s):		
Signature of translator(s):		
Name.	**Traditional leader role: Granman/ Captain/ Bassia.**	**Signature.**

Name.	**Governmental bodies: Board supervisor/ assistant board supervisor.**	**Signature.**
Name of inhabitant. "I hereby declare to have been informed on IDB's project goals".		**Signature.**
Notes of discussions		

Dust production and noise disturbance.

Social Key Risk Indicator	Amaloko kondre	Langa-oekoe 1	Langa-oekoe 2	Lanti -wee	Pikin Santi	Pina-tjarimi	Tamarin	Wanhatti
9. Noise disturbance at critical locations.								
11. Dust production during building activities.								

KRI numner 9 and 11 have shown the following instructions from inhabitants in relation to possible dust and noise production: In Tamarin they would not be okay with dust production or noise disturbance close to their school. The inhabitants of the rest of the locations are okay with some dust production or noise disturbance.

Safeguarded territories.

In Langa oekoe 1 en Langa oekoe 2 strangers, outsiders “should not come to the Fraga Tiki”. they would like those territories not to be entered or that the artifacts should not be touched. For the villages with their traditional belief the ‘Fraga Tiki’ is a place of worship for the spirits.

Grievance mechanism.

In all village the traditional engagement method is the krutu format. In the occasion of grievances during site visits, the inhabitants stated that they would notify project workers via their traditional leaders. Table 37 shows the stated preferred grievance mechanism per village.

Table 37. Grievance mechanism per village as stated during krutu sessions.

Grievance mechanism	
village	Grievance mechanism
Amalokkokondre	The villagers will let the captain or basja know if grievances should occur, the traditional authorities.
Langa-oekoe 1	The villagers would let the head captain know and then the remaining captains or basjas.
Langa-oekoe 2	They would notify the traditional leaders, first the captain, then the basjas.
Lantiwee	They would let the captain know.
Pikin Santi	They would let the captain or the head captain know.
Pinatjarimi	They would let the captain and the traditional leaders know.
Tamarin	They would let the captain know, then the village management.
Wanhatti	They would let the basja and the captain know.

Cultural Adaptation of the Grievance Mechanism (GM)

The grievance mechanism is **culturally embedded** through traditional protocols. It begins with **oral submission to the captain or basja**. Given low literacy in some areas, all GM procedures should be explained in **local languages (Ndyuka and Sranan Tongo)**, using **oral communication** and **visual aids** such as pictograms or storytelling.

Customary dispute resolution, including **mediation by elders or collective krutus**, is preferred over formalized legal pathways. Project facilitators must integrate these traditional norms while ensuring documentation for accountability.

The GM must be **free of charge, accessible to all villagers**, and offer **confidentiality** for sensitive cases (e.g., gender-based complaints). Clear protocols must ensure **protection against retaliation**, especially for women and persons with disabilities.

Inclusive Access

Specific efforts should ensure that **women, youth, and people with disabilities** can access the mechanism. This includes:

- Holding **separate krutus for women** led by female facilitators.
- Providing **audio submissions** for those with reading or writing challenges.

- Using **community radio** or public bulletins for updates.

To ensure that community concerns are addressed in a timely, culturally appropriate, and transparent manner, the following table outlines the **step-by-step grievance mechanism (GM) process**. This mechanism incorporates traditional structures, guarantees accessibility for vulnerable groups, and adheres to IDB safeguards regarding free, non-retaliatory, and confidential complaint handling.

Table Grievance Mechanism (GM) Process Flow

Step	Description	Responsible Entity	Timeline
1	Community member raises grievance orally or in writing	Individual / Community member	Day 0 (grievance event)
2	Grievance is recorded by the Captain or Basja	Captain / Basja	Within 1–2 days
3	Krutu is organized to discuss the grievance	Captain / Basja / Village Council	Within 7 days
4	Resolution proposed and discussed; decision documented and shared with complainant	Village Council / Traditional Authorities	Within 7–10 days
5	If unresolved, grievance is escalated to Board Supervisor and Project Liaison	Board Supervisor / FPIC Liaison	Within 10–14 days
6	Final decision communicated to complainant; case officially closed or further monitored	Project Liaison / IDB Safeguards Officer	Within 14 days total

Potential physical injury.

Social Key Risk Indicator	Amaloko kondre	Langa-oekoe 1	Langa-oekoe 2	Lanti-wee	Pikin Santi	Pina-tjarimi	Tamarin	Wanhatti
8. Physical injury while supporting project objectives.								

KRI number 8 shows that the inhabitants of all locations are willing to help with project building objectives.

5.8.b. Phase 2. CBB safeguards: socio-economic capacities and ownership models.

Socio-economic factors to consider.

Social Key Risk Indicator	Amaloko kondre	Langa-oekoe 1	Langa-oekoe 2	Lanti-wee	Pikin Santi	Pina-tjarimi	Tamarin	Wanhatti
Socio-economic distress								
6. Lack of paid jobs or employed villagers to upkeep ongoing costs.								
7. Inability to buy freezers, electronic								

devices or other electrical tools.								
Emotional distress								
12. Worries and stress about generating the finances for the projects.								

The KRI number 6, 7 and 12 show that there are socio-economic factors that need to be adressed in order to sustain the projects long-term. From the pleminary krutu sessions, the following socio-economic factors were gathered: the willingness to pay, their current potential to pay and the potential future economic activities that can be potentiated.

Table 38. Socio-economic factors.

Socio-economic factors.			
Village	**Willingness to pay**	**Current potential to pay: Main economic activities to cover operational costs.**	**Potential future economic activities and use of new tools with improved energy, water and telecom access.**
Amaloko kondre, Langaoekoe 1 and Langa-oekoe 2	The men are ready to pay the cost with their income, each month. They decided that their payment model would be that everyone who uses it should pay for it and that usage should be measured per household, just like in the city.	Both men and women are part of the money economy and do economic activities as: small farming, selling hunting products, Podisiri sale, boat services and people working in Moengo.	○ Tourism ○ Elevation of existing business
Lantiwee	The villagers decided to pay the operational and maintenance costs collectively as a community.	Both men and women are part of the money economy and do economic activities as: Agriculture and bush products ("boesibita").	○ Tourism ○ Elevation of existing business
Pikin Santi	Not specified	Not specified	○ Tourism
Pinatjarimi	Not specified	Not specified	○ Tourism There is an opportunity to develop tourism with the right support. They would want to further develop in tourism by selling souvenirs to tourists or give tours. The women would like to

			sell and cook food for tourists.
Tamarin	People have no objection to paying for electricity monthly with their own income. They decided that their payment model would be that everyone who uses it should pay for it and that usage should be measured per household, just like in the city.	Both men and women are part of the money economy and do economic activities as: gardener work, watchman duties, and farm plot yields.	○ Tourism There in an opportunity to develop tourism with the right support. The fort Boekoe location is in this area and already tourists from Afrika and other countries came to visit. So the villagers need ngo's and other business organizations to help develop the tourist sector. ○ Elevation of existing business
Wanhatti	People have no objection to paying for electricity monthly with their own income. They decided that their payment model would be that everyone who uses it should pay for it and that usage should be measured per household, just like in the city.	Both men and women are part of the money economy and do economic activities as: sale of traditional medicine, hunting, agriculture.	○ Tourism ○ Elevation of existing business: selling more medicinal products if there is tourism.

Financial ownership models to sustain operation and maintenance costs.

Social Key Risk Indicator	Amaloko kondre	Langa-oekoe 1	Langa-oekoe 2	Lanti-wee	Pikin Santi	Pina-tjarimi	Tamarin	Wanhatti
Socio-cultural community issues								
1. Indecision about community ownership models.								

From KRI number 1 it appears that the villages already know about the practical application of their ownership models. They decided that their payment model would be that everyone who uses it would pay for it and that the usage would be metered per household, just like in the city. In Lantiwee the villagers decided to pay the operational and maintenance costs collectively as a community. Pikin Santi and Pinatjarimi did not provide information about this.

Whether these community funds are managed through bank accounts or through cash can be decided by the villagers and their traditional leaders. With cash there would be a need for local administrative capacity and possibly training.

IPP Monitoring, Evaluation and Reporting

To ensure long-term sustainability and community trust, each Independent Power Producer (IPP) or community energy operator must implement a **monitoring, evaluation, and reporting (MER) framework** based on socio-cultural indicators.

Key Socio-Cultural Indicators Include:

- Participation rates of women, youth, and elders in maintenance activities
- Satisfaction with grievance response timelines
- Usage of energy for cultural or economic activities (e.g., crafts, ceremonies, home businesses)
- Reduction in time spent on water collection or manual chores
- Number of cultural practices retained post-installation (e.g., rituals, herbal baths)

Frequency & Methods of Data Collection:

- **Quarterly community satisfaction surveys**
- **Monthly service logs (uptime, outages, maintenance)**
- **Focus group discussions** during krutus
- **Anonymous suggestion boxes or phone lines**

Roles and Responsibilities:

- **Village Management Committees**: Data collection and reporting
- **Technical operators or IPPs**: Service performance monitoring
- **FPIC Liaison or NGO partners**: Independent verification and reporting to IDB
- **IDB Project Monitors**: Periodic evaluation audits

A **feedback loop** must ensure that data informs policy changes, improves grievance handling, and enhances training or service delivery.

6.Conclusion

This report presents a comprehensive Social Impact and Risk Analysis (SIA/SRA) of the development of electricity, water, and telecommunications infrastructure in **Wanhatti and its surrounding villages**: Amalokokondre, Langa Oekoe I and II, Lantiwee, Pikin Santi, Pinatjarimi, and Tamarin. These Maroon communities, located in the eastern part of Suriname, participated in krutu sessions where qualitative data was collected on their needs, expectations, and concerns.

The findings show a **strong and widespread community demand** for improved energy access, clean water, and reliable telecommunications. The potential positive impact of the project is significant, especially in terms of:

- Enhancing **health, nutrition, and food security**, particularly for women and children;
- Expanding **educational and personal development opportunities** for youth;
- Supporting **economic growth**, including **tourism development**, artisanal activities, and microenterprise, particularly for women;
- Increasing **social participation**, **gender equity**, and **emotional well-being** through improved communication and safety;
- Strengthening the **community's ability to manage and maintain** infrastructure when given proper training.

These communities are already integrated into the cash economy, with many households earning income through formal work, agriculture, non-timber forest products, and small businesses. Most residents have experience managing household budgets and expenses, and many expressed willingness to contribute financially to energy and water services, provided there is clarity and fairness in the financial model.

Despite the enthusiasm, several **risks and challenges** must be addressed:

- **Capacity gaps** exist in technical operation and maintenance;
- **Financial sustainability** concerns remain, especially in smaller communities with fewer income-generating opportunities;
- **Mistrust due to past political promises** still lingers, underscoring the need for **transparent communication** and proper **FPIC procedures**;
- **Gender-based disparities** in economic opportunity need to be addressed, with specific focus on promoting paid roles for women;
- **Physical and environmental concerns**, such as noise, dust, and proximity to schools, must be taken into account during construction;
- **Emotional stress** around affordability and compatibility with traditional lifestyles must be acknowledged and mitigated.

To ensure the project's long-term success and minimize risks, the following **safeguards and mechanisms** are recommended:

- A robust **Free, Prior and Informed Consent (FPIC)** process, tailored to each village's governance system;
- **Capacity-building programs** to train local residents, especially youth and women, in technical maintenance and monitoring;
- Clearly defined and transparent **financial and ownership models**, created in consultation with the communities;
- **Gender-inclusive employment opportunities** and support for women's entrepreneurship;
- Operational **grievance mechanisms** and regular community engagement through krutus and follow-ups.

Wanhatti, in particular, demonstrated high levels of engagement, with significant participation during krutu sessions and a clear readiness to collaborate in project planning and implementation. This sets a strong foundation for inclusive development.

In conclusion, the infrastructure project holds substantial promise to **improve the socio-economic, cultural, and physical well-being** of the Maroon communities in this cluster. With the appropriate safeguards in place and continued community involvement, it can become a model for sustainable, participatory development in Suriname's interior.

Concluding remarks.

This report shows a risk assessment of the development of solar panel, water and telecommunications infrastructure projects for the Indigenous peoples in the South of Suriname. All risks are considered to be able to be absorbed by investors by following the recommended safegaurds or have the option to be transferred to third parties. The potential positive impact of the projects are significant for the Indigenous peoples overall wellbeing. ACT-S is committed to play a significant role in creating sustainble local bioeconomies that can be accelerated with improved energy access.

The KPIs and KRIs that are formulated in this document are meant to serve as a dynamic framework and can be referred back to or adjusted when opportunities or risks change during project progression:

Socio-cultural community

- 1. Optimizing their way of life.
- 2. Engagement method in place.
- 3. Cultural heritage and -territories maintained.

Social participation

- 4. Easy access to the city for family.
- 5. Feeling supported.
- 6. Willing to accommodate workers to achieve project goals.
- 7. Willing to be trained for operation and maintenance.
- 8. Increased personal development.
- 9. Increased sense of equal rights.
- 10. Willing to learn new technologies

Socio-economic wellbeing

- 11. Willingness to work for operation and maintenance.
- 12. Increased business opportunity.
- 13. Elevation of existing businesses.
- 14. Use of new tools.

Physical wellbeing

- 15. Improved medical care
- 16. Improved health and nutrition status.
- 17. Improved food security.
- 18. Improved sense of leisure.

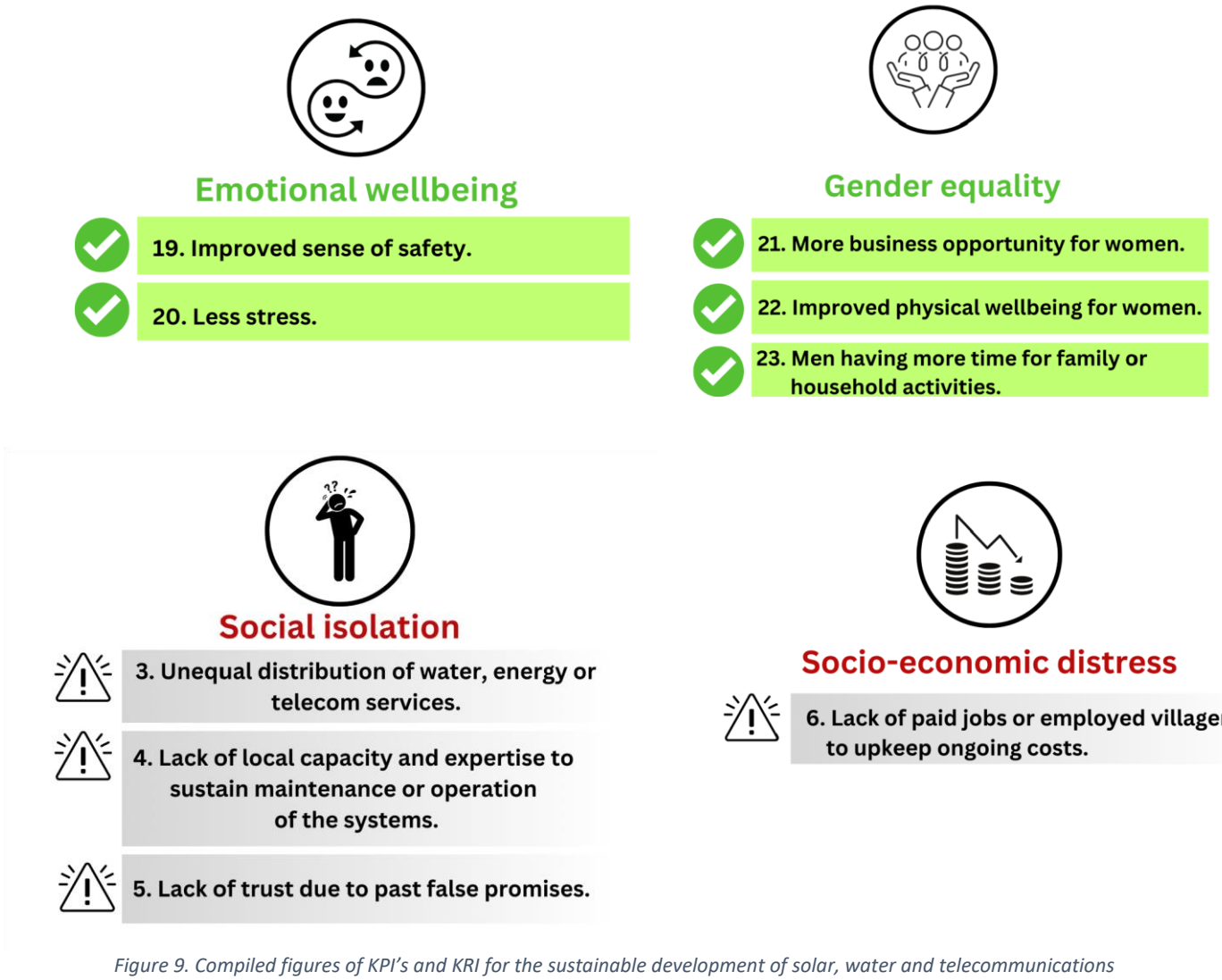


Figure 9. Compiled figures of KPI's and KRI for the sustainable development of solar, water and telecommunications infrastructure for the Indigenous peoples in the South of Suriname.

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Appendix 1. Raw data of interview results.

Interviewer: Nieuwendam J. and Forst M.
Villages: Amalokokondre
Men and women's krutu
Date: February 12th 2025 Translator(s): Nieuwendam J. and Forst M.

1. Social Factors: Baseline Village Info

No.	Question	Response
1a	**How many people live in your village?**	Between **10 and 19 people** live in the village.
1b	**How many households live in your village?**	There are **10 households** in the village.
1c	**How many houses?**	The village has **22 houses**.
1d	How many males live in this village/How many females/How many children?	**8 women and 11 men** reside in the village. The children **attend school in Moengo** and have their own homes there.

2. Baseline Energy, Water, and Telecom Usage

No.	Question	Response
2a	**What energy systems does your village currently have?**	A **generator system** is used in the village from **7 PM to 11 PM**.
2b	**Does the village have a generator?**	**Yes.**
2c	**If yes, do you use an electric cooking stove?**	**No information provided.**
2d	**Do you use diesel motors for fuel generation?**	**Yes,** the village requires **8 to 9 barrels of diesel.**
2e	**How much do you need?**	**8 to 9 barrels of diesel.**
2f	**And what do you need it for?**	**No information provided.**
2g	**Where do you get the oil from, and who pays for it?**	Oil is **supplied by NH (Nationaal Energiebedrijf).**
2h	**Do you use kerosene fuel for light lamps or power?**	**Yes.**

2i	**Inside your house or outside your house?**	**Both inside and outside.**
2j	Do you use candles or have battery powered lights? How many	**Yes, candles are used both inside and outside.**
2k	**Do you need light at night and what do you use?**	**No information provided.**
2l	**Where do you fetch your current drinking water?**	From the **river** and **rainwater collected in buckets and a durotank** (which is sometimes contaminated).
2m	**Are you able to save drinking water?**	**Yes, water is stored in a durotank and buckets.**
2n	**What is the source of your current bath water?**	**River water.**
2o	**Where do you bathe?**	**No information provided.**
2p	**What alternative water sources do you have?**	A **creek** near the agricultural plots.
2q	**What is the current telecom operation system in the village?**	**Telesur.**
2r	**Do you have phone reception here?**	**Sometimes, the signal is weak.**
2s	**Who is responsible for maintaining it?**	**Not applicable (NVT).**
2t	**Do you have radio reception in the village?**	**No.**
2u	**Do you own mobile phones?**	**Yes.**
2v	**Do you have an internet connection?**	**Yes, but you have to pay.**
2w	**Have you been 'on' the internet / do you know what the internet is?**	**Yes, daily use.**
2x	**Wired internet or via a phone?**	**Not applicable (NVT).**

3. Demand Assessment

No.	Question	Response

3a	Do you feel you need alternative energy options in your village? **(i) Yes, we need it. (ii) We don't need it, but we want it. (iii) No, we don't want it or need it.**	**Option i**
3b	Do you feel you need radio in your village? **(i) Yes, we need it. (ii) We don't need it, but we want it. (iii) No, we don't want it or need it.**	**Option i**
3c	**Do you feel you need telephone service in your village?** i. Yes, we need it. ii. We don't need it, but we want it. iii. No, we don't want it or need it.	**Option i . Yes, we need it.** **Reliable telephone service** is important for **emergencies and communication**.
3d	**Is light at night important to you?** i. Yes, we need it. ii. We don't need it, but we want it. iii. No, we don't want it or need it.	**Option i. Yes we need it.** **Very important.** Light at night is **crucial for safety and daily activities**.

4.Physical Wellbeing: Health and Nutrition Status, Food Security, and Agricultural Production

No,	Question	Response
4a	How do you currently keep food conserved?	Food is consumed immediately or reheated in the morning. There is no long-term storage system.
4b	How do you feel about storing food and drinks in a fridge?	A fridge would be beneficial for preserving food and reducing waste.
4c	Comment on the following: If there were electricity, would you use a fridge to store food? i. Strongly agree. ii. Agree.	Option v. Strongly agree. Having a fridge would greatly improve food storage.

	iii. Neutral. iv. Disagree. v. Strongly disagree.	
4d	I will only store my fruits and crops in the fridge. i. Strongly agree. ii. Agree. iii. Neutral. iv. Disagree. v. Strongly disagree.	Option i. Strongly agree. Proper storage would help keep fruits and crops fresh for longer periods.
4e	I will store hunted game in the fridge/freezer. i. Strongly agree. ii. Agree. iii. Neutral. iv. Disagree. v. Strongly disagree.	Option i. Strongly agree. A freezer would be useful for preserving hunted game for later consumption.
4f	Would you like to have a fridge? Why? i. I would love a fridge. ii. I am not fond of the idea. Why? Elaborate.	Option i. I would love a fridge. It makes food storage much easier, and food remains fresh for a longer time.
4g	If you had a fridge or freezer, would you want to save more food as a reserve for the village?	Yes. A fridge or freezer would allow the community to store food for future use.

Water and Health

No,	Question	Response
4h	Has your current drinking water caused illnesses? What kinds?	Yes. Some villagers have experienced diarrhea due to water contamination.
4i	Have people ever gotten seriously sick from contaminated water?	Yes. Contaminated water has caused health issues in the village.
4j	Is diarrhea or pneumonia something villagers often deal with?	Yes. Diarrhea is a common issue due to unsafe drinking water.
4k	What water source do you use for your agricultural plots?	The village uses river water and creek water near the agricultural plots.
4l	Do you think that a clean water system will help increase your agricultural crop production? Why?	Yes. Clean water would improve crop growth and yield by reducing contamination.
4m	Do you have enough crops in the dry season?	The village struggles to maintain sufficient crops during the dry season.

Telecom and Medical Access

No,	Question	Response
4n	How do you currently reach Medical aid if there is a medical emergency in your village?	There is no nearby medical mission. Villagers must travel to Moengo, which takes two hours by boat with a 25HP motor.

5. Physical Wellbeing: Leisure & Device Dependency

No.	Question	Response
5a	Would you like a TV for entertainment? i. Absolutely yes ii. Yes iii. Neutral iv. No v. Definitely not	Option i. Absolutely yes

5b	Would you like radio for entertainment? i. Absolutely yes ii. Yes iii. Neutral iv. No v. Definitely not	Option i. Absolutely yes
5c	Comment on the following: "No, I do not want a TV or radio, otherwise nobody would want to work." i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Option i. Strongly agree
5d	If you had a fridge, would you enjoy drinking cold beverages like Coca-Cola?	Yes

6. Emotional Wellbeing: Safety, Security, Contentment, and lack of stress

No.	Question	Response
6a	Will having more light in the village at night make you feel safer? Why?	Yes, more light at night would make it safer, for example, you can see snakes.
6b	Could you see snakes or other wild animals better with light at night?	**Not specified (NVT).**
6c	I feel that personal phone access would make me feel safer. i. Absolutely yes	ii. Yes, having phone access would make me feel safer, especially in emergencies.

	ii. Yes iii. Neutral iv. No v. Definitely not	
6d	Listening to the radio would ease my daily stressors in life. i. Yes ii. Neutral iii. No iv. Definitely not	Option i. Yes, mainly news and music

7. Material wellbeing: Housing, Possessions, (impact socio-economic differences and preferences) and Independence: personal value

No.	Question	Response
7a	Would you eventually like electricity access right to your house? Or would central community lighting be enough for you? Why?	**Not specified (NVT).**
7b	How many of you own a cellphone or would love to own a cellphone?	everyone
7c	How many of you own a radio or would love to own a radio?	Everyone
7d	How many of you have no interest in owning a radio?	**Not specified (NVT).**
7e	How many of you have ever personally used a computer?	**Nobody**
7f	How many of you would love to learn how to use a computer?	**Everyone**
7g	How many of you have completely no interest in learning how to use a computer?	**Nobody**

8. Socio-Economic: existing businesses that could cover the operational & maintenance costs – Once installed, the operational and maintenance costs of this project, can be expensive

No.	Question	Response
8a	With what businesses could you pay for it?	Men have no objection to paying for electricity each month with their own income, including small farming costs and selling hunting products. Also, Podisiri and people working in Moengo. Boat services... 2.5 hours... 100 Srd... Private 200??
8b	Would you want to pay for it together as a community?	**No**
8c	Or would you rather only those that want to use energy, water, or telecom pay for it?	Pay individually for their usage
8d	We'd rather be dependent on outside funding. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	**Not specified (NVT).**
8e	I do not want outside funding because we can't trust that they always have enough money for us. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly agree
8f	We want to pay for the maintenance costs ourselves.	**Not specified (NVT).**

	i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	
8g	We want to learn how the installations work. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Option ii. Yes, we want to learn. Yes, already two times, Carlo Asanga from Min NH.
8h	Have you ever been promised funding for water or electricity before? By whom or what organization/political party?	**No**

9. Socio-Economic: Sustainable Business Opportunities

No.	Question	Responses
9a	Do you see tourism as a business opportunity for your village?	No, but they would like to.
9b	If yes, do you think more energy, water, and telecom access would allow more tourists to visit your village?	**Yes**

10. Innovation or elevation of business opportunity/use of new tools

No.	Question	Responses
10a	Would you work longer hours if you had (electric) light at night?	**Not specified (NVT).**

11. Social Participation: Social Networks & Feeling Supported

No.	Question	Response
11a	Do you feel excited about the potential of energy?	Yes
11b	Do you feel excited about telecom opportunities? Radio/phone/internet?	Yes
11c	Would you feel more supported if this project came to your village?	Yes

12. Social participation: rights (human rights and legal rights/access, justice).

No.	Question	Response
12a	Would you feel like you have equal rights as people in the city if you have access to energy?	Yes not only electricity.
12b	I want equal rights to people in the city. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly agree.
12c	I think having energy, telecom, or water systems would give me equal rights. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly agree.

13. Independence: personal development (educational status, access to quality education)

No.	Question	Response

13a	Will energy create extended study hours? Would your kids be able to study more/longer with access to light?	**Yes**
13b	Do you think more elementary school teachers would come to the village if you had energy, water, and telecom?	**Yes**

14.Independence, self-determination (choices, autonomy)

No.	**Question**	**Response**
14a	Decision-making process: How would you decide as a village if this project is feasible?	Decision-making by the village leadership; Captain in consultation with the community.
14b	Would you vote to see if all villagers agree with the terms?	**Not a custom**
14c	What would the role of the captain be in this process?	Final vote/word would lie with the Captain.

15. Socio-cultural community: highlighting traditional knowledge. Socio-economic.

No.	**Question**	**Response**
15a	Would you like to share your knowledge of traditional medicine with outsiders?	Only for certain conditions; asthma.
15b	Do you see selling medicinal products as a business opportunity?	**Not specified (NVT).**

16.Socio-cultural community: maintaining a traditional way of living

No.	**Question**	**Response**
16a	Do you think the energy project would make you become a different person?	Yes; Of course, it's easier; positive change.
16b	Would you rather live as you live right now? i. Strongly agree ii. Agree	iv. Disagree

	iii. Neutral iv. Disagree v. Strongly disagree	
16c	Would you want to call family members in the city? i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	iii. Neutral
16d	I wouldn't want my children to watch TV, I'd rather they play outside. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	iv. Disagree; Caution near the river

17. Socio-cultural: promoting gender equality/ consideration of traditional gender roles. Culture shifts: gender behavior. Traditional use of land /women empowerment

No.	Question	Response
17a	Do you think men would hunt more, or less, if you had a fridge to save food in?	Yes, because too much is not good; it would be divided or sold.
17e	Women: Would you keep cooking with fire or would you want an electric stove to cook quicker? What would you do with your freed-up time?	Yes, but only for certain tasks.

18. Socio-Cultural/Environmental Territories: Access to Indigenous Spiritual or Other Important Sites

No.	Question	Responses
18a	Are there areas in your village where you don't want outsiders to come and build things or walk through? For what reason: • Spiritual • Personal property • Other	No restricted areas.
18b	Can you mark these areas on a map for us?	**Not specified (NVT).**

19. Environmental: Flooding & Climate Impact

No.	Question	Responses
19a	Can you mark for us on a map where you experience a lot of flooding during rain seasons?	**Not specified (NVT).**

20. Environmental: Wildlife Protection & Ecosystem Changes

No.	Question	Responses
20a	Where are your hunting grounds?	**Various locations**
20b	Where are your fishing grounds?	Everywhere in the region of the village
20c	Are there park rangers in your village? Rangers help with forest monitoring and management.	**No**
20d	Are there more people interested in becoming a park ranger to help protect and monitor your lands and animals during project building activities?	**No.**

21. Environmental: Land (Flora and Fauna and Water Protection/Deforestation)

No.	Question	Response
21a	Are you okay with possible deforestation to build the energy, system? i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Agree

22. Environmental: Land (Discarding of Waste/Waste Management System/Pollution, Recycling)

No.	Question	Responses
22a	Where do you discard of fuel carriers?	Go back to town
22b	Are the fuel carriers brought back to the city?	Yes
22c	Where do you discard of empty batteries or old motors?	Around the house, keep for spare parts

23. Environmental: Territories and Resources (Use of Local Materials/Repurposing)

No.	Question	Responses
23a	If you used less wood to cook your food and water, because of electric appliances, would you use wood for other purposes? Like what?	Yes for preparing traditional herbal baths
23b	Would you help find materials to help build project objectives?	Yes

24. Environmental: Potential for Allowing Research of Land and Biodiversity Systems During Project Activities as an Environmental Safeguard

No.	Question	Responses
24a	Would you be willing to let scientific researchers assess whether the animals and land will be disturbed during the project building? (wildlife and biodiversity research by universities through funding? As an environmental safeguard).	**Not specified (NVT).**

25. Socio-Economic/Social Participation/Social Inclusion/Capacity Gap Analysis/Independence/Self-Determination/Ownership Models

No.	Question	Responses
25a	Would any of the villagers like to work **on the solar / water or telecom energy project?**	Yes
25b	Would you like to upkeep (operation and maintenance) this new project yourself?	

25c	Would you rather outside people get paid to do the building work? Or would you like to help?	Yes, use local people; Private meter.
25d	Would you rather outside people get paid for general operation and maintenance?	**No**
25e	Would you accommodate those people in your village?	yes
25f	Would you like to be educated on how to maintain the solar panel, water networks, and telecom in your village by yourselves?	**Not specified (NVT).**

26. Grievance Mechanism, Environmental Examples (Land, Indicators: Air Quality and Noise)

No.	Question	Responses
26a	With the building activities, there might be some noise and dust production. Would you be okay with this?	Yes
26b	Where would you not be okay with this? School for example? Other places? Mark for us on a map.	**Not specified (NVT).**
26c	If you still experience grievance from this in other places, they would like you to tell them. Who would you want to go to?	Traditional Authorities

27. Grievance Mechanism, Social Examples (Social Conflicts, Indicators: Social Inclusion)

No.	Question	Responses
27.	**What if you decide to continue with these projects if outsiders come to help with project building, and you get conflicts with them? Who would you tell about this? Or would you keep it to yourself?**	The captain / Basja.

28. Concluding Statements

No.	Question	Responses

	Comment on the following statement	
28a	I am content with the way things are. I don't need energy or telecom i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly disagree
28b	I am looking forward to the project i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly agree.
28c	I am worried about finances for this project. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Neutral
28d	I am worried about deforestation in this project. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly Disagree.
28e	I am worried that it won't fit our way of life. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly disagree
28f	I am worried about the game/animals that will go away with too much noise. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly disagree
28g	I trust that this project will be good for my village. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly agree

Interviewer: Nieuwendam J. and Forst M.
Villages: Langa-oekoe 1
Men and women's krutu
Date: February 12th 2025 Translator(s): Nieuwendam J. and Forst M.

1. Social Factor: Baseline Village Info

No.	Question	Response
1a	How many people live in your village?	The population fluctuates between 32 and 25 people due to travel between the village and nearby towns such as Moengo and Albina. Some residents have not returned permanently since past conflicts.
1b	How many households live in your village?	There are 32 households.
1c	How many houses?	The village consists of 32 houses.
1d	How many males, females, and How many males live in this village/How many females/How many children?	There are 11 men, 9 women, and 5 children residing in the village.

2. Baseline Energy, Water, and Telecom Usage

No.	Question	Response
2a	What energy systems does your village currently have?	The village relies on a generator for electricity.
2b	Does the village have a generator?	Yes, the generator operates daily from 6 AM to 1 PM.
2c	If yes, do you use an electric cooking stove?	No response provided.
2d	Do you use diesel motors for fuel generation?	Yes, the generator runs on diesel.
2e	How much diesel fuel do you need?	Between 8 to 9 barrels of diesel are required.

2f	What do you use it for?	It is used for electricity generation in the village.
2g	Where do you get the oil from, and who pays for it?	The Ministry of Natural Resources (NH) supplies the fuel.
2h	Do you use kerosene fuel for light lamps or power?	Yes, kerosene is used.
2i	Is kerosene used inside or outside the house?	It is used both inside and outside the house.
2j	Do you use candles or have battery powered lights? How many??	Yes, candles are used, but the quantity was not specified.
2k	Do you need light at night, and what do you use?	Yes, lighting is needed at night, and various sources such as kerosene lamps, candles, and battery-powered lights are used.
2l.	Where do you fetch your current drinking water?	Drinking water is collected from rainwater and the river.
2m	Are you able to save drinking water?	Yes, water is stored in large tanks (durotanks) and buckets.
2n.	What is the source of your current bath water?	River water is used for bathing.
2o	Where do you bathe?	No response provided.
2p	What alternative water sources do you have?	A creek near the agricultural lands is also used as a water source.
2q	What is the current telecom operation system in the village?	The village has Telesur coverage, with approximately 90% of residents relying on it.
2r	Do you have phone reception here?	Phone reception is poor in some areas (e.g., Tugoloekoe).
2s	Who is responsible for maintaining the telecom system?	Currently, there is no designated individual responsible for maintenance.
2t	Do you have radio reception in the village?	Yes, radio reception is available, but it is affected by interference from trees.
2u	Do you own mobile phones?	Elderly residents do not own mobile phones, and there is no Digicel service in the village.

2v	Do you have internet connection?	Internet access is available via Telesur mobile data.
2w	Have you been on the internet/ do you know what the internet is?	No response provided.
2x	Wired internet or via a phone?	The internet is accessed via mobile phones using Telesur data.

3. Demand Assessment

No,	Question	Response
3a	Do you feel you need alternative energy options in your village? i. Yes, we need it. ii. We don't need it, but we want it. iii. No, we don't want it or need it.	Option i. Yes, we need it. There is a strong need for electricity in the village.
3b.	Do you feel you need radio in your village? i. Yes, we need it. ii. We don't need it, but we want it. iii. No, we don't want it or need it.	Option i. Yes, we need it. A radio would be useful for communication and receiving important information.
3c.	Do you feel you need telephone access in your village? i. Yes, we need it. ii. We don't need it, but we want it. iii. No, we don't want it or need it.	Option i. Yes, we need it. Reliable phone service is essential for emergency communication.
3d.	Is light at night important to you? i. Yes, very important. ii. No, not so important.	Option iv. Yes, very important. Night lighting is essential for safety and daily activities.

	iii. Unimportant. iv. Very unimportant.	

4. Physical Wellbeing: Health, Nutrition, and Agriculture

No,	Question	Response
4a	How do you currently keep food conserved?	Food is consumed immediately or reheated in the morning. There is no long-term storage system.
4b	How do you feel about storing food and drinks in a fridge?	A fridge would be beneficial for preserving food and reducing waste.
4c	Comment on the following: If there were electricity, would you use a fridge to store food? i. Strongly agree. ii. Agree. iii. Neutral. iv. Disagree. v. Strongly disagree.	Option v. Strongly agree. Having a fridge would greatly improve food storage.
4d	I will only store my fruits and crops in the fridge. i. Strongly agree. ii. Agree. iii. Neutral. iv. Disagree. v. Strongly disagree.	Option i. Strongly agree. Proper storage would help keep fruits and crops fresh for longer periods.
4e	I will store hunted game in the fridge/freezer. i. Strongly agree. ii. Agree.	Option i. Strongly agree. A freezer would be useful for preserving hunted game for later consumption.

	iii. Neutral. iv. Disagree. v. Strongly disagree.	
4f	Comment on the following: Would you like to have a fridge? Why? i. I would love a fridge. ii. I am not fond of the idea.	Option i. I would love a fridge. It makes food storage much easier, and food remains fresh for a longer time.
4g	If you had a fridge or freezer, would you want to save more food as a reserve for the village?	Yes. A fridge or freezer would allow the community to store food for future use.

Water and Health

No,	Question	Response
4h	Has your current drinking water caused illnesses? What kinds?	Yes. Some villagers have experienced diarrhea due to water contamination.
4i	Have people ever gotten seriously sick from contaminated water?	Yes. Contaminated water has caused health issues in the village.
4j	Is diarrhea or pneumonia something villagers often deal with?	Yes. Diarrhea is a common issue due to unsafe drinking water.
4k	What water source do you use for your agricultural plots?	The village uses river water and creek water near the agricultural plots.
4l	Do you think that a clean water system will help increase your agricultural crop production? Why?	Yes. Clean water would improve crop growth and yield by reducing contamination.
4m	Do you have enough crops in the dry season?	The village struggles to maintain sufficient crops during the dry season.

Telecom and Medical Access

No,	Question	Response

4n	How do you currently reach Medical aid if there is a medical emergency in your village?	There is no nearby medical mission. Villagers must travel to Moengo, which takes two hours by boat with a 25HP motor.

5. Physical Wellbeing: Leisure & Device Dependency

No.	Question	Response
5a	Would you like a TV for entertainment? i. Absolutely yes ii. Yes iii. Neutral iv. No v. Definitely not	Option i. Absolutely yes
5b	Would you like radio for entertainment? i. Absolutely yes ii. Yes iii. Neutral iv. No v. Definitely not	Option i. Absolutely yes
5c	Comment on the following: "No, I do not want a TV or radio, otherwise nobody would want to work." i. Strongly agree ii. Agree iii. Neutral iv. Disagree	Option i. Strongly agree

	v. Strongly disagree	
5d	If you had a fridge, would you enjoy drinking cold beverages like Coca-Cola?	**Not specified (NVT).**

6. Emotional Wellbeing: Safety, Security, Contentment, and lack of Stress

No.	Question	Response
6a	Will having more light in the village at night make you feel safer? Why?	Yes, more light at night would make it safer, for example, you can see snakes.
6b	Could you see snakes or other wild animals better with light at night?	**Not specified (NVT).**
6c	I feel that personal phone access would make me feel safer. i. Absolutely yes ii. Yes iii. Neutral iv. No v. Definitely not	ii. Yes, having phone access would make me feel safer, especially in emergencies.
6d	Listening to the radio would ease my daily stressors in life. i. Yes ii. Neutral iii. No iv. Definitely not	Option i. Yes, mainly news and music

7. Material wellbeing: Housing, Possessions, (impact socio-economic differences and preferences) and Independence: personal value

No.	Question	Response
7a	Would you eventually like electricity access right to your house? Or would	**Not specified (NVT).**

	central community lighting be enough for you? Why?	
7b	How many of you own a cellphone or would love to own a cellphone?	**Not specified (NVT).**
7c	How many of you own a radio or would love to own a radio?	**Not specified (NVT).**
7d	How many of you have no interest in owning a radio?	**Not specified (NVT).**
7e	How many of you have ever personally used a computer?	**Not specified (NVT).**
7f	How many of you would love to learn how to use a computer?	**Everyone**
7g	How many of you have completely no interest in learning how to use a computer?	**Not specified (NVT).**

8. Socio-Economic: existing businesses that could cover the operational & maintenance costs –

Once installed, the operational and maintenance costs of this project, can be expensive

No.	**Question**	**Response**
8a	With what businesses could you pay for it?	Men have no objection to paying for electricity each month with their own income, including small farming costs and selling hunting products. Also, Podisiri and people working in Moengo. Boat services... 2.5 hours... 100 Srd... Private 200??
8b	Would you want to pay for it together as a community?	**Not specified (NVT).**
8c	Or would you rather only those that want to use energy, water, or telecom pay for it?	Pay individually for their usage
8d	We'd rather be dependent on outside funding. i. Strongly agree ii. Agree	**Not specified (NVT).**

	iii. Neutral iv. Disagree v. Strongly disagree	
8e	I do not want outside funding because we can't trust that they always have enough money for us. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	**Not specified (NVT).**
8f	We want to pay for the maintenance costs ourselves. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	**Not specified (NVT).**
8g	We want to learn how the installations work. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Option ii. Yes, we want to learn. Yes, already two times, Carlo Asanga from Min NH.
8h	Have you ever been promised funding for water or electricity before? By	Political parties

	whom or what organization/political party?	

9. Socio-Economic: Sustainable Business Opportunities

No.	Question	Responses
9a	Do you see tourism as a business opportunity for your village?	No tourism till now, but they would like to.
9b	If yes, do you think more energy would allow more tourists to visit your village?	**Yes**

10. Innovation or elevation of business opportunity/use of new tools

No.	Question	Responses
10a	Would you work longer hours if you had (electric) light at night?	**Not specified (NVT).**

11. Social Participation: Social Networks & Feeling Supported

No.	Question	Response
11a	Do you feel excited about the potential of energy?	Yes
11b	Do you feel excited about telecom opportunities? Radio/phone/internet?	Yes
11c	Would you feel more supported if this project came to your village?	Yes

12. Social participation: rights (human rights and legal rights/access, justice).

No.	Question	Response
12a	Would you feel like you have equal rights as people in the city if you have access to energy?	Yes a beginning
12b	I want equal rights to people in the city. i. Strongly agree ii. Agree	Strongly agree.

	iii. Neutral iv. Disagree v. Strongly disagree	
12c	I think having energy would give me equal rights. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Agree

13. Independence: personal development (educational status, access to quality education)

No.	**Question**	**Response**
13a	Will energy create extended study hours? Would your kids be able to study more/longer with access to light?	**Yes**
13b	Do you think more elementary school teachers would come to the village if you had energy, water, and telecom?	**Yes**

14.Independence, self-determination (choices, autonomy)

No.	**Question**	**Response**
14a	Decision-making process: How would you decide as a village if this project is feasible?	Decision-making by the village leadership; Captain in consultation with the community.
14b	Would you vote to see if all villagers agree with the terms?	**Not specified (NVT).**
14c	What would the role of the captain be in this process?	Final vote/word would lie with the Captain.

15. Socio-cultural community: highlighting traditional knowledge. Socio-economic.

No.	Question	Response
15a	Would you like to share your knowledge of traditional medicine with outsiders?	Only for certain conditions; asthma.
15b	Do you see selling medicinal products as a business opportunity?	**Not specified (NVT).**

16.Socio-cultural community: maintaining a traditional way of living

No.	Question	Response
16a	Do you think the energy, water, and telecom projects would make you become a different person?	Yes; Of course, it's easy; positive change.
16b	Would you rather live as you live right now? i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	iv. Disagree
16c	Would you want to call family members in the city? i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	iii. Neutral
16d	I wouldn't want my children to watch TV, I'd rather they play outside. i. Strongly agree	iv. Disagree; Caution near the river

	ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	

17. Socio-cultural: promoting gender equality/ consideration of traditional gender roles. Culture shifts: gender behavior. Traditional use of land /women empowerment

No.	Question	Response
17a.	Do you think men would hunt more, or less, if you had a fridge to save food in?	Yes, because too much is not good; it would be divided or sold.
17b.	Women: Would you keep cooking with fire or would you want an electric stove to cook quicker? What would you do with your freed-up time?	Yes, but only for certain tasks.

18. Socio-Cultural & Environmental: Restricted Areas

No.	Question	Responses
18a	Are there areas in your village where you don't want outsiders to come and build things or walk through? For what reason: • Spiritual • Personal property • Other	Yes, people should not come to the Fraga Tiki.
18b	Can you mark these areas on a map for us?	**Not specified (NVT).**

19. Environmental: Flooding & Climate Impact

No.	Question	Responses
19a	Can you mark for us on a map where you experience a lot of flooding during rain seasons?	**Not specified (NVT).**

20. Environmental: Wildlife Protection & Ecosystem Changes

No.	Question	Responses
20a	Where are your hunting grounds?	**Various locations**

20b	Where are your fishing grounds?	**Not specified (NVT).**
20c	Are there park rangers in your village? Rangers help with forest monitoring and management.	**Not specified (NVT).**
20d	Are there more people interested in becoming a park ranger to help protect and monitor your lands and animals during project building activities?	**Not specified (NVT).**

21. Environmental: Deforestation & Water Protection

No.	Question	Response
21a	Are you okay with possible deforestation to build the solar, water, and telecom systems? i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	**Not specified (NVT).**

22. Environmental: Land (Discarding of Waste/Waste Management System/Pollution, Recycling)

No.	Question	Responses
22a	Where do you discard of fuel carriers?	**Not specified (NVT).**
22b	Are the fuel carriers brought back to the city?	**Not specified (NVT).**
22c	Where do you discard of empty batteries or old motors?	**Not specified (NVT).**

23. Environmental: Use of Local Materials

No.	Question	Responses
23a	If you used less wood to cook your food and water for, because of electric appliances, would you use wood for other purposes? Like what?	**Yes to cook medical leaves to bath.**
23b	Would you help find materials to help build project objectives?	**Not specified (NVT).**

24. Environmental: Potential for Allowing Research of Land and Biodiversity Systems During Project Activities as an Environmental Safeguard

No.	Question	Responses
24a	Would you be willing to let scientific researchers assess whether the animals and land will be disturbed during the project building? (wildlife and biodiversity research by universities through funding? As an environmental safeguard).	**Not specified (NVT).**

25. Socio-Economic & Local Employment

No.	Question	Responses
25a	Would any of the villagers like to work on **on the solar / water or telecom energy**? Write down names.	yes
25b	Would you like to upkeep (operation and maintenance) this new project yourself, if possible?	After being trained
25c	Would you rather outside people get paid to do the building work? Or would you like to help?	use local people; Private meter/private paying.
25d	Would you rather outside people get paid for general operation and maintenance?	**No we want to work.**
25e	Would you accommodate those people in your village?	Yes
25f	Would you like to be educated on how to maintain the electricity network in your village by yourselves?	Yes the youngsters of the village with a proper education

26. Grievance Mechanism: Environmental Concerns

No.	Question	Responses
26a	With the building activities, there might be some noise and dust production. Would you be okay with this?	**Yes.**
26b	Where would you not be okay with this? School for example? Other places? Mark for us on a map.	**No other places**

26c	If you still experience grievance from this in other places, they would like you to tell them. Who would you want to go to?	**The basja/captain .**

27. Grievance Mechanism, Social Examples (Social Conflicts, Indicators: Social Inclusion)

No.	Question	Responses
27.	**What if you decide to continue with these projects if outsiders come to help with project building, and you get conflicts with them? Who would you tell about this? Or would you keep it to yourself?**	The captain / Basja.

28. Concluding Statements

No.	Question	Responses
	Comment on the following statement	
28a	I am content with the way things are. I don't need energy or telecom i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly disagree
28b	I am looking forward to the project i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly agree.
28c	I am worried about finances for this project. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Agree
28d	I am worried about deforestation in this project. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly disagree

28e	I am worried that it won't fit our way of life. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly disagree
28f	I am worried about the game/animals that will go away with too much noise. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Disagree.
28g	I trust that this project will be good for my village. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly agree.

Interviewer: Nieuwendam J. and Forst M.
Villages: Langa-oekoe 2
Men and women's krutu
Date: February 12th 2025 Translator(s): Nieuwendam J. and Forst M.

1. Social factor: baseline village info

No.	Question	Response
1a	How many people live in your village?	2 people now in the village. Boat from Moengo.
1b	How many households live in your village?	Many houses; approximately 50-60 houses due to poor roads; people leave.
1c	How many houses?	50-60 houses.
1d	How many males live in this village? How many females? How many children?	1 woman, 11 men.

2. Baseline Energy, Water, and Telecom Usage

No.	Question	Response
2a	What energy systems does your village currently have?	The village relies on a generator for electricity.
2b	Does the village have a generator?	Yes, the generator operates daily from 6 AM to 1 PM.
2c	If yes, do you use an electric cooking stove?	No response provided.
2d	Do you use diesel motors for fuel generation?	Yes, the generator runs on diesel.
2e	How much diesel fuel do you need?	Between 8 to 9 barrels of diesel are required.
2f	What do you use it for?	It is used for electricity generation in the village.
2g	Where do you get the oil from, and who pays for it?	The Ministry of Natural Resources (NH) supplies the fuel.
2h	Do you use kerosene fuel for light lamps or power?	Yes, kerosene is used.
2i	Is kerosene used inside or outside the house?	It is used both inside and outside the house.
2j	Do you use candles? or have battery powered lights? How many?	Yes, candles are used, but the quantity was not specified.
2k	Do you need light at night, and what do you use?	Yes, lighting is needed at night, and various sources such as kerosene lamps, candles, and battery-powered lights are used.
2l	Where do you fetch your current drinking water?	Drinking water is collected from rainwater and the river.
2m	Are you able to save drinking water?	Yes, water is stored in large tanks (durotanks) and buckets.
2n	What is the source of your current bath water?	River water is used for bathing.
2o	Where do you bathe?	River.
2p	What alternative water sources do you have?	A creek near the agricultural lands is also used as a water source.

2q	What is the current telecom operation system in the village?	The village has Telesur coverage, with approximately 90% of residents relying on it.
2r	Do you have phone reception here?	Phone reception is poor in some areas (e.g., Tugoloekoe).
2s	Who is responsible for maintaining the telecom system?	Currently, there is no designated individual responsible for maintenance.
2t	Do you have radio reception in the village?	Yes, radio reception is available, but it is affected by interference from trees.
2u	Do you own mobile phones?	Elderly residents do not own mobile phones, and there is no Digicel service in the village.
2v	Do you have internet connection?	Internet access is available via Telesur mobile data.
2w	Have you been on the internet/ do you know what the internet is?	No.
2x	Wired internet or via a phone?	The internet is accessed via mobile phones using Telesur data.

3. Demand Assessment

No,	**Question**	**Response**
3a.	Do you feel you need alternative energy options in your village? **(i) Yes, we need it. (ii) We don't need it, but we want it. (iii) No, we don't want it or need it.**	**(i) Yes, we need it.**
3b	Do you feel you need radio in your village? i. Yes, we need it. ii. We don't need it, but we want it. iii. No, we don't want it or need it.	Option i. Yes, we need it. A radio would be useful for communication and receiving important information.
3c	Do you feel you need telephone service in your village?	Option i. Yes, we need it.

	i. Yes, we need it. ii. We don't need it, but we want it. iii. No, we don't want it or need it.	Reliable phone service is essential for emergency communication.
3d	Is light at night important to you? i. Yes, very important. ii. No, not so important. iii. Unimportant. iv. Very unimportant.	Option iv. Yes, very important. Night lighting is essential for safety and daily activities.

4. Physical Wellbeing: Health, Nutrition, and Agriculture

No,	**Question**	**Response**
4a	How do you currently keep food conserved?	Food is consumed immediately or reheated in the morning. There is no long-term storage system.
4b	How do you feel about storing food and drinks in a fridge?	A fridge would be beneficial for preserving food and reducing waste.
4c	Comment on the following: If there were electricity, would you use a fridge to store food? i. Strongly agree. ii. Agree. iii. Neutral. iv. Disagree. v. Strongly disagree.	Option v. Strongly agree. Having a fridge would greatly improve food storage.
4d	I will only store my fruits and crops in the fridge. i. Strongly agree. ii. Agree.	Option i. Strongly agree. Proper storage would help keep fruits and crops fresh for longer periods.

	iii. Neutral. iv. Disagree. v. Strongly disagree.	
4e	I will store hunted game in the fridge/freezer. i. Strongly agree. ii. Agree. iii. Neutral. iv. Disagree. v. Strongly disagree.	Option i. Strongly agree. A freezer would be useful for preserving hunted game for later consumption.
4f	Would you like to have a fridge? Why? i. I would love a fridge. ii. I am not fond of the idea.	Option i. I would love a fridge. It makes food storage much easier, and food remains fresh for a longer time.
4g	If you had a fridge or freezer, would you want to save more food as a reserve for the village?	Yes. A fridge or freezer would allow the community to store food for future use.

Water and Health

No,	**Question**	**Response**
4h	Has your current drinking water caused illnesses? What kinds?	Yes. Some villagers have experienced diarrhea due to water contamination.
4i	Have people ever gotten seriously sick from contaminated water?	Yes. Contaminated water has caused health issues in the village.
4j	Is diarrhea or pneumonia something villagers often deal with?	Yes. Diarrhea is a common issue due to unsafe drinking water.
4k	What water source do you use for your agricultural plots?	The village uses river water and creek water near the agricultural plots.

4l	Do you think that a clean water system will help increase your agricultural crop production? Why?	Yes. Clean water would improve crop growth and yield by reducing contamination.
4m	Do you have enough crops in the dry season?	The village struggles to maintain sufficient crops during the dry season.

Telecom and Medical Access

No,	Question	Response
4n	How do you currently reach Medical aid if there is a medical emergency in your village?	There is no nearby medical aid. Villagers must travel to Moengo, which takes two hours by boat with a 25HP motor.

5. Physical Wellbeing: Leisure & Device Dependency

No.	Question	Response
5a	Would you like a TV for entertainment? i. Absolutely yes ii. Yes iii. Neutral iv. No v. Definitely not	Option i. Absolutely yes
5b	Would you like radio for entertainment? i. Absolutely yes ii. Yes iii. Neutral iv. No v. Definitely not	Option i. Absolutely yes
5c	Comment on the following:	Option i.

	"No, I do not want a TV or radio, otherwise nobody would want to work." i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly agree
5d	If you had a fridge, would you enjoy drinking cold beverages like Coca-Cola?	**Not specified (NVT).**

6. Emotional Wellbeing: Safety, Security, Contentment, and lack of Stress

No.	Question	Response
6a	Will having more light in the village at night make you feel safer? Why?	Yes, more light at night would make it safer, for example, you can see snakes.
6b	Could you see snakes or other wild animals better with light at night?	**Yes.**
6c	I feel that personal phone access would make me feel safer. i. Absolutely yes ii. Yes iii. Neutral iv. No v. Definitely not	ii. Yes, having phone access would make me feel safer, especially in emergencies.
6d	Listening to the radio would ease my daily stressors in life. i. Yes ii. Neutral	Option i. Yes, mainly news and music

	iii. No iv. Definitely not	

7. Material wellbeing: Housing, Possessions, (impact socio-economic differences and preferences) and Independence: personal value

No.	Question	Response
7a	Would you eventually like electricity access right to your house? Or would central community lighting be enough for you? Why?	**Not specified (NVT).**
7b	How many of you own a cellphone or would love to own a cellphone?	**Not the elderly.**
7c	How many of you own a radio or would love to own a radio?	**Not specified (NVT).**
7d	How many of you have no interest in owning a radio?	**Not specified (NVT).**
7e	How many of you have ever personally used a computer?	**Not specified (NVT).**
7f	How many of you would love to learn how to use a computer?	**Everyone**
7g	How many of you have completely no interest in learning how to use a computer?	**Not specified (NVT).**

8. Socio-Economic: existing businesses that could cover the operational & maintenance costs –

Once installed, the operational and maintenance costs of this project, can be expensive

No.	Question	Response
8a	With what businesses could you pay for it?	Men have no objection to paying for electricity each month with their own income, including small farming costs and selling hunting products. Also, Podisiri and people working in Moengo. Boat services... 2.5 hours... 100 Srd... Private 200??

8b	Would you want to pay for it together as a community?	**Not specified (NVT).**
8c	Or would you rather only those that want to use energy pay for it?	Pay individually for their usage
8d	We'd rather be dependent on outside funding. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	**Not specified (NVT).**
8e	I do not want outside funding because we can't trust that they always have enough money for us. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	**Not specified (NVT).**
8f	We want to pay for the maintenance costs ourselves. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	**Not specified (NVT).**
8g	We want to learn how the installations work.	Option ii.

	i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Yes, we want to learn. Yes, already two times, Carlo Asanga from Min NH.
8h	Have you ever been promised funding for water or electricity before? By whom or what organization/political party?	**No**

9. Socio-Economic: Sustainable Business Opportunities

No.	Question	Responses
9a	Do you see tourism as a business opportunity for your village?	No, but they would like to.
9b	If yes, do you think more energy, water, and telecom access would allow more tourists to visit your village?	**Yes**

10. Innovation or elevation of business opportunity/use of new tools

No.	Question	Responses
10a	Would you work longer hours if you had (electric) light at night?	**Not specified (NVT).**

11. Social Participation: Social Networks & Feeling Supported

No.	Question	Response
11a	Do you feel excited about the potential of energy?	**Not specified (NVT).**
11b	Do you feel excited about telecom opportunities? Radio/phone/internet?	**Not specified (NVT).**
11c	Would you feel more supported if this project came to your village?	**Not specified (NVT).**

12. Social participation: rights (human rights and legal rights/access, justice).

No.	Question	Response
12a	Would you feel like you have equal rights as people in the city if you have access to water, energy, and telecom?	No responses provided.
12b	I want equal rights to people in the city. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	No responses provided.
12c	I think having energy, telecom, or water systems would give me equal rights. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	No responses provided.

13. Independence: personal development (educational status, access to quality education)

No.	Question	Response
13a	Will energy create extended study hours? Would your kids be able to study more/longer with access to light?	**Yes**
13b	Do you think more elementary school teachers would come to the village if you had energy, water, and telecom?	**Yes**

14.Independence, self-determination (choices, autonomy)

No.	Question	Response
14a	Decision-making process: How would you decide as a village if this project is feasible?	Decision-making by the village leadership; Captain in consultation with the community.
14b	Would you vote to see if all villagers agree with the terms?	**Not specified (NVT).**
14c	What would the role of the captain be in this process?	Final vote/word would lie with the Captain.

15. Socio-cultural community: highlighting traditional knowledge. Socio-economic.

No.	Question	Response
15a	Would you like to share your knowledge of traditional medicine with outsiders?	Only for certain conditions; asthma.
15b	Do you see selling medicinal products as a business opportunity?	**Not specified (NVT).**

16.Socio-cultural community: maintaining a traditional way of living

No.	Question	Response
16a	Do you think the energy, water, and telecom projects would make you become a different person?	Yes; Of course, it's easy; positive change.
16b	Would you rather live as you live right now? i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	iv. Disagree
16c	Would you want to call family members in the city?	iii. Neutral

	i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	
16d	I wouldn't want my children to watch TV, I'd rather they play outside. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	iv. Disagree; Caution near the river

17. Socio-cultural: promoting gender equality/ consideration of traditional gender roles. Culture shifts: gender behavior. Traditional use of land /women empowerment

No.	Question	Response
17a	Do you think men would hunt more, or less, if you had a fridge to save food in?	Yes, because too much is not good; it would be divided or sold.
17b	Women: Would you keep cooking with fire or would you want an electric stove to cook quicker? What would you do with your freed-up time?	Yes, but only for certain tasks.

18. Socio-Cultural/Environmental Territories: Access to Indigenous Spiritual or Other Important Sites

No.	Question	Responses
18a	Are there areas in your village where you don't want outsiders to come and build things or walk through? For what reason: • Spiritual • Personal property • Other	Yes, people should not come to the Fraga Tiki.

18b	Can you mark these areas on a map for us?	**Not specified (NVT).**

19. Environmental: Land (Climate Change, Natural Disasters)

No.	Question	Responses
19a	Can you mark for us on a map where you experience a lot of flooding during rain seasons?	**Not specified (NVT).**

20. Environmental: Wildlife Protection & Ecosystem Changes

No.	Question	Responses
20a	Where are your hunting grounds?	**Various locations**
20b	Where are your fishing grounds?	**Not specified (NVT).**
20c	Are there park rangers in your village? Rangers help with forest monitoring and management.	**Not specified (NVT).**
20d	Are there more people interested in becoming a park ranger to help protect and monitor your lands and animals during project building activities?	**Not specified (NVT).**

21. Environmental: Deforestation & Water Protection

No.	Question	Response
21a	Are you okay with possible deforestation to build the solar, water, and telecom systems? i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	**Not specified (NVT).**

22. Environmental: Waste Management & Pollution

No.	Question	Responses
22a	Where do you discard of fuel carriers?	**Not specified (NVT).**
22b	Are the fuel carriers brought back to the city?	**Not specified (NVT).**

22c	Where do you discard of empty batteries or old motors?	**Not specified (NVT).**

23. Environmental: Use of Local Materials

No.	Question	Responses
23a	If you used less wood to cook your food and water for, because of electric appliances, would you use wood for other purposes? Like what?	**Not specified (NVT).**
23b	Would you help find materials to help build project objectives?	**Not specified (NVT).**

24. Environmental: Potential for Allowing Research of Land and Biodiversity Systems During Project Activities as an Environmental Safeguard

No.	Question	Responses
24a	Would you be willing to let scientific researchers assess whether the animals and land will be disturbed during the project building? (wildlife and biodiversity research by universities through funding? As an environmental safeguard).	**Not specified (NVT).**

25. Socio-Economic/Social Participation/Social Inclusion/Capacity Gap Analysis/Independence/Self-Determination/Ownership Models

No.	Question	Responses
25a	Would any of the villagers like to work on the solar, water, or telecom energy project? Write down names.	**Not specified (NVT).**
25b	Would you like to upkeep (operation and maintenance) all these new projects yourself?	**Not specified (NVT).**
25c	Would you rather outside people get paid to do the building work? Or would you like to help?	Yes, use local people; Private meter.

25d	Would you rather outside people get paid for general operation and maintenance?	**Not specified (NVT).**
25e	Would you accommodate those people in your village?	**Not specified (NVT).**
25f	Would you like to be educated on how to maintain the solar panel, water networks, and telecom in your village by yourselves?	**Not specified (NVT).**

26. Grievance Mechanism, Environmental Examples (Land, Indicators: Air Quality and Noise)

No.	Question	Responses
26a	With the building activities, there might be some noise and dust production. Would you be okay with this?	**Not specified (NVT).**
26b	Where would you not be okay with this? School for example? Other places? Mark for us on a map.	**Not specified (NVT).**
26c	If you still experience grievance from this in other places, they would like you to tell them. Who would you want to go to?	**Not specified (NVT).**

27. Grievance Mechanism: Social Conflicts

No.	Question	Responses
27.	**What if you decide to continue with these projects if outsiders come to help with project building, and you get conflicts with them? Who would you tell about this? Or would you keep it to yourself?**	The captain / Basja.

28. Concluding Statements

No.	Question	Responses
	Comment on the following statement	

28a	I am content with the way things are. I don't need energy or telecom i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly disagree
28b	I am looking forward to the project i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly agree
28c	I am worried about finances for this project. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Neutral
28d	I am worried about deforestation in this project. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Disagree
28e	**I am worried that it won't fit our way of life. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	
28f	I am worried about the game/animals that will go away with too much noise. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Neutral
28g	I trust that this project will be good for my village. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly Agree

Interviewer: Nieuwendam J. and Forst M.
Villages: Lantiwee
Men and women's krutu
Date: February 12th 2025 Translator(s): Nieuwendam J. and Forst M.

1. Social Factor: Baseline Village Information

No.	Questions	Responses
1a.	How many people live in your village?	Approximately 60 people
1b.	How many households live in your village?	Approximately 30 households
1c.	How many houses?	Not specified
1d.	How many males live in this village/ How many females/ How many children?	25 males, 25 females, 10 children

2. Baseline Energy, Water, and Telecom Usage

No.	Question	Responses
2a.	What energy systems does your village currently have?	Generator, from 6 to 11
2b.	Does the village have a generator?	Yes
2c.	If yes, do you use an electric cooking stove?	Some households have rice cookers, but they can't be used during the day. All electric devices are used at night.
2d.	Do you use diesel motors for fuel generation?	Yes
2e.	How much do you need?	60 liters of diesel per night
2f.	And what do you need it for?	Fuel for the generator
2g.	Where do you get the oil from and who pays for it?	Diesel is supplied by the Ministry of NH/Beekhuizen department. Head of department: Mr. Forster.

2h.	**Do you use kerosene fuel for light lamps or power?**	**No**
2i.	**Inside your house or outside your house?**	**Not specified**
2j.	**Do you use candles or have battery powered lights? How many?**	**One candle per night per household (sometimes two if there is no electricity supply).**
2k.	**Do you need light at night and what do you use?**	**Yes, candles and battery-powered lights (if the generator is not working).**
2l.	**Where do you fetch your current drinking water?**	**Rainwater stored in durotanks; sometimes river water is used for drinking.**
2m.	**Are you able to save drinking water?**	**Yes, stored in durotanks.**
2n.	**What is the source of your current bath water?**	**River water.**
2o.	**Where do you bathe?**	**In the river.**
2p.	**What alternative water sources do you have?**	**Rainwater (stored in durotanks).**
2q.	**What is the current telecom operation system in the village?**	**Telecom provider: Telesur.**
2r.	**Do you have phone reception here?**	**Yes, but the signal is not optimal.**
2s.	**Who is responsible for maintaining it? (Write down names.)**	**Not specified.**
2t.	**Do you have radio reception in the village?**	**Not specified.**
2u.	**Do you own mobile phones?**	**Yes.**
2v.	**Do you have internet connection?**	**Yes, but the reception is not optimal.**
2w.	**Have you been 'on' the internet/ do you know what the internet is?**	**Yes, they know about the internet option of Telesur and can initiate or request it on their phones.**
2x.	**Wired internet or via a phone?**	**Via a phone (mobile internet).**

3. Demand Assessment

No.	Question	Responses
3a.	**Do you feel you need alternative energy options in your village? (i) Yes, we need it. (ii) We don't need it, but we want it. (iii) No, we don't want it or need it.**	**i. Yes, we need it.**
3b.	**Do you feel you need radio in your village? (i) Yes, we need it. (ii) We don't need it, but we want it. (iii) No, we don't want it or need it.**	**i. Yes, we need it.**
3c.	**Do you feel you need telephone access in your village?** **(i) Yes, we need it. (ii) We don't need it, but we want it. (iii) No, we don't want it or need it.**	**i. Yes, we need it.**
3d.	**Is light at night important to you? (i) Yes, we need it. (ii) We don't need it, but we want it. (iii) No, we don't want it or need it.**	**i. Yes, very important.**

4. Physical Wellbeing: Health and Nutrition Status, Food Security, and Agricultural Production

No.	Question	Responses
4a.	**How do you currently keep food conserved?**	**Food is conserved by storing in the freezer and also by smoking (barbacotten).**
4b.	**How do you feel about storing food and drinks in a fridge?**	**Good.**
4c.	Comment on the following: **If there were electricity, I would a fridge to store food.**	**i. Strongly agree.**
4d.	**I will only store my fruits and crops in the fridge.**	**i. Strongly agree.**
4e.	**I will store hunted game in the fridge/freezer.**	**i. Strongly agree.**
4f.	Comment on the following:	**Yes.**

	I would love a fridge. I am not fond of the idea. **Why? Elaborate.**	
4g.	**If you had a fridge or freezer, would you want to save more food as a reserve for the village?**	**Yes.**
Water	**Water Access and Health**	
4h.	**Has your current drinking water caused illnesses? What kinds?**	**Yes, diarrhea caused by contamination, especially from boats passing by in the dry season causing the water to get polluted with oil.**
4i.	**Have people ever gotten seriously sick from contaminated water?**	**Yes, linked to water contamination.**
4j.	**Optional: Is diarrhea or pneumonia something villagers often deal with?**	**Yes, diarrhea is common due to contaminated water.**
4k.	**What water source do you use for your agricultural plots?**	**Water from the river.**
4l.	**Do you think that a clean water system will help increase your agricultural crop production? Why?**	**Yes, cleaner water will help reduce contamination and improve crop yield.**
4m.	**Do you have enough crops in the dry season?**	**No, water scarcity affects crop production.**

Telecom:

No.	**Question**	**Responses**
4n.	**How do you currently reach Medical aid if there is a medical emergency in your village?**	**Not specified.**

5. Physical Wellbeing: Leisure & Device Dependency

No.	**Question**	**Responses**
5a.	**Would you like a TV for entertainment? i) Absolutely yes (ii) Yes (iii) Neutral (iv) No (v) Definitely not**	**Yes, TV use is desirable.**

5b.	**Would you like radio for entertainment? i) Absolutely yes (ii) Yes (iii) Neutral (iv) No (v) Definitely not**	**Yes, radio use is desirable.**
5c.	**Comment on the statement: "No, I do not want a TV or radio, otherwise nobody would want to work." i) Absolutely yes (ii) Yes (iii) Neutral (iv) No (v) Definitely not**	**Not specified.**
5d.	**If you had a fridge, would you enjoy drinking cold beverages like Coca-Cola?**	**Not explicitly mentioned, but fridge use is desirable.**

6. Emotional Wellbeing: Safety, Security, Contentment, and lack of stress

No.	Question	Responses
6a.	**Will having more light in the village at night make you feel safer? Why?**	**Yes, for general safety, including protection from snakes.**
6b.	**Could you see snakes or other wild animals better with light at night?**	**Yes.**
6c.	**I feel that personal phone access would make me feel safer.** *(Men & Women: Absolutely yes/Yes/Neutral/No/Definitely not.)*	**Phone access is important (prenpair).**
6d.	**Listening to the radio would ease my daily stressors in life.** *(i. Yes / ii. Neutral / iii. No / iv. Definitely not.)*	**Not specified.**

7. Material Wellbeing: Housing, Possessions & Independence

No.	Question	Responses
7a.	**Would you eventually like electricity access right to your house, or would central community lighting be enough? Why?**	**Yes, household electricity is preferred.**
7b.	**How many of you own a cellphone or would love to own a cellphone?**	**Yes, there is an interest in owning cellphones.**
7c.	**How many of you own a radio or would love to own a radio?**	**Not specified.**

7d.	**How many of you have no interest in owning a radio?**	**Not specified.**
7e.	**How many of you have ever personally used a computer?**	**No current computer use.**
7f.	**How many of you would love to learn how to use a computer?**	**Not specified.**
7g.	**How many of you have completely no interest in learning how to use a computer?**	**Not specified.**

8. Socio-Economic: existing businesses that could cover the operational & maintenance costs
Once installed, the operational and maintenance costs of this project, can be expensive

No.	Question	Responses
8a.	**With what businesses could you pay for it?**	**Agriculture and bush products ("boesibita").**
8b.	**Would you want to pay for it together as a community?**	**Yes, self-sufficiency is possible.**
8c.	**Or would you rather only those that want to use energy, water, or telecom pay for it?**	**Not specified.**
8d.	**We'd rather be dependent on outside funding. *(i. Strongly agree / ii. Agree / iii. Neutral / iv. Disagree / v. Strongly disagree.)***	**Not specified.**
8e.	**I do not want outside funding because we can't trust that they always have enough money for us. *(i. Strongly agree / ii. Agree / iii. Neutral / iv. Disagree / v. Strongly disagree.)***	**Not specified.**
8f.	**We want to pay for the maintenance costs ourselves. *(i. Strongly agree / ii. Agree / iii. Neutral / iv. Disagree / v. Strongly disagree.)***	**Not specified.**
8g.	**We want to learn how the installations work. *(i. Strongly agree / ii. Agree / iii. Neutral / iv. Disagree / v. Strongly disagree.)***	**Not specified.**

8h.	**Have you ever been promised funding electricity before? By whom or what organization/political party?**	**Yes, by the Health Department.**

9. Socio-Economic: Sustainable Business Opportunities

No.	Question	Responses
9a.	**Do you see tourism as a business opportunity for your village?**	**Yes, tourism is a potential opportunity.**
9b.	**If yes, do you think more energy would allow more tourists to visit your village?**	**Yes, absolutely.**

10. Innovation or Elevation of Business Opportunity/use of new tools

No.	Question	Responses
10a.	**Would you work longer hours if you had (electric) light at night?**	**Yes.**

11. Social Participation: Social Networks & Feeling Supported

No.	Question	Responses
11a.	**Do you feel excited about the potential of energy?**	**Yes, absolutely.**
11b.	**Do you feel excited about telecom opportunities? (Radio/ phone/ internet?)**	**Yes, absolutely.**
11c.	**Would you feel more supported if this project came to your village?**	**Yes, all of this will improve living conditions and develop the village.**

12. Social Participation: Rights (Human rights and legal rights/Access, Justice)

No.	Question	Responses
12a.	**Would you feel like you have equal rights as people in the city if you have access to energy?**	Partly also need water
12b.	**I want equal rights to people in the city.** *(Strongly agree/ Agree/ Neutral/ Disagree/ Strongly disagree.)*	SA

12c.	**I think having energy system24/7 would give me equal rights.** *(Strongly agree/ Agree/ Neutral/ Disagree/ Strongly disagree.)*	Agree

13. Independence: Personal Development & Education

No.	Question	Responses
13a.	**Will energy create extended study hours? Would children be able to study more with light?**	**Yes, electricity will help children study longer.**
13b.	**Do you think more elementary school teachers would come to the village if you had energy, water, and telecom?**	Yes but no school in the village, in a neighboring village.

14. Independence & Self-Determination (Decision-Making Process)

No.	Question	Responses
14a.	**How would the village decide if this project is feasible?**	**Decision-making is led by village leadership.**
14b.	**Would you vote to ensure all villagers agree with the terms?**	**Yes.**
14c.	**What would the role of the captain be in this process?**	**Not specified (NVT).**

15. Socio-Cultural: Traditional Knowledge & Socio-Economic Opportunities

No.	Question	Responses
15a.	**Would you like to share your knowledge of traditional medicine with outsiders?**	**Yes, to some extent.**
15b.	**Do you see selling medicinal products as a business opportunity?**	**Yes, but as a group. With optimal electricity, more people would stay, which could lead to business growth.**

6. Socio-Cultural Community: Maintaining a Traditional Way of Living

No.	Question	Responses

16a.	**Do you think energy, water, and telecom projects would change you as a person?**	**Yes, they would bring change.**
16b.	***Would you rather live as you do now? (Strongly agree/Agree/Neutral/Disagree/Strongly disagree.)***	**Not specified (NVT).**
16c.	***Would you want to call family members in the city? (Strongly agree/Agree/Neutral/Disagree/Strongly disagree.)***	**Not specified (NVT).**
16d.	***I wouldn't want my children to watch TV, I'd rather they play outside. (Strongly agree/Agree/Neutral/Disagree/Strongly disagree.)***	**Not specified (NVT).**

17. Socio-Cultural: Gender Roles & Culture Shifts

No.	Question	Responses
17a.	**Do you think men would hunt more or less if they had a fridge to store food?**	**Yes, they would hunt more.**
17b.	**Women: Would you keep cooking with fire or would you want an electric stove to cook quicker? What would you do with your freed-up time?**	**Not specified (NVT).**

18. Socio-Cultural & Environmental: Territories: Access to Indigenous Spiritual or Other Important Sites

No.	Question	Responses
18a.	**Are there areas where outsiders should not build or walk? *(Spiritual/Personal property/Other.)***	**No**
18b.	**Can you mark these areas on a map?**	**Not specified (NVT).**

19. Environmental: Flooding & Climate Impact

No.	Question	Responses

19a.	**Can you mark on a map where flooding occurs during the rainy season?**	**No flooding reported.**

20. Environmental: Wildlife Protection & Ecosystem Changes

No.	Question	Responses
20a.	**Where are your hunting grounds?**	**Various locations: across the river and in the forest.**
20b.	**Where are your fishing grounds?**	**Poesoewe Creek and Mawalibo Creek.**
20c.	**Are there park rangers in your village?**	**No, there are no park rangers.**
20d.	**Are there people interested in becoming park rangers to help protect and monitor your lands and animals during project-building activities??**	**Not specified (NVT).**

21. Environmental: Deforestation & Water Protection

No.	Question	Responses
21a.	**Are you okay with deforestation for the solar, water, and telecom systems? *(Strongly agree/Agree/Neutral/Disagree/Strongly disagree.)***	**Strongly agree.**

22. Environmental: Land (Discarding of Waste/Waste Management System/Pollution, Recycling)

No.	Question	Responses
22a.	**Where do you discard fuel carriers?**	**Stored in a warehouse.**
22b.	**Are fuel carriers returned to the city?**	**Yes, returned to Min NH (Beekhuizen Department).**
22c.	**Where do you discard empty batteries or old motors?**	**Previously collected as bulk waste; now buried in a central location.**

23. Environmental: Territories and Resources (Use of Local Materials/Repurposing)

No.	Question	Responses
23a.	If you used less wood for cooking due to electric appliances, would you use wood for other purposes? Like what?	Not specified (NVT).
23b.	Would you help find materials to build project objectives?	Not specified (NVT).

24. Environmental: Potential for Allowing Research of Land and Biodiversity Systems During Project Activities as an Environmental Safeguard

No.	Questionnaire	Responses
24a.	Villagers: Would you be willing to let scientific researchers assess whether the animals and land will be disturbed during the project building? (Wildlife and biodiversity research by universities through funding as an environmental safeguard)?	Yes, no objections.

25. Socio-Economic/Social Participation/Social Inclusion/Capacity Gap Analysis/Independence/Self-Determination/Ownership Models

No.	Question	Responses
25a.	Would any of the villagers like to work on the solar / water or telecom energy project?	Yes, but no names were given.
25b.	Would you like to maintain these systems yourself?	Maintenance by EBS with local community involvement.
25c.	Would you prefer locals to do the building work instead of outsiders?	Prefer locals over outsiders.
25d.	Would you prefer outsiders for operation and maintenance?	Not specified (NVT).
25e.	Would you accommodate outside workers in your village?	Yes, but the majority decides.
25f.	Would you like training to maintain the new systems?	Depends on the individuals.

26. Grievance Mechanism, Environmental Examples (Land, Indicators: Air Quality and Noise)

No.	Question	Responses
26a.	**With the building activities, there might be some noise and dust production. Would you be okay with this?**	**Yes.**
26b.	**Where would you not be okay with this? School for example? Other places? Mark for us on a map.**	**No**
26c.	**If you still experience grievance from this in other places, who would you want to go to?**	Basja/captain

27. Grievance Mechanism: Social Conflicts

No.	Question	Responses
27.	**What if you decide to continue with these projects if outsiders come to help with project building, and you get conflicts with them? Who would you tell about this? Or would you keep it to yourself?**	**The Captain/Basja.**

28. Concluding Statements

No.	Question	Responses
	Comment on the following statement	
28a.	**I am content with things as they are (no need for energy/telecom).** i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	**Option v.** **Strongly disagree.**
28b.	**I am looking forward to the project.** i. Strongly agree ii. Agree iii. Neutral	**Option i.** **Strongly agree.**

	iv. Disagree v. Strongly disagree	
28c.	**I am worried about finances for this project.** i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	**Option iv. Disagree.**
28d.	**I am worried about deforestation due to this project.** i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	**Option iv. Disagree.**
28e.	**I am worried that it won't fit our way of life. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**(v) Strongly disagree**
28f.	**I am worried about the game/animals that will go away with too much noise. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**(v) Strongly disagree.**
28g.	**I trust that this project will be good for my village. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	Strongly agree

Interviewer: Nieuwendam J. and Forst M.
Villages: Pikin Santi
Men and women's krutu
Date: February 12th 2025 Translator(s): Nieuwendam J. and Forst M.

1. Social Factor: Baseline Village Information

No.	Questions	Responses

1a.	**How many people live in your village?**	**Approximately 60 people**
1b.	**How many households live in your village?**	**50**
1c.	**How many houses?**	**NVT**
1d.	**How many males live in this village/ How many females/ How many children?**	**NVT**

2. Baseline Energy, Water, and Telecom Usage

No.	Question	Responses
2a.	**What energy systems does your village currently have?**	**Generator**
2b.	**Does the village have a generator?**	**Yes, but is broken at the moment**
2c.	**If yes, do you use an electric cooking stove?**	**Some households have rice cookers, but they can't be used during the day. All electric devices are used at night.**
2d.	**Do you use diesel motors for fuel generation?**	**Yes**
2e.	**How much do you need?**	**5 barrels Monthly**
2f.	**And what do you need it for?**	**Fuel for the generator**
2g.	**Where do you get the oil from and who pays for it?**	**Diesel is supplied by the Ministry of NH/Beekhuizen department. Head of department: Mr. Forster.**
2h.	**Do you use kerosene fuel for light lamps or power?**	**No**
2i.	**Inside your house or outside your house?**	**Not specified**
2j.	Do you use candles or have battery powered lights? How many?	**Three to four candles per night per household (sometimes two if there is no electricity supply).**
2k.	**Do you need light at night and what do you use?**	**Yes, candles and battery-powered lights (if the generator is not working).**

2l.	**Where do you fetch your current drinking water?**	**Rainwater stored in durotanks; sometimes river water is used for drinking.**
2m.	**Are you able to save drinking water?**	**Yes, stored in durotanks.**
2n	**What is the source of your current bath water?**	**River water.**
2o.	**Where do you bathe?**	**In the river.**
2p.	**What alternative water sources do you have?**	**Rainwater (stored in durotanks).**
2q	**What is the current telecom operation system in the village?**	**Telecom provider: Telesur.**
2r	**Do you have phone reception here?**	**Yes**
2s	**Who is responsible for maintaining it? (Write down names.)**	**Not specified.**
2t.	**Do you have radio reception in the village?**	**Not specified.**
2u.	**Do you own mobile phones?**	**Yes.**
2v.	**Do you have internet connection?**	**Yes, but the reception is not optimal.**
2w.	**Have you been 'on' the internet/ do you know what the internet is?**	**Yes, they know about the internet option of Telesur and can initiate or request it on their phones.**
2x	**Wired internet or via a phone?**	**Via a phone (mobile internet).**

3. Demand Assessment

No.	Question	Responses
3a.	**Do you feel you need alternative energy options in your village?** **(i) Yes, we need it. (ii) We don't need it, but we want it. (iii) No, we don't want it or need it.**	**i. Yes, we need it.**
3b.	**Do you feel you need radio in your village?**	**i. Yes, we need it.**

	(i) Yes, we need it. (ii) We don't need it, but we want it. (iii) No, we don't want it or need it.	
3c.	**Do you feel you need telephone access in your village? (i) Yes, we need it. (ii) We don't need it, but we want it. (iii) No, we don't want it or need it.**	**i. Yes, we need it.**
3d.	**Is light at night important to you? (i) Yes, we need it. (ii) We don't need it, but we want it. (iii) No, we don't want it or need it.**	**i. Yes, very important.**

4. Physical Wellbeing: Health and Nutrition Status, Food Security, and Agricultural Production

No.	Question	Responses
4a.	**How do you currently keep food conserved?**	**Food is conserved by storing in the freezer and also by smoking (barbacotten) and to salt meat.**
4b.	**How do you feel about storing food and drinks in a fridge?**	**Good.**
4c.	**Comment on the following:** **If there were electricity, I would a fridge to store food.**	**i. Strongly agree.**
4d.	**I will only store my fruits and crops in the fridge.**	**i. Strongly agree.**
4e.	**I will store hunted game in the fridge/freezer.**	**i. Strongly agree.**
4f.	**Comment on the following** I would love a fridge. - I am not fond of the idea. **Why? Elaborate.**	**Yes.**
4g.	**If you had a fridge or freezer, would you want to save more food as a reserve for the village?**	**Yes.**

4h.	**Has your current drinking water caused illnesses? What kinds?**	**Yes, sometimes diarrhea**
4i.	**Have people ever gotten seriously sick from contaminated water?**	**Yes, linked to water contamination.**
4j.	**Optional: Is diarrhea or pneumonia something villagers often deal with?**	**Yes, diarrhea is common due to contaminated water.**
4k.	**What water source do you use for your agricultural plots?**	**Water from the river.**
4l.	**Do you think that a clean water system will help increase your agricultural crop production? Why?**	**Yes, cleaner water will help reduce contamination and improve crop yield.**
4m.	**Do you have enough crops in the dry season?**	**No, water scarcity affects crop production.**

Telecom:

No.	Question	Responses
4n.	**How do you currently reach Medical aid if there is a medical emergency in your village?**	There is a facility in a nearby village, **Lanti Wee**, where a missionary provides medical services. There is no Medical Mission in the immediate area. The village clinic has not been operational for ten years. If the missionary is unavailable, residents must travel to **Moengo** for medical assistance.

5. Physical Wellbeing: Leisure & Device Dependency

No.	Question	Responses
5a.	**Would you like a TV for entertainment?** **(i) Absolutely yes (ii) Yes (iii) Neutral (iv) No (v) Definitely not**	**Yes, TV use is desirable.**
5b.	**Would you like radio for entertainment?** **(i) Absolutely yes (ii) Yes (iii) Neutral (iv) No (v) Definitely not**	**Yes, radio use is desirable.**

5c.	**Comment on the following statement:** *"No, I do not want a TV or radio, otherwise nobody would want to work."* **(i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**Not specified.**
5d.	**If you had a fridge, would you enjoy drinking cold beverages like Coca-Cola?**	**Not explicitly mentioned, but fridge use is desirable.**

6. Emotional Wellbeing: Safety, Security, Contentment, and lack of stress

No.	Question	Responses
6a.	**Will having more light in the village at night make you feel safer? Why?**	**Yes, for general safety, including protection from snakes.**
6b.	**Could you see snakes or other wild animals better with light at night?**	**Yes.**
6c.	**I feel that personal phone access would make me feel safer.** *(Men & Women: Absolutely yes/Yes/Neutral/No/Definitely not.)*	**Phone access is important (prenpair).**
6d.	**Listening to the radio would ease my daily stressors in life.** *(i. Yes / ii. Neutral / iii. No / iv. Definitely not.)*	**Not specified.**

7. Material wellbeing: Housing, Possessions, (impact socio-economic differences and preferences) and Independence: personal value

No.	Question	Responses
7a.	**Would you eventually like electricity access right to your house, or would central community lighting be enough? Why?**	**Yes, household electricity is preferred.**
7b.	**How many of you own a cellphone or would love to own a cellphone?**	**Yes, there is an interest in owning cellphones.**
7c.	**How many of you own a radio or would love to own a radio?**	**Not specified.**
7d.	**How many of you have no interest in owning a radio?**	**Not specified.**

7e.	**How many of you have ever personally used a computer?**	**No current computer use.**
7f.	**How many of you would love to learn how to use a computer?**	**Not specified.**
7g.	**How many of you have completely no interest in learning how to use a computer?**	**Not specified.**

8. Socio-Economic: existing businesses that could cover the operational & maintenance costs –

Once installed, the operational and maintenance costs of this project, can be expensive

No.	Question	Responses
8a.	**With what businesses could you pay for it?**	**Not specified.**
8b.	**Would you want to pay for it together as a community?**	**Not specified.**
8c.	**Or would you rather only those that want to use energy, water, or telecom pay for it?**	**Not specified.**
8d.	**We'd rather be dependent on outside funding.** ***(i. Strongly agree / ii. Agree / iii. Neutral / iv. Disagree / v. Strongly disagree.)***	**Not specified.**
8e.	**I do not want outside funding because we can't trust that they always have enough money for us.** ***(i. Strongly agree / ii. Agree / iii. Neutral / iv. Disagree / v. Strongly disagree.)***	**Not specified.**
8f.	**We want to pay for the maintenance costs ourselves.** ***(i. Strongly agree / ii. Agree / iii. Neutral / iv. Disagree / v. Strongly disagree.)***	**Not specified.**
8g.	**We want to learn how the installations work.** ***(i. Strongly agree / ii. Agree / iii. Neutral / iv. Disagree / v. Strongly disagree.)***	**Not specified.**
8h.	**Have you ever been promised funding for water or electricity**	**Not specified.**

	before? By whom or what organization/political party?	

9. Socio-Economic: Sustainable Business Opportunities

No.	Question	Responses
9a.	**Do you see tourism as a business opportunity for your village?**	Yes, tourism is a potential opportunity. The village boasts the most beautiful beach. Additionally, the location can be used in the context of historical significance, particularly for Fort Boekoe.
9b.	**If yes, do you think more energy, access would allow more tourists to visit your village?**	**Yes, absolutely.**

10. Innovation or elevation of business opportunity/use of new tools

No.	Question	Responses
10a.	**Would you work longer hours if you had (electric) light at night?**	**Yes.**

11. Social Participation: Social Networks & Feeling Supported

No.	Question	Responses
11a.	**Do you feel excited about the potential of energy?**	**Yes, absolutely.**
11b.	**Do you feel excited about telecom opportunities? (Radio/ phone/ internet?)**	**Yes, absolutely.**
11c.	**Would you feel more supported if this project came to your village?**	**Yes, all of this will improve living conditions and develop the village.**

12. Social Participation: Rights (Human Rights and Legal Rights/Access, Justice)

No.	Question	Responses
12a.	**Would you feel like you have equal rights as people in the city if you have access to water, energy, and telecom?**	**Yes but no water.**

12b.	**I want equal rights to people in the city.** *(Strongly agree/ Agree/ Neutral/ Disagree/ Strongly disagree.)*	**SAgree.**
12c.	**I think having energy give me equal rights.** *(Strongly agree/ Agree/ Neutral/ Disagree/ Strongly disagree.)*	Agree

13. Independence: Personal Development (Educational Status, Access to Quality Education)

No.	Question	Responses
13a.	**Will energy create extended study hours? Would children be able to study more with light?**	**Yes, electricity will help children study longer.**
13b.	**Do you think more elementary school teachers would come to the village if you had energy, water, and telecom?**	**Not specified (NVT).**

14. Independence & Self-Determination (Decision-Making Process)

No.	Question	Responses
14a.	**How would the village decide if this project is feasible?**	**Decision-making is led by village leadership.**
14b.	**Would you vote to ensure all villagers agree with the terms?**	**Yes.**
14c.	**What would the role of the captain be in this process?**	**Leading.**

15. Socio-Cultural: Traditional Knowledge & Socio-Economic Opportunities

No.	Question	Responses
15a.	**Would you like to share your knowledge of traditional medicine with outsiders?**	**Not specified (NVT).**
15b.	**Do you see selling medicinal products as a business opportunity?**	**Not specified (NVT).**

16. Socio-Cultural: Maintaining a Traditional Way of Living

No.	Question	Responses
16a.	Do you think energy, water, and telecom projects would change you as a person?	Yes, they would bring change.
16b.	Would you rather live as you do now? *(Strongly agree/Agree/Neutral/Disagree/Strongly disagree.)*	Not specified (NVT).
16c.	Would you want to call family members in the city? *(Strongly agree/Agree/Neutral/Disagree/Strongly disagree.)*	Not specified (NVT).
16d.	I wouldn't want my children to watch TV, I'd rather they play outside. *(Strongly agree/Agree/Neutral/Disagree/Strongly disagree.)*	Not specified (NVT).

17. Socio-Cultural: Promoting Gender Equality/Consideration of Traditional Gender Roles. Culture Shifts: Gender Behavior. Traditional Use of Land/Women Empowerment

No.	Question	Responses
17a.	Would men hunt more or less if they had a fridge to store food?	Yes, they would hunt more.
17b.	Women: Would you switch to an electric stove? What would you do with your extra time?	Not specified (NVT).

18. Socio-Cultural/Environmental Territories: Access to Indigenous Spiritual or Other Important Sites

No.	Question	Responses
18a.	Are there areas where outsiders should not build or walk? *(Spiritual/Personal property/Other.)*	No
18b.	Can you mark these areas on a map?	Not specified (NVT).

19. Environmental: Flooding & Climate Impact

No.	Question	Responses

19a.	**Can you mark on a map where flooding occurs during the rainy season?**	**No flooding reported.**

20. Environmental: Land (Wildlife Protection and Ecosystem Shifts)

No.	Question	Responses
20a.	**Where are your hunting grounds?**	**Surroundings.**
20b.	**Where are your fishing grounds?**	**Surroundings.**
20c.	**Are there park rangers in your village? (Park rangers help with forest monitoring and management)**	**(NVT).**
20d.	**Are there more people interested in becoming a park ranger to help protect and monitor your lands and animals during project-building activities?**	**(NVT).**

21. Environmental: Deforestation & Water Protection

No.	Question	Responses
21a.	**Are you okay with deforestation for the solar, water, and telecom systems? *(Strongly agree/Agree/Neutral/Disagree/Strongly disagree.)***	**Strongly agree.**

22. Environmental: Waste Management & Pollution

No.	Question	Responses
22a.	**Where do you discard fuel carriers?**	**Stored in a warehouse.**
22b.	**Are fuel carriers returned to the city?**	**Yes, returned to Min NH (Beekhuizen Department).**
22c.	**Where do you discard empty batteries or old motors?**	**Previously collected as bulk waste; now buried in a central location.**

23. Environmental: Territories and Resources (Use of Local Materials/Repurposing)

No.	Question	Responses

23a.	**If you used less wood for cooking due to electric appliances, would you use wood for other purposes? Like what?**	**Not specified (NVT).**
23b.	**Would you help find materials to build project objectives?**	**Not specified (NVT).**

24. Environmental: Potential for Allowing Research of Land and Biodiversity Systems During Project Activities as an Environmental Safeguard

No.	Questionnaire	Responses
24a.	**Would you allow scientific researchers to assess the impact on wildlife and biodiversity?**	**Yes, no objections.**

25. Socio-Economic/Social Participation/Social Inclusion/Capacity Gap Analysis/Independence/Self-Determination/Ownership Models

No.	Question	Responses
25a.	**Would villagers like to work on work on the solar / water or telecom energy project?**	**Yes, but no names were given.**
25b.	**Would you like to maintain these systems yourself?**	**Maintenance by EBS with local community involvement.**
25c.	**Would you prefer locals to do the building work instead of outsiders?**	**Prefer locals over outsiders.**
25d.	**Would you prefer outsiders for operation and maintenance?**	**Not specified (NVT).**
25e.	**Would you accommodate outside workers in your village?**	**Yes, but the majority decides.**
25f.	**Would you like training to maintain the new systems?**	**Depends on the individuals.**

26. Grievance Mechanism: Environmental Concerns

No.	Question	Responses
26a.	**With the building activities, there might be some noise and dust**	**Yes.**

	production. Would you be okay with this?	
26b.	**Where would you not be okay with this? School for example? Other places? Mark for us on a map.**	**Not specified (NVT).**
26c.	**If you still experience grievance from this in other places, who would you want to go to?**	Basja/Captain

27. Grievance Mechanism: Social Conflicts

No.	Question	Responses
27.	**What if you decide to continue with these projects if outsiders come to help with project building, and you get conflicts with them? Who would you tell about this? Or would you keep it to yourself?**	**The Captain/Basja.**

28. Concluding Statements

No.	Question	Responses
	Comment on the following statement	
28a.	**I am content with things as they are (no need for energy/telecom).** i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	**Option v.** **Strongly disagree.**
28b.	**I am looking forward to the project.** i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	**Option i.** **Strongly agree.**

28c.	**I am worried about finances for this project.** i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	**Option iv. Disagree.**
28d.	**I am worried about deforestation due to this project.** i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	**Option iv. Disagree.**
28e.	**I am worried that it won't fit our way of life. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	
28f.	**I am worried about the game/animals that will go away with too much noise. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	
28g.	**I trust that this project will be good for my village. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	

Interviewer: Nieuwendam J. and Forst M.
Villages:Pinatjarimi 2
Men and women's krutu
Date: February 12th 2025 Translator(s): Nieuwendam J. and Forst M.

1. Social factor: Baseline village info

No.	Question	Responses

1a.	How many people live in your village?	The village currently has an estimated population of approximately 15 people.
1b.	How many households live in your village?	7 households in the village.
1c.	How many houses?	36 of houses.
1d.	How many males live in this village/How many females/How many children?	5 males and 6 females

2. Baseline Energy, Water, and Telecom Usage

No.	Question	Responses
2a.	What energy systems does your village currently have?	The village primarily uses a generator for electricity.
2b.	Does the village have a generator?	Yes, a generator operates from 7:00 PM to 11:00pm .
2c.	If yes, do you use an electric cooking stove?	No rice cookers
2d.	Do you use diesel motors for fuel generation?	Yes.
2e.	How much do you need?	The generator consumes 7 barrels per month.; Not enough
2f.	And what do you need it for?	The generator is used for household electricity needs at night.
2g.	Where do you get the oil from, and who pays for it?	Diesel is supplied by the Ministry of NH, Department Beekhuizen. The head of the department is Dhr. Forster.
2h.	Do you use kerosene fuel for light lamps or power?	No, kerosene lamps (kokolampoes) are not commonly used. People prefer using candles.
2i.	Inside your house or outside your house?	Candles are used indoors when there is no electricity.
2j.	Do you use candles or have battery powered lights? How many	Each household uses about two candles per night, but in some cases, three candles may be used, especially when the generator is not functioning.

2k.	Do you need light at night, and what do you use?	Yes, when the generator is unavailable, candles are the primary source of light.
2l.	Where do you fetch your current drinking water?	Durotank
2m.	Are you able to save drinking water?	Rainwater
2n.	What is the source of your current bath water?	River water is used for bathing and other household purposes.
2o.	Where do you bathe?	People bathe both in the river and at home.
2p.	What alternative water sources do you have?	The primary alternative water source is the river.
2q.	What is the current telecom operation system in the village?	There is a telecom system in place, provided by Telesur.
2r.	Do you have phone reception here?	Yes, but the signal is weak. During busy periods or holidays, there is no reception at all.
2s.	Who is responsible for maintaining it? (write down names)	NVT
2t.	Do you have radio reception in the village?	No, there is no radio reception.
2u.	Do you own mobile phones?	Most villagers own mobile phones.
2v.	Do you have internet connection?	Yes, mobile phones in the village have internet access.
2w.	Have you been 'on' the internet/do you know what the internet is?	Yes, villagers use the internet and are aware of its functions.
2x.	Wired internet or via a phone?	Internet is accessed through mobile phones, as there are no computers or laptops in the village except for young female teachers who own laptops.

3. Demand Assessment

No.	**Question**	**Responses**
3a.	Do you feel you need alternative energy options in your village? **(i) Yes, we need it. (ii) We don't need**	**(i) Yes, we need it.** There is a clear need for electricity in the village.

	it, but we want it. (iii) No, we don't want it or need it.	
3b.	Do you feel you need radio in your village? **(i) Yes, we need it. (ii) We don't need it, but we want it. (iii) No, we don't want it or need it.**	**(i) Yes, we need it.**
3c.	Do you feel you need telephone acces in your village? **(i) Yes, we need it. (ii) We don't need it, but we want it. (iii) No, we don't want it or need it.**	**(i) Yes, we need it.**
3d.	Is light at night important to you? **(i) Yes, very important. (ii) No, not so important. (iii) Unimportant. (iv) Very unimportant.**	**(i) Yes, very important.**

4. Physical Wellbeing: Health and Nutrition Status, Food Security, and Agricultural Production

No.	**Question**	**Responses**
4a.	**How do you currently keep food conserved?**	**Food is conserved by storing in the freezer and also by smoking (barbacotten) and to salt meat.**
4b.	**How do you feel about storing food and drinks in a fridge?**	**Good.**
4c.	Comment on the following: If there were electricity, I would use a fridge to store food. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree	**i. Strongly agree.**
4d.	I will only store my fruits and crops in the fridge. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree	**i. Strongly agree.**
4e.	I will store hunted game in the fridge/freezer. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree	**i. Strongly agree.**
4f.	**Comment on the following**	**Yes.**

	I would love a fridge. - I am not fond of the idea. **Why? Elaborate.**	
4g.	If you had a fridge or freezer, would you want to save more food as a reserve for the village?	**Yes.**
4h.	Has your current drinking water caused illnesses? What kinds?	**Yes, sometimes diarrhea**
4i.	Have people ever gotten seriously sick from contaminated water?	**Yes, linked to water contamination.**
4j.	**Optional:** Is diarrhea or pneumonia something villagers often deal with?	**Yes, diarrhea is common due to contaminated water.**
4k.	What water source do you use for your agricultural plots?	**Water from the river.**
4l.	Do you think that a clean water system will help increase your agricultural crop production? Why?	**Yes, cleaner water will help reduce contamination and improve crop yield.**
4m.	Do you have enough crops in the dry season?	**No, water scarcity affects crop production.**

Telecom:

No.	Question	Responses
4n.	**How do you currently reach Medical aid if there is a medical emergency in your village?**	There is a facility in a nearby village, **Lanti Wee**, where a missionary provides medical services. There is no Medical Mission in the immediate area. The village clinic has not been operational for ten years. If the missionary is unavailable, residents must travel to **Moengo** for medical assistance.

5. Physical Wellbeing: Leisure & Device Dependency

No.	Question	Responses
5a.	**Would you like a TV for entertainment? (i) Absolutely yes (ii) Yes (iii) Neutral (iv) No (v) Definitely not**	**Yes, TV use is desirable.**

5b.	**Would you like a radio for entertainment? (i) Absolutely yes (ii) Yes (iii) Neutral (iv) No (v) Definitely not**	**Yes, radio use is desirable.**
5c.	**Comment on the following statement:** *"No, I do not want a TV or radio, otherwise nobody would want to work."* **(i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**Not specified.**
5d.	If you had a fridge, would you enjoy drinking cold beverages like Coca-Cola?	**Not explicitly mentioned, but fridge use is desirable.**

6. Emotional Wellbeing: Safety, Security, Contentment, & lack of stress

No.	Question	Responses
6a.	Will having more light in the village at night make you feel safer? Why?	Yes, for general safety, including protection from snakes.
6b.	Could you see snakes or other wild animals better with light at night?	Yes.
6c.	**I feel that personal phone access would make me feel safer.** **(Men): Absolutely yes / Yes / Neutral / No / Definitely not** **(Women): Absolutely yes / Yes / Neutral / No / Definitely not**	**Phone access is important (prenpaid).**
6d.	**Listening to the radio would ease my daily stressors in life. (i) Yes (ii) Neutral (iii) No (iv) Definitely not What would you want to listen to on the radio?**	**Not specified.**

7. Material wellbeing: Housing, Possessions, (impact socio-economic differences and preferences) and Independence: personal value

No.	Question	Responses
7a.	Would you eventually like electricity access right to your house, or would	Yes, household electricity is preferred.

	central community lighting be enough? Why?	
7b.	How many of you own a cellphone or would love to own a cellphone?	Yes, there is an interest in owning cellphones.
7c.	How many of you own a radio or would love to own a radio?	Not specified.
7d.	How many of you have no interest in owning a radio?	Not specified.
7e.	How many of you have ever personally used a computer?	No current computer use.
7f.	How many of you would love to learn how to use a computer?	Not specified.
7g.	How many of you have completely no interest in learning how to use a computer?	Not specified.

8. Socio-Economic: existing businesses that could cover the operational & maintenance costs –

Once installed, the operational and maintenance costs of this project, can be expensive

No.	**Question**	**Responses**
8a.	With what businesses could you pay for it?	Not specified.
8b.	Would you want to pay for it together as a community?	Not specified.
8c.	Or would you rather only those that want to use energy, water, or telecom pay for it?	Not specified.
8d.	We'd rather be dependent on outside funding. **(i. Strongly agree / ii. Agree / iii. Neutral / iv. Disagree / v. Strongly disagree.)**	Not specified.
8e.	I do not want outside funding because we can't trust that they always have enough money for us. **(i. Strongly agree / ii. Agree / iii. Neutral / iv. Disagree / v. Strongly disagree.)**	**i. Strongly agree**

8f.	We want to pay for the maintenance costs ourselves. **(i. Strongly agree / ii. Agree / iii. Neutral / iv. Disagree / v. Strongly disagree.)**	**Agree**.
8g.	We want to learn how the installations work. **(i. Strongly agree / ii. Agree / iii. Neutral / iv. Disagree / v. Strongly disagree.)**	**Agree**
8h.	Have you ever been promised funding for water or electricity before? By whom or what organization/political party?	Politicians.

9. Socio-Economic: Sustainable Business Opportunities

No.	Question	Responses
9a.	Do you see tourism as a business opportunity for your village?	Yes
9b.	If yes, do you think more energy, would allow more tourists to visit your village?	Yes

10. Innovation or elevation of business opportunity/use of new tools

No.	Question	Responses
10a.	**Would you work longer hours if you had (electric) light at night?**	**Yes.**

11. Social Participation: Social Networks & Feeling Supported

No.	Question	Responses
11a.	**Do you feel excited about the potential of energy?**	**Yes, absolutely.**
11c.	**Do you feel excited about telecom opportunities? (Radio/ phone/ internet?)**	**Yes, absolutely.**
11d.	**Would you feel more supported if this project came to your village?**	**Yes, all of this will improve living conditions and develop the village.**

12. Social Participation: Rights (Human Rights and Legal Rights/Access, Justice)

No.	Question	Responses
12a.	**Would you feel like you have equal rights as people in the city if you have access to energy?**	**Yes together with water.**
12b.	**I want equal rights to people in the city.** *(Strongly agree/ Agree/ Neutral/ Disagree/ Strongly disagree.)*	*Strongly agree.*
12c.	**I think having energy, would give me equal rights.** *(Strongly agree/ Agree/ Neutral/ Disagree/ Strongly disagree.)*	*Agree*

13. Independence: Personal Development (Educational Status, Access to Quality Education)

No.	Question	Responses
13a.	**Will energy create extended study hours? Would children be able to study more with light?**	**Yes, electricity will help children study longer.**
13b.	**Do you think more elementary school teachers would come to the village if you had energy, water, and telecom?**	**Not specified (NVT).**

14. Independence & Self-Determination (Decision-Making Process)

No.	Question	Responses
14a.	**How would the village decide if this project is feasible?**	**Decision-making is led by village leadership.**
14b.	**Would you vote to ensure all villagers agree with the terms?**	**Yes.**
14c.	**What would the role of the captain be in this process?**	**Not specified (NVT).**

15. Socio-Cultural: Traditional Knowledge & Socio-Economic Opportunities

No.	Question	Responses
15a.	**Would you like to share your knowledge of traditional medicine with outsiders?**	**Not specified (NVT).**

15b.	**Do you see selling medicinal products as a business opportunity?**	**Not specified (NVT).**

16. Socio-Cultural: Maintaining a Traditional Way of Living

No.	Question	Responses
16a.	**Do you think the energy project would change you as a person?**	**Yes, they would bring change.**
16b.	**Would you rather live as you do now? *(Strongly agree/Agree/Neutral/Disagree/Strongly disagree.)***	***Strongly disagree.***
16c.	**Would you want to call family members in the city? *(Strongly agree/Agree/Neutral/Disagree/Strongly disagree.)***	***Strongly agree***
16d.	**I wouldn't want my children to watch TV, I'd rather they play outside. *(Strongly agree/Agree/Neutral/Disagree/Strongly disagree.)***	**Agree.**

17. Socio-Cultural: Promoting Gender Equality/Consideration of Traditional Gender Roles. Culture Shifts: Gender Behavior. Traditional Use of Land/Women Empowerment

No.	Question	Responses
17a.	**Would men hunt more or less if they had a fridge to store food?**	**Yes, they would hunt more.**
17b.	**Women: Would you switch to an electric stove? What would you do with your extra time?**	**Not specified (NVT).**

18. Socio-Cultural/Environmental Territories: Access to Indigenous Spiritual or Other Important Sites

No.	Question	Responses
18a.	**Are there areas where outsiders should not build or walk? *(Spiritual/Personal property/Other.)***	**No.**
18b.	**Can you mark these areas on a map?**	**Not specified (NVT).**

19. Environmental: Land (Climate Change, Natural Disasters)

No.	Question	Responses
19a.	Can you mark on a map where flooding occurs during the rainy season?	No flooding reported.

20. Environmental: Land (Wildlife Protection and Ecosystem Shifts)

No.	Question	Responses
20a.	Where are your hunting grounds?	Everywhere in the neighbourhood
20b.	Where are your fishing grounds?	Everywhere in the neighborhood
20c.	Are there park rangers in your village? (Park rangers help with forest monitoring and management)	Not specified (NVT).
20f.	Are there more people interested in becoming a park ranger to help protect and monitor your lands and animals during project-building activities?	Not specified (NVT).

21. Environmental: Land (Flora and Fauna and Water Protection/Deforestation)

No.	Question	Responses
21a.	Are you okay with deforestation for the energy system? *(Strongly agree/Agree/Neutral/Disagree/Strongly disagree.)*	agree.

22. Environmental: Land (Discarding of Waste/Waste Management System/Pollution, Recycling)

No.	Question	Responses
22a.	Where do you discard fuel carriers?	Stored in a warehouse.
22b.	Are fuel carriers returned to the city?	Yes, returned to Min NH (Beekhuizen Department).
22c.	Where do you discard empty batteries or old motors?	Previously collected as bulk waste; now buried in a central location.

23. Environmental: Territories and Resources (Use of Local Materials/Repurposing)

No.	Question	Responses
23a.	If you used less wood for cooking due to electric appliances, would you use wood for other purposes? Like what?	Medical leaves
23b.	Would you help find materials to build project objectives?	Yes (NVT).

24. Environmental: Potential for Allowing Research of Land and Biodiversity Systems During Project Activities as an Environmental Safeguard

No.	Questionnaire	Responses
24a.	Villagers: Would you be willing to let scientific researchers assess whether the animals and land will be disturbed during the project building? (Wildlife and biodiversity research by universities through funding as an environmental safeguard)	Yes, no objections.

25. Socio-Economic/Social Participation/Social Inclusion/Capacity Gap Analysis/Independence/Self-Determination/Ownership Models

No.	Question	Responses
25a.	Would any of the villagers like to work on the solar / water or telecom energy project?	Yes, but no names were given.
25b.	Would you like to upkeep (operation and maintenance) all these new projects yourself?	Maintenance by EBS with local community involvement.
25c.	Would you rather outside people get paid to do the building work? Or would you like to help?	Prefer locals over outsiders.
25d.	Would you rather outside people get paid for general operation and maintenance?	Not specified (NVT).

25e.	**Would you accommodate those people in your village?**	**Yes, but the majority decides.**
25f.	**Would you like to be educated on how to maintain the solar panel, water networks, and telecom in your village by yourselves?**	**Depends on the individuals.**

26. Grievance Mechanism, Environmental Examples (Land, Indicators: Air Quality and Noise)

No.	Question	Responses
26a.	**With the building activities, there might be some noise and dust production. Would you be okay with this?**	**Yes.**
26b.	**Where would you not be okay with this? School for example? Other places? Mark for us on a map.**	**No.**
26c.	**If you still experience grievance from this in other places, who would you want to go to?**	**Basja/captain**

27. Grievance Mechanism, Social Examples (Social Conflicts, Indicators: Social Inclusion)

No.	Question	Responses
27.	**What if you decide to continue with these projects if outsiders come to help with project building, and you get conflicts with them? Who would you tell about this? Or would you keep it to yourself?**	**The Captain/Basja.**

28. Concluding Statements

No.	Question	Responses
	Comment on the following statement	
28a.	**I am content with the way things are. I don't need energy or telecom).** i. Strongly agree	**Option v.** **Strongly disagree.**

	ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	
28b.	**I am looking forward to the project.** i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	**Option i.** **Strongly agree.**
28c.	**I am worried about finances for this project.** i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	**Option iv. Disagree.**
28d.	**I am worried about deforestation due to this project.** i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	**Option iv. Disagree.**
28e.	**I am worried that it won't fit our way of life. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**Not specified (NVT).**
28f.	**I am worried about the game/animals that will go away with too much noise. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**Not specified (NVT).**
28g.	**I trust that this project will be good for my village. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**Not specified (NVT).**

Interviewer: Nieuwendam J. and Forst M.
Villages: Tamarin
Men and women's krutu
Date: February 12th 2025 Translator(s): Nieuwendam J. and Forst M.

1. Social Factor: Baseline Village Info

No.	Question	Response
1a	How many people live in your village?	There are 21 people living in the village.
1b	How many households live in your village?	There are 14 + 5 households in the village.
1c	How many houses?	There are 20 houses, including one building with apartments.
1d	How many males live in this village/How many females/How many children?	Breakdown: 7 men, 7 women, and 6 children.

2. Baseline energy, water and telecom usage

No.	Question	Response
2a	What energy systems does your village currently have?	The village uses a light generator – 110V; it operates from 18:30 to 23:30.
2b	Does the village have a generator?	Not applicable (N/A).
2c	If yes, do you use an electric cooking stove?	All households have a TV, freezer, and rice cooker.
2d	Do you use diesel motors for fuel generation?	Fuel: 6 barrels per month, plus 19 liters of motor oil sometimes.
2e	How much do you need?	8 barrels of motor oil.
2f	And what do you need it for?	Not applicable (N/A).
2g	Where do you get the oil from and who pays for it?	NH delivers the oil.
2h	Do you use kerosene fuel for light lamps or power?	Small lamps for charging.

2i	Inside your house or outside your house?	Yes, inside the house.
2j	Do you use candles or have battery powered lights? How many?	Yes, candles are used in the house.
2k	Do you need light at night and what do you use?	Candles are more expensive.
2l	Where do you fetch your current drinking water?	Durotank.
2m	Are you able to save drinking water?	Rainwater is stored.
2n	What is the source of your current bath water?	River water.
2o	Where do you bathe?	Water well; the water is also used for drinking and from the river.
2p	What alternative water sources do you have?	Creeks, but these are overgrown.
2q	What is the current telecom operation system in the village?	Telesur.
2r	Do you have phone reception here?	Yes, but it is poor and not always available.
2s	Who is responsible for maintaining it? (write down names)	Telesur – The Telesur mast is in Pikin Santi; the gardener is responsible for maintenance and technical support from Parbo.
2t	Do you have radio reception in the village?	Apintie – Radio 10.
2u	Do you own mobile phones?	Yes.
2v	Do you have internet connection?	Via phone.
2w	Have you been 'on' the internet/ do you know what the internet is?	Only mobile internet.
2x	Wired internet or via a phone?	Only mobile.

3. Demand assessment

No.	**Question**	**Selected Response**

3a	Do you feel you need alternative energy options in your village? i. Yes, we need it. ii. We don't need it, but we want it. iii. No, we don't want it or need it.	i. Yes, we need it.
3b	Do you feel you need radio in your village? i. Yes, we need it. ii. We don't need it, but we want it. iii. No, we don't want it or need it.	i. Yes, we need it.
3c.	Do you feel you need telephone service in your village? i. Yes, we need it. ii. We don't need it, but we want it. iii. No, we don't want it or need it.	i. Yes, we need it.
3d	Is light at night important to you? i. Yes, very important. ii. No, not so important. iii. Unimportant. iv. Very unimportant.	i. Yes, very important.

4. Physical wellbeing: health and nutrition status, food security and agricultural production

No.	**Question**	**Selected Response**
4a	How do you currently keep food conserved?	
4b	How do you feel about storing food and drinks in a fridge?	Yes, better.
4c	Comment on the following: If there were electricity, I would use a fridge to store food. i. Strongly agree. ii. Agree. iii. Neutral. iv. Disagree. v. Strongly disagree.	i. Strongly agree.
4d	I will only store my fruits and crops in the fridge. i. Strongly agree. ii. Agree. iii. Neutral. iv. Disagree. v. Strongly disagree.	i. Strongly agree.

4e	I will store hunted game in the fridge/freezer. i. Strongly agree. ii. Agree. iii. Neutral. iv. Disagree. v. Strongly disagree.	i. Strongly agree.
4f	Comment on the following: I would love a fridge. I am not fond of the idea. Why/elaborate.	I would love a fridge.
4g	If you had a fridge or freezer, would you want to save more food as a reserve for the village?	Yes, because there is no shop nearby, but not everything can go into the freezer.
4h	Has your current drinking water caused illnesses? What kinds?	Yes, diarrhea due to river water.
4i	Have people ever gotten seriously sick from contaminated water?	Yes
4j	Optional: Is diarrhea or pneumonia something villagers often deal with?	Not applicable (N/A).
4k	What water source do you use for your agricultural plots?	Not applicable (N/A).
4l	Do you think that a clean water system will help increase your agricultural crop production? Why?	Not applicable (N/A).
4m	Do you have enough crops in the dry season?	Not applicable (N/A).
4n	How do you currently reach Medical aid if there is a medical emergency in your village?	4 km away in Lantiwee.

5. Physical wellbeing: leisure/device dependency

No.	**Question**	**Selected Response**
5a	Would you like a TV for entertainment? i. Absolutely yes. ii. Yes.	i. Absolutely yes.

	iii. Neutral. iv. No. v. Definitely not.	
5b	Would you like radio for entertainment? i. Absolutely yes. ii. Yes. iii. Neutral. iv. No. v. Definitely not.	i. Absolutely yes.
5c	Comment on the following: "No, I do not want a TV or radio, otherwise nobody would want to work." i. Strongly agree. ii. Agree. iii. Neutral. iv. Disagree. v. Strongly disagree.	v. Strongly disagree; it should only be used in the evening hours.
5d	If you had a fridge, would you enjoy drinking cold beverages like Coca-Cola?	Not applicable (N/A).

6. Emotional wellbeing: safety, security, contentment, & lack of stress.

No.	**Question**	**Selected Response**
6a	Will having more light in the village at night make you feel safer? Why?	Yes, especially during rain as there are venomous snakes.
6b	Could you see snakes or other wild animals better with light at night?	Not applicable (N/A).

6c	I feel that personal phone access would make me feel safer. **Ask the men**: Absolutely yes/ Yes/ Neutral/ No/ Definitely not. **Ask the women**: Absolutely yes/ Yes/ Neutral/ No/ Definitely not.	Yes, they could then make calls from the farm plots.
6d	Listening to the radio would ease my daily stressors in life. i. Yes. ii. Neutral. iii. No. iv. Definitely not. Elaborate: What would you want to listen to on the radio?	i. Yes, mainly news reports and music.

7. Material wellbeing: housing, possessions (impact socio-economic differences and preferences) Independence: personal value.

No.	Question	Selected Response
7a	Would you eventually like electricity access right to your house? Or would central community lighting be enough for you? Why?	Yes.
7b	How many of you own a cellphone or would love to own a cellphone?	Yes, but no specific number provided.
7c	How many of you own a radio or would love to own a radio?	4 people own a radio.

7d.	**How many of you have no interest in owning a radio?**	**Not applicable.**
7e	How many of you have ever personally used a computer?	Some people have experience using it due to school.
7f	How many of you would love to learn how to use a computer?	Everyone.
7g	How many of you have completely no interest in learning how to use a computer?	Everyone.

8. Socio-Economic: existing businesses that could cover the operational & maintenance costs –

Once installed, the operational and maintenance costs of this project, can be expensive

No.	Question	Selected Response
8a	With what businesses could you pay for it?	People have no objection to paying for electricity monthly with their own income. Payments could come from pensions, gardener work, watchman duties, and farm plot yields.
8b	Would you want to pay for it together as a community?	Not applicable (N/A).
8c	Or would you rather only those that want to use energy, water or telecom pay for it?	Pay individually.
8d	Comment on these statements: "We'd rather be dependent on outside funding." i. Strongly agree. ii. Agree. iii. Neutral. iv. Disagree. v. Strongly disagree.	Not applicable (N/A).
8e	"I do not want outside funding because we can't trust that they always have enough money for us." i. Strongly agree. ii. Agree. iii. Neutral. iv. Disagree. v. Strongly disagree.	i. Strongly agree.
8f	"We want to pay for the maintenance costs ourselves." i. Strongly agree. ii. Agree. iii. Neutral. iv. Disagree. v. Strongly disagree.	i. Strongly agree.

8g	"We want to learn how the installations work." i. Strongly agree. ii. Agree. iii. Neutral. iv. Disagree. v. Strongly disagree.	i. Strongly agree.
8h	Have you ever been promised funding for water or electricity before? By whom or what organization/political party?	Yes, by political parties.

9. Socio-economic: creation of sustainable business opportunity

No.	Question	Selected Response
9a	Do you see tourism as a business opportunity for your village?	Yes. The idea is the Frt Boekoe Monument. Tourists from Africa and Gambia.
9b	If yes, do you think energy, access would allow more tourists to visit your village?	Yes.

10. Innovation or elevation of business opportunity/ use of new tools

No.	Question	Selected Response
10a	Would you work longer hours if you had (electric) light at night?	No

11. Social participation: social networks (feeling supported)

No.	Question	Selected Response
11a	Do you feel excited about the potential of energy?	YES (N/A).
11b	Do you feel excited about telecom opportunities? Radio/ phone/ internet?	Yes
11c	Would you feel more supported if these projects came to your village?	Yes, very much.

12. Social participation: rights (human rights and legal rights/access, justice).

No.	Question	Selected Response

12a	Would you feel like you have equal rights as people in the city if you have access to water, energy, and telecom?	Not applicable (N/A).
12b	I want equal rights to people in the city. Strongly agree/ agree/ neutral/ disagree/ strongly disagree.	Not applicable (N/A).
12c	I think having energy systems would give me equal rights. Strongly agree/ agree/ neutral/ disagree/ strongly disagree.	Not applicable (N/A).

13. Independence: personal development (educational status, access to quality education)

No.	Question	Selected Response
13a	Will energy create extended study hours? / Would your kids be able to study more/longer with access to light?	Not applicable (N/A).
13b	Do you think more elementary school teachers would come to the village if you had energy, water, and telecom?	Not applicable (N/A).

14.Independence, self-determination (choices, autonomy)

No.	Question	Selected Response
14a	Decision making process: How would you decide as a village if this project is feasible?	Decision making by the village leadership; Captain in discussion with the community.
14b	Would you vote to see if all villagers agree with the terms?	Not applicable (N/A).
14c	What would the role of the captain be in this process?	Final decision/word rests with the captain.

15. Socio-cultural community: highlighting traditional knowledge. Socio-economic.

No.	Question	Selected Response
15a	Would you like to share your knowledge of traditional medicine with outsiders?	No

15b	Do you see selling medicinal products as a business opportunity?	No

16.Socio-cultural community: maintaining a traditional way of living

No.	Question	Selected Response
16a	Do you think the energy, water and telecom projects would make you become a different person?	N/A
16b	Would you rather live as you live right now? i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly disagree (v)
16c	Would you want to call family members in the city? i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	N/A
16d	I wouldn't want my children to watch TV, I'd rather they play outside. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Disagree (iv) - Caution near the river.

17. Socio-cultural: promoting gender equality/ consideration of traditional gender roles. Culture shifts: gender behavior. Traditional use of land /women empowerment

No.	Question	Selected Response
17a	Do you think men would hunt more, or less, if you had a fridge to save food in?	More
17b	Women: would you keep cooking with fire or would you want an electric stove to cook quicker? What would you do with your freed-up time?	Rice cooker, do other work

18. Socio-cultural/environmental territories: access to indigenous spiritual or other important sites.

No.	Question	Selected Response
18a	Are there areas in your village where you don't want outsiders to come and build things or walk through? For what	No

	reason: - Spiritual - Personal property - Other.	
18b	Can you mark these on a map for us?	N/A

19. Environmental: land (climate change, natural disasters).

No.	Question	Selected Response
19a	Can you mark for us on a map where you experience a lot of flooding during rain seasons?	N/A

20. Environmental: land (wildlife protection and ecosystem shifts).

No.	Question	Selected Response
20a	Where are your hunting grounds?	Everywhere in the neighbourhood
20b	Where are your fishing grounds?	Everywhere in the neighbourhood
20c	Are there park rangers in your village? Rangers help with forest monitoring and management.	No
20d	Are there more people interested in becoming park rangers to help protect and monitor your lands and animals during project building activities?	No

21. Environmental: land (flora and fauna and water protection/deforestation.)

No.	Question	Selected Response
21a	Are you okay with possible deforestation to build the energy system i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	SA 6 lege vaten naar Moengo voor vullen

22. Environmental: Land (discarding of waste/ waste management system/pollution, recycling)

No.	Question	Selected Response
22a	Where do you discard of fuel carriers?	N/A
22b	Are the fuel carriers brought back to the city?	N/A

22c	Where do you discard of empty batteries or old motors?	Around the house

23. Environmental: Territories and Resources (use of local materials/ repurposing.)

No.	Question	Selected Response
23a	If you used less wood to cook your food and water for, because of electric appliances. Would you use wood for other purposes? Like what?	Wood and charcoal for cooking
23b	Would you help find materials to help build project objectives?	Yes

24. Environmental: potential for allowing research of land and biodiversity systems during project activities as an environmental safeguard.

No.	Question and Response Options	Selected Response
24a	Villagers: would you be willing to let scientific researchers assess whether the animals and land will be disturbed during the project building? (wildlife and biodiversity research by universities through funding? As an environmental safeguard).	NVT

25. Socio-economic/ social participation/ social inclusion/ capacity gap analysis/ independence/ self-determination/ ownership models.

No.	Question	Selected Response
25a	Would any of the villagers like to work on the solar/ water or energy project? Write down names.	NVT
25b	Would you like to upkeep (operation and maintenance) this new projects yourself?	NVT
25c	Would you rather outside people get paid to do the building work? Or would you like to help?	Yes and help

25d	Would you rather outside people get paid for general operation and maintenance?	NVT
25e	Would you accommodate those people in your village?	Yes
25f	Would you like to be educated on how to maintain the electricity your village by yourselves?	NVT

26. Grievance mechanism, environmental examples. Aspect: land, indicators: air quality and noise

No.	Question	Selected Response
26a	Would you be okay with noise and dust production during building activities?	yes
26b	Where would you not be okay with this? School for example? Other places? Mark for us on a map.	school
26c	If you experience grievance from this, who would you want to go to?	Basja/Kaptein

27. Grievance mechanism, social examples.
Aspect: social conflicts, indicators: social inclusion.

No.	Question and Response Options	Selected Response
27	**What if you decide to continue with these projects if outsiders come to help with project building, and you get conflicts with them? Who would you tell about this? Or would you keep it to yourself?**	De kapitein / basja

28. Concluding statements.

No.	Question	Selected Response
	Comment on the following statement	
28a	I am content with the way things are. I don't need energy or telecom. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	Strongly disagree

28b	I am looking forward to the project. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	i. Strongly agree
28c	I am worried about finances for this project. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	iii. Neutral
28d	I am worried about deforestation in this project. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	NVT
28e	I am worried that it won't fit our way of life. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	v. Strongly disagree
28f	I am worried about the game/animals that will go away with too much noise. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	v. Strongly disagree
28g	I trust that this project will be good for my village. i. Strongly agree ii. Agree iii. Neutral iv. Disagree v. Strongly disagree	v. Strongly disagree

Interviewer: Nieuwendam J. and Forst M.
Villages: Wanhatti
Men and women's krutu
Date: February 12th 2025 Translator(s): Nieuwendam J. and Forst M.

1. Social factor: Baseline village info

No.	Question	Responses
1a.	How many people live in your village?	The village currently has an estimated population of approximately 400–500 people.
1b.	How many households live in your village?	The respondent was unable to provide an exact number of households in the village.

1c.	How many houses?	No specific information was provided regarding the total number of houses.
1d.	How many males live in this village/How many females/How many children?	The respondent did not provide a breakdown of the population by gender or age groups (males, females, children).

2. Baseline Energy, Water, and Telecom Usage

No.	Question	Responses
2a.	What energy systems does your village currently have?	The village primarily uses a generator for electricity.
2b.	Does the village have a generator?	Yes, a generator operates from 6:00 PM to 6:00 AM. Previously, it ran from 6:00 PM to midnight.
2c.	If yes, do you use an electric cooking stove?	Some households have rice cookers, but they cannot be used during the day. All electric appliances are used only at night.
2d.	Do you use diesel motors for fuel generation?	Yes.
2e.	How much do you need?	The generator consumes 100 liters of diesel per night, totaling 16 barrels per month.
2f.	And what do you need it for?	The generator is used for household electricity needs at night.
2g.	Where do you get the oil from, and who pays for it?	Diesel is supplied by the Ministry of NH, Department Beekhuizen. The head of the department is Dhr. Forster.
2h.	Do you use kerosene fuel for light lamps or power?	No, kerosene lamps (kokolampoes) are not commonly used. People prefer using candles.
2i.	Inside your house or outside your house?	Candles are used indoors when there is no electricity.
2j.	Do you use candles or have battery powered lights? How many?	Each household uses about one candle per night, but in some cases, two candles may be used, especially when the generator is not functioning.
2k	Do you need light at night, and what do you use?	Yes, when the generator is unavailable, candles are the primary source of light.

2l.	Where do you fetch your current drinking water?	The village has access to drinking water through an SWM network. The water is purified river water.
2m.	Are you able to save drinking water?	Drinking water is available in the village.
2n.	What is the source of your current bath water?	River water is used for bathing and other household purposes.
2o.	Where do you bathe?	People bathe both in the river and at home.
2p.	What alternative water sources do you have?	The primary alternative water source is the river.
2q.	What is the current telecom operation system in the village?	There is a telecom system in place, provided by Telesur.
2r.	Do you have phone reception here?	Yes, but the signal is weak. During busy periods or holidays, there is no reception at all.
2s.	Who is responsible for maintaining it? (write down names)	Kapitein Glenn Thomas is responsible for managing the Telesur tower.
2t.	Do you have radio reception in the village?	No, there is no radio reception.
2u.	Do you own mobile phones?	Most villagers own mobile phones.
2v.	Do you have internet connection?	Yes, mobile phones in the village have internet access.
2w.	Have you been 'on' the internet/do you know what the internet is?	Yes, villagers use the internet and are aware of its functions.
2x.	Wired internet or via a phone?	Internet is accessed through mobile phones, as there are no computers or laptops in the village except for young female teachers who own laptops.

3. Demand Assessment

No.	**Question**	**Responses**
3a.	Do you feel you need alternative energy options in your village? **(i) Yes, we need it. (ii) We don't need it, but we want it. (iii) No, we don't want it or need it.**	**(i) Yes, we need it.** There is a clear need for electricity in the village.

3b.	Do you feel you need radio in your village? **(i) Yes, we need it. (ii) We don't need it, but we want it. (iii) No, we don't want it or need it.**	**(i) Yes, we need it.**
3c.	Do you feel you need telephone acces in your village? **(i) Yes, we need it. (ii) We don't need it, but we want it. (iii) No, we don't want it or need it.**	**(i) Yes, we need it.**
3d.	Is light at night important to you? **(i) Yes, very important. (ii) No, not so important. (iii) Unimportant. (iv) Very unimportant.**	**(i) Yes, very important.**

4.Physical Wellbeing: Health and Nutrition Status, Food Security, and Agricultural Production

No.	**Question**	**Responses**
4a.	How do you currently keep food conserved?	Food is preserved by reheating meals frequently or storing them in a freezer.
4b.	How do you feel about storing food and drinks in a fridge?	Good.
4c.	Comment on the following: If there were electricity, I would use a fridge to store food. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree	**(i) Strongly agree.**
4d.	I will only store my fruits and crops in the fridge. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree	**(i) Strongly agree.**
4e.	I will store hunted game in the fridge/freezer. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree	**(i) Strongly agree.** Prefers a freezer, meaning ice must be purchased for daytime storage.
4f.	**Comment on the following** I would love a fridge. - I am not fond of the idea. **Why? Elaborate.**	**"I would love a fridge."** It makes food storage much easier and keeps food fresh for longer.

4g.	If you had a fridge or freezer, would you want to save more food as a reserve for the village?	Yes.
Water	**Water Access and Health**	
4h.	Has your current drinking water caused illnesses? What kinds?	No, water has not caused illnesses.
4i.	Have people ever gotten seriously sick from contaminated water?	No, no one in the village has become seriously ill from contaminated water.
4j.	**Optional:** Is diarrhea or pneumonia something villagers often deal with?	No.
4k.	What water source do you use for your agricultural plots?	Mostly creek water.
4l.	Do you think that a clean water system will help increase your agricultural crop production? Why?	Not really; it depends on the situation.
4m.	Do you have enough crops in the dry season?	No, due to soil conditions.
Telecom	**Access to Medical Services**	
4n.	How do you currently reach Medical aid if there is a medical emergency in your village?	There is a facility in a nearby village, **Lanti Wee** (7 km away), where a missionary provides medical services. There is no Medical Mission in the immediate area. The village clinic has not been operational for ten years. If the missionary is unavailable, residents must travel to **Moengo** for medical assistance.

5. Physical Wellbeing: Leisure & Device Dependency

No.	Questionnaire	Responses
5a.	**Would you like a TV for entertainment? (i) Absolutely yes (ii) Yes (iii) Neutral (iv) No (v) Definitely not**	**(i) Absolutely yes.**
5b.	**Would you like a radio for entertainment? (i) Absolutely yes (ii) Yes (iii) Neutral (iv) No (v) Definitely not**	**(i) Absolutely yes.**

5c.	**Comment on the following statement:** *"No, I do not want a TV or radio, otherwise nobody would want to work."* **(i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**(iv) Disagree.**
5d.	If you had a fridge, would you enjoy drinking cold beverages like Coca-Cola?	Yes, I would enjoy drinking cold beverages like Coca-Cola.

6. Emotional Wellbeing: Safety, Security, Contentment, & lack of stress

No.	Question	Responses
6a.	Will having more light in the village at night make you feel safer? Why?	Yes, more light at night increases the feeling of safety.
6b.	Could you see snakes or other wild animals better with light at night?	Yes, with light at night, snakes and other wild animals are easier to detect.
6c.	**I feel that personal phone access would make me feel safer.** **(Men): Absolutely yes / Yes / Neutral / No / Definitely not** **(Women): Absolutely yes / Yes / Neutral / No / Definitely not**	Most men and women already have mobile phones, but better reception would improve the sense of security.
6d.	**Listening to the radio would ease my daily stressors in life. (i) Yes (ii) Neutral (iii) No (iv) Definitely not What would you want to listen to on the radio?**	**(i) Yes.** Mostly news reports and music.

7. Material wellbeing: Housing, Possessions, (impact socio-economic differences and preferences) and Independence: personal value

No.	Question	Responses
7a.	**Would you eventually like electricity access right to your house, or would central community lighting be enough for you? Why?**	**Yes, direct electricity access to the house is preferred.**
7b.	**How many of you own a cellphone or would love to own a cellphone?**	**Most people already own a mobile phone.**
7c.	**How many of you own a radio or would love to own a radio?**	**Not everyone has a radio due to poor reception.**

7d.	**How many of you have no interest in owning a radio?**	**Not applicable.**
7e.	**How many of you have ever personally used a computer?**	**Mostly young women and teachers have computers.**
7f.	**How many of you would love to learn how to use a computer?**	**Everyone would want to, especially for children's education.**
7g.	**How many of you have completely no interest in learning how to use a computer?**	**Not applicable.**

8. Socio-Economic: existing businesses that could cover the operational & maintenance costs – Once installed, the operational and maintenance costs of this project, can be expensive

No.	Question	Responses
8a.	**With what businesses could you pay for it?**	**People are willing to pay monthly for electricity using personal income.**
8b.	**Would you want to pay for it together as a community?**	**No, most people work and prefer to pay individually.**
8c.	**Or would you rather only those who want to use energy, water, or telecom pay for it?**	**Not applicable.**
8d.	**We'd rather be dependent on outside funding. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**(v) Strongly disagree.**
8e.	**I do not want outside funding because we can't trust that they always have enough money for us. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**(ii) Agree.**
8f.	**We want to pay for the maintenance costs ourselves. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**SA**
8g.	**We want to learn how the installations work. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**Neutral**
8h.	**Have you ever been promised funding for water or electricity before? By whom or what organization/political party?**	**Political Parties Not applicable.**

9. Socio-economic: creation of sustainable business opportunity

No.	Question	Responses
9a.	Do you see tourism as a business opportunity for your village?	Yes, tourism can be a business opportunity for the village.
9b.	If yes, do you think more energy, water, and telecom access would allow more tourists to visit your village?	Yes, definitely.

10. Innovation or elevation of business opportunity/use of new tools

No.	Question	Responses
10a.	Would you work longer hours if you had (electric) light at night?	Yes.

11. Social Participation: Social Networks (Feeling Supported)

No.	Question	Responses
11a.	Do you feel excited about the potential of energy?	Yes, definitely. This will make it possible to live optimally here, and for the village, it means development.
11b.	Do you feel excited about telecom opportunities? (Radio/phone/internet?)	Yes, definitely.
11c.	Would you feel more supported if this project came to your village?	Yes, definitely.

12. Social Participation: Rights (Human Rights and Legal Rights/Access, Justice)

No.	Questionnaire	Responses
12a.	Would you feel like you have equal rights as people in the city if you have access to water, energy, and telecom?	Not applicable.
12b.	I want equal rights to people in the city. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree	Not applicable.
12c.	I think having energy, telecom, or water systems would give me equal rights. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree	Not applicable.

13. Independence: Personal Development (Educational Status, Access to Quality Education)

No.	Questionnaire	Responses
13a.	Will energy create extended study hours? Would your kids be able to study more/longer with access to light?	Yes, electricity will ensure that children can study longer.
13b.	Do you think more elementary school teachers would come to the village if you had energy, water, and telecom?	Not applicable.

14. Independence: Self-Determination (Choices, Autonomy)

No.	Question	Responses
14a.	Decision-making process: How would you decide as a village if this project is feasible?	Decision-making would be done by the village leadership.
14b.	Would you vote to see if all villagers agree with the terms?	Yes in the krutu.
14c.	What would the role of the captain be in this process?	Take the lead

15. Socio-Cultural Community: Highlighting Traditional Knowledge. Socio economic

No.	Question	Responses
15a.	Would you like to share your knowledge of traditional medicine with outsiders?	Yes, to some extent.
15b.	Do you see selling medicinal products as a business opportunity?	Yes, but as a group, we could look into ways of developing traditional medicine as a business opportunity, especially if optimal electricity is available. With electricity, more people will stay permanently, which will naturally lead to more business activities.

16. Socio-Cultural Community: Maintaining a Traditional Way of Living

No.	Question	Responses
16a.	Do you think the energy, projects would make you become a different person?	Yes no more worries about the light.

16b.	**Would you rather live as you live right now? (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**Option iv (Disagree).**
16c.	**Would you want to call family members in the city? (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**Option ii (Agree).**
16d.	**I wouldn't want my children to watch TV, I'd rather they play outside. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**Option iii (Neutral).**

17. Socio-Cultural: Promoting Gender Equality/Consideration of Traditional Gender Roles. Culture Shifts: Gender Behavior. Traditional Use of Land/Women Empowerment

No.	Question	Responses
17a.	**Do you think men would hunt more, or less, if you had a fridge to save food in?**	**Yes.**
17b.	**Women: Would you keep cooking with fire or would you want an electric stove to cook quicker? What would you do with your freed-up time?**	**Do more work.**

18. Socio-Cultural/Environmental Territories: Access to Indigenous Spiritual or Other Important Sites

No.	Question	Responses
18a.	**Are there areas in your village where you don't want outsiders to come and build things or walk through? For what reason? (i) Spiritual (ii) Personal property (iii) Other**	**No**
18b.	**Can you mark these on a map for us?**	**Not applicable.**

19. Environmental: Land (Climate Change, Natural Disasters)

No.	Question	Responses
19a.	**Can you mark for us on a map where you experience a lot of flooding during rain seasons?**	**No flooding.**

20. Environmental: Land (Wildlife Protection and Ecosystem Shifts)

No.	Question	Responses
20a.	Where are your hunting grounds?	Various: location across the river forest; on this side in the forest.
20b.	Where are your fishing grounds?	Poesoewe creek and Mawalibo creek.
20c.	Are there park rangers in your village? (Park rangers help with forest monitoring and management)	No park rangers.
20d.	Are there more people interested in becoming a park ranger to help protect and monitor your lands and animals during project-building activities?	No

21. Environmental: Land (Flora and Fauna and Water Protection/Deforestation)

No.	Question	Responses
21a.	Are you okay with possible deforestation to build the solar, water, and telecom systems? (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree	Option i (Strongly agree).

22. Environmental: Land (Discarding of Waste/Waste Management System/Pollution, Recycling)

No.	Question	Responses
22a.	Where do you discard of fuel carriers?	Stored in a warehouse.
22b.	Are the fuel carriers brought back to the city?	Yes, they are returned to Min NH Beekhuizen department.
22c.	Where do you discard of empty batteries or old motors?	Large waste was previously collected; now buried in a general pit at a central location.

23. Environmental: Territories and Resources (Use of Local Materials/Repurposing)

No.	Questionnaire	Responses
23a.	If you used less wood to cook your food and water for, because of electric appliances, would you use wood for other purposes? Like what?	To cook medicinal leaves for baths

23b.	**Would you help find materials to help build project objectives?**	**No problem, yes.**

24. Environmental: Potential for Allowing Research of Land and Biodiversity Systems During Project Activities as an Environmental Safeguard

No.	Questionnaire	Responses
24a.	**Villagers: Would you be willing to let scientific researchers assess whether the animals and land will be disturbed during the project building? (Wildlife and biodiversity research by universities through funding as an environmental safeguard)**	**Yes, we have no problem with that.**

25. Socio-Economic/Social Participation/Social Inclusion/Capacity Gap Analysis/Independence/Self-Determination/Ownership Models

No.	Question	Responses
25a.	**Would any of the villagers like to work on the solar / water or telecom energy project?**	**Yes, that would be useful; no names provided.**
25b.	**Would you like to upkeep (operation and maintenance) all these new projects yourself?**	**Maintenance by EBS with local community involvement.**
25c.	**Would you rather outside people get paid to do the building work? Or would you like to help?**	**Prefer not to use outsiders; local people should be involved.**
25d.	**Would you rather outside people get paid for general operation and maintenance?**	**Not applicable.**
25e.	**Would you accommodate those people in your village?**	**If outsiders are involved, accommodations could be arranged, but the majority decides.**
25f.	**Would you like to be educated on how to maintain the solar panel, water networks, and telecom in your village by yourselves?**	**Depends on the individuals involved.**

26. Grievance Mechanism, Environmental Examples (Land, Indicators: Air Quality and Noise)

No.	Question	Responses

26a.	**With the building activities, there might be some noise and dust production. Would you be okay with this?**	**Yes.**
26b.	**Where would you not be okay with this? School for example? Other places? Mark for us on a map.**	**Not applicable.**
26c.	**If you still experience grievance from this in other places, who would you want to go to?**	Basja/captain

27. Grievance Mechanism, Social Examples (Social Conflicts, Indicators: Social Inclusion)

No.	Question	Responses
27.	**What if you decide to continue with these projects if outsiders come to help with project building, and you get conflicts with them? Who would you tell about this? Or would you keep it to yourself?**	**The captain / basja.**

28. Concluding Statements

No.	Question	Responses
	Comment on the following statement	
28a.	**I am content with the way things are. I don't need energy or telecom. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**Option v (Strongly disagree).**
28b.	**I am looking forward to the project. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**Option i (Strongly agree).**
28c.	**I am worried about finances for this project. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**Option iv (Disagree).**
28d.	**I am worried about deforestation in this project. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**Option iv (Disagree).**
28e.	**I am worried that it won't fit our way of life. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**SD.**

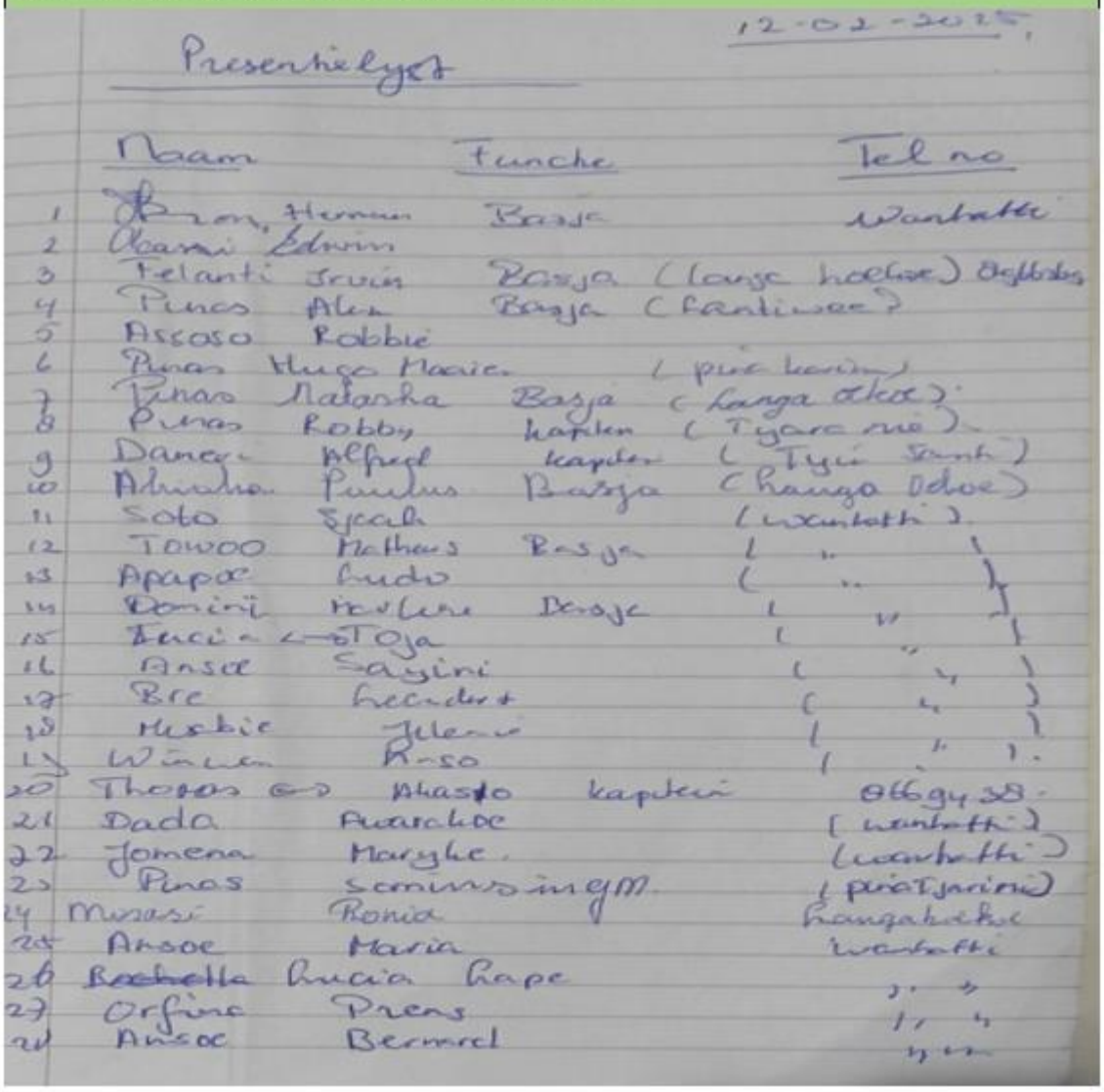
28f.	**I am worried about the game/animals that will go away with too much noise. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	**SD.**
28g.	**I trust that this project will be good for my village. (i) Strongly agree (ii) Agree (iii) Neutral (iv) Disagree (v) Strongly disagree**	Strongly agree

Appendix 2.Participation list

Krutu datum: **12-02-2025**
"Social Environmental assessment for the "Energy Transition and integration Program for Suriname" (SU-L1074)
Toestemmingsformulier.

"Hierbij geef ik ,J. Nieuwendam toestemming om mij vragen te stellen middelss een survey, foto's en audio recordings te maken tijdens de krutu en de resultaten te gebruiken voor zowel interne data als publicatie aan derden" .

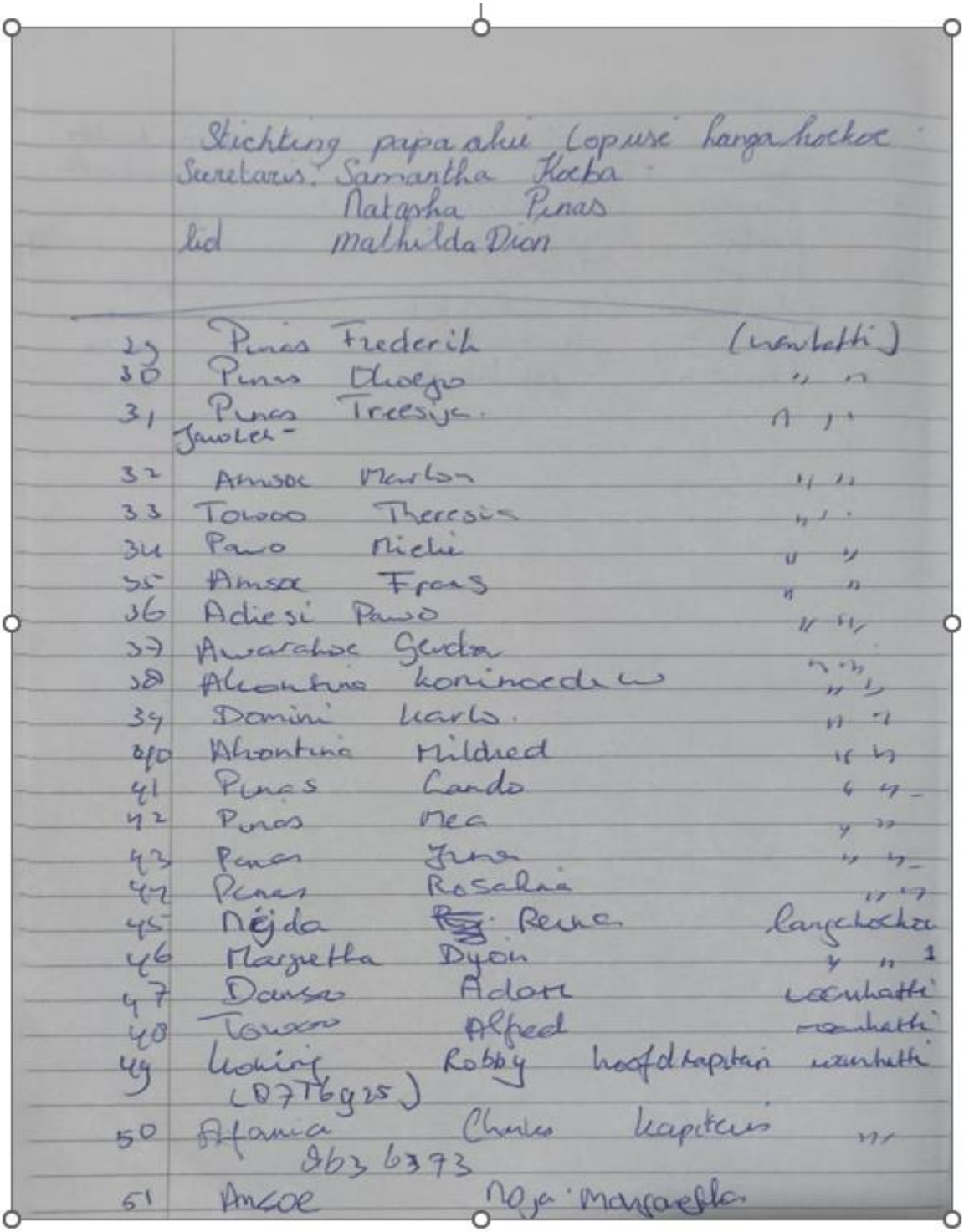
Locatie: **Wanhatti**
Naam vertaler: Interviewer Forst M. / Nieuwendam J.



12-02-2025

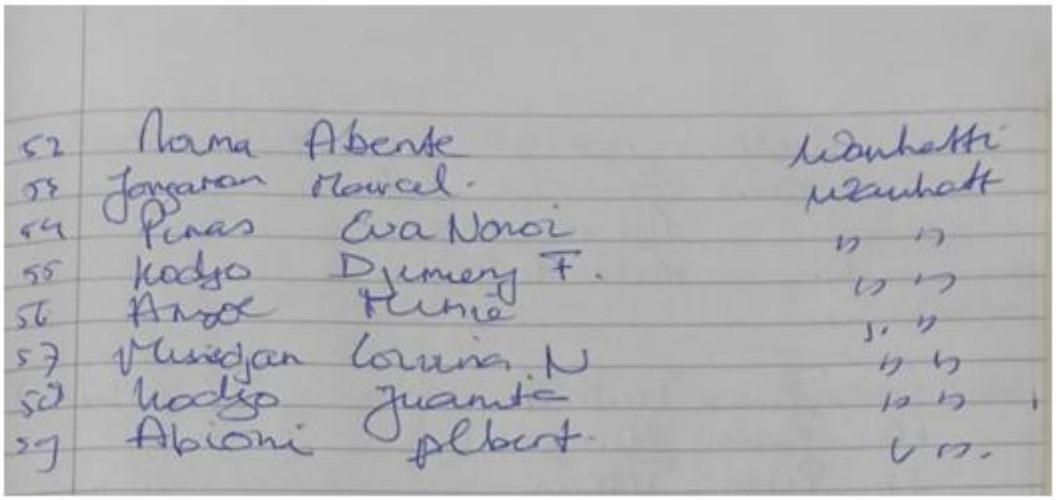
Presentielyst

	Naam		Funche		Tel no
1	[illegible]	Herman	Basja		Wanhatti
2	Asami	Edwin			
3	Telanti	Irwin	Basja (lange hoofse)		Dagboden
4	Pinas	Alex	Basja (Pantiwec)		
5	Assaso	Robbie			
6	Pinas	Hugo Mario	(		pinakarin)
7	Pinas	Natasha	Basja	(langa dkoe)	
8	Pinas	Robby	kapten	(Tyaramie)	
9	Danga	Alfred	kapten	(Tyu Santi)	
10	Ahuaha	Paulus	Basja	(langa Odoe)	
11	Soto	Jacob		(Wanhatti)	
12	Towoo	Mathews	Basja	(	")
13	Apapoe	Rudo		(	")
14	Donini	Marlene	Basja	(	")
15	Lucia	Toja		(	")
16	Ansoe	Saginí		(	")
17	Bre	Frederik		(	")
18	Mackie	Jillenie		(	")
19	Winen	Raso		(	")
20	Thomas	Ahasto	kapteni	8669438	
21	Dada	Awarakoe		(Wanhatti)	
22	Jomena	Maryke		(Wanhatti)	
23	Pinas	Seminsingm.		(pinakarini)	
24	Musasi	Ronia		Langakoeke	
25	Ansoe	Maria		Wanhatti	
26	Bachella	Lucia	Rape		" "
27	Orfina	Preas			" "
28	Ansoe	Bernard			" "



Stichting papa aku Lopuse langahockey
Sureteris: Samantha Kocka
Natasha Punas
lid Mathilda Dion

29	Punas	Frederik		(vanhetti)
30	Punas	Diego		" "
31	Punas Jawlet-	Treesye.		" "
32	Amsoe	Merlon		" "
33	Tawoo	Theresia		" "
34	Pawo	Michi		" "
35	Amsoe	Frans		" "
36	Adiesi	Pawo		" "
37	Awaraboe	Gerda		" "
38	Akontuia	kominoedewo		" "
39	Domini	Karlo.		" "
40	Akontuia	Mildred		" "
41	Punas	Cando		" "
42	Punas	Mea		" "
43	Punas	Juna		" "
44	Punas	Rosalia		" "
45	Nejda	[redacted] Reina		langehocka
46	Margretha	Dyon		" " 1
47	Dansa	Adolf		vanhetti
48	Tawoo	Alfred		vanhetti
49	Koning (0776925)	Robby	hoofdkapitein	vanhetti
50	Afamia	Chriss	kapiteins	"
		863 6373		
51	Amsoe	Noja · Margaretha		


52 Nana Abente
53 Jangaran Marcel.
54 Pinas Eva Nanci
55 Kadjo Djemery F.
56 Anoh Flunie
57 Musiedjan Lorraine N
58 Kadjo Juanita
59 Abioni Albert.

Appendix 3. Marowijne Information.

Marowijne is een district van Suriname, gelegen in het uiterste noordoosten van het land. In het noorden wordt het begrensd door de Atlantische Oceaan en in het oosten wordt het begrensd door de gelijknamige rivier de Marowijne, die de grens vormt met Frans-Guyana. In het westen grenst het district aan het district Commewijne en Para, en in het zuiden aan het district Sipaliwini. De hoofdplaats van Marowijne is Albina, het heeft 16.641 inwoners (2004) en een landoppervlakte van 4627 km.

Economie

In het begin van de twintigste eeuw werd bauxiet ontdekt in de buurt van Moengo. Dit resulteerde in een sterke toename van mijnbouw, uitgevoerd door de Surinaamsche Bauxiet Maatschappij (SBM en later Suralco) zorgde dat voor een duidelijke stijging van de welvaart in Suriname.
Het district kent tevens een belangrijke toeristische industrie.

Bevolking

Marowijne wordt voor het grootste deel bewoond door Marrons met name de Aucaners of Ndyuka's, de Paramacaners en de Aluku's of Boni's. Verder heb je Indianen, Javanen en een klein aantal Chinezen en Hindustanen.

Geografie

Naast de rivier de Marowijne, zijn ook de rivier de Cottica en de Wanekreek belangrijke waterlopen. Aan de Atlantische mangrovekust bevindt zich het Wia Wia Natuurreservaat en bij de monding van de Marowijne bevindt zich het Wanekreek Natuurreservaat.

Ressorten

Het district Marowijne is onderverdeeld in zes ressorten:

Ressort	oppervl. (km²)	inwoners	dichtheid (inw/km²)
Albina	397	4971	12,52
Galibi	1014	674	0,66
Moengo	1117	9753	8,73
Moengo Tapoe	455	477	1,05
Patamacca	1183	415	0,35
Wan Hatti	461	351	0,76
Totaal	**4627**	**16641**	**3,60**

Zie de categorie ***Marowijne District*** van W

Moengo, ook Mungo, is een plaats en ressort in het oosten van Suriname, gelegen aan de rivier de Cottica, in het district Marowijne. De cotticarivier werd bevaarbaar gemaakt voor zeeschepen die te Moengo de bauxiet kwamen ophalen.
De plaats is in het begin van de 20e eeuw gesticht, nadat de surinaamse Bauxiet Maatschappij in het gebied winbare voorraden bauxiet had ondekt Aanvankelijk was Moengo alleenvia de rievier bereikbaar.

Eind jaren twintig werd een weg naar Albina aangelegd. In 1955 werd een airstrip aangelegd,en sinds 1964 is Moengo vanuit Paramaribo via de weg naar Albina bereikbaar Oostwest-verbinding. Door de bouw van de Jules Wijdenboschbrug isde reistijd vanuit Paramaribo nog flink verkort .Van Langatabbetje loopt een moeizaam onderhouden weg naar Moengo.
Tijdens de Binnenlandse Oorlog die in de jaren achtig woedde tussen het Nationale leger van Suriname en de Junglecommando werd bauxietwinning buiten Moengo te gevaarlijk geacht. Moengo stond echter zelf ook op een winbare laag bauxiet. Het plaatsje werd daarom gedeeltelijk ontmanteld om deze bauxiet te kunnen winnen,waarbij een deel van de huizen als bouwpakket werd verkocht. Toen de bauxietwinning werd verplaats naar de Coermotibo-mijn .De bauxiet wordt van daar met duwboten naar Paranam vervoerd om te woredn verwerkt tot aluinaarde.
Van 1932 tot 1945 was Moengo de hoofdplaats van het Marowijne. In de periode ervoor en erna was Albina de hoofdplaats van het distrikt.

Moengo Informatie

Scholen:

1 De Siregar school
2 O.S Santen
3 O.S Wonoredjo
4 Fred Murray school
5 St Theresia school R.K
6 La Providentia school
7 L.B.G.O Barronschool
8 H.Waaldijk school
9 Tamarin R.K
10 Wanhatie EBGS
11 Peto-ondro
12 Ricanau-mofo
13 Pelgrim

Basischolen Albina

Arronschool

Gerardus

Openbareschool

LBGO

LBGO Albina>Buiten albina langs de Marowijnerivier(basisscholen)

Erowarte

Bigiston

Mopi

Galibi

Rk school te Nason