Gold Standard
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TEMPLATE

KEY PROJECT INFORMATION & VPA DESIGN DOCUMENT (VPA DD)

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VERSION **v.2.3**

RELATED SUPPORT

- Programme of Activity requirements
- TEMPLATE GUIDE VPA Design Document

This document contains the following sections

KEY PROJECT INFORMATION

Type of VPA	☒ Real case VPA ☐ Regular VPA
Scale of VPA Note that a VPA can be of one scale. Please select applicable scale accordingly.	☐Microscale ☒Small scale ☐Large scale
Title of corresponding real case VPA (if applicable)	Turkana Safe Water Supply Project
GS ID of real case VPA (if applicable)	12354
GS ID of VPA	
Title of VPA	Turkana Safe Water Supply Project
Time of First Submission Date	10.09.2023
Date of Design Certification	
Version number of the VPA-DD	1.0
Completion date of version	22.07.2024
Coordinating/managing entity	Griot UK Ltd.
VPA Implementer (s)	Griot UK Ltd.
Project Participants and any communities involved	Griot UK Ltd.
Host Country (ies)	Kenya
GS ID and Title of applicable Design Certified VPA	
GS ID and Title of applicable Performance Certified VPA	
Activity Requirements applied	☒ Community Services Activities ☐ Renewable Energy Activities ☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A

Other Requirements applied	
Methodology (ies) applied and version number	Methodology For Emission Reductions From Safe Drinking Water Supply Version 1.0
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A
VPA Cycle:	☒ Regular ☐ Retroactive

Table 1 – Estimated Sustainable Development Contributions

SUSTAINABLE DEVELOPMENT GOALS TARGETED	SDG IMPACT (DEFINED IN B.6.)	ESTIMATED ANNUAL AVERAGE	UNITS OR PRODUCTS
13 Climate Action (mandatory)	Amount of GHG emissions avoided	59,976	tCO2eq
5 Gender Equality	Reduced time spent collecting water	77	%
6 Clean Water and Sanitation	Access to safely managed water sources and sanitation services	1,873,800	Liters
8 Decent Work and Economic Growth	Total number of jobs created	25	number
15 Life on Land	Reduced deforestation attributed to wood fuel savings	404	tons

SECTION A. DESCRIPTION OF PROJECT

A.1. Purpose and general description of project

The main objective of the "Safe Water Supply in Turkana County" is to rehabilitate broken, non-functioning boreholes, install new solar-powered pumps, solarize boreholes, and conduct ongoing maintenance and repair for the project's lifetime to eliminate the need for long-distance travel to collect water from unsafe natural sources.

Turkana County is located in the north-western region of Kenya; due to its climatic and geographical characteristics, it is an arid region and semi-arid land with an average rainfall of 200 to 250mm a year and high temperatures approaching 40 degrees Celsius and very prone to droughts and famines. Turkana faces both physical and economic water scarcity interchangeably during and between seasons. The county shares its international borders with Ethiopia, Sudan, and Uganda, which are located in the north and west of the county. With the recent unrest in Sudan, Turkana County is being affected harshly by the influx of refugees, especially in basic services such as water supply. Moreover, with the Climate Crisis, the shortage of rainfall has negatively impacted livestock productivity due to exacerbated dry conditions across the region, causing widespread livestock deaths.

Considering the detailed technical feasibility studies carried out by Griot Ltd. UK, an investment in rehabilitation, installation, and solarization of the boreholes in Turkana County has been made to supply safe water to communities and reduce the boiling need to obtain safe water in the region.

Within the project's scope, 100 hand pumps and 12 solar pumps will be rehabilitated, and 12 hand pumps will be solarised in Turkana County. The project activities will increase access to safe drinking water and reduce the need for boiling unsafe water; hence, the extensive usage of non-renewable biomass and the emissions associated with biomass burning will be reduced. Water collection time will also be reduced, enabling women and girls to engage more in education-related or other income-generation activities. The project activities will target mainly rural communities and households and, to some extent, peri-urban communities. The project activities are expected to affect 719,000 beneficiaries in Turkana County. The following activities will be implemented as part of the project activities.

Rehabilitation of the Existing Boreholes

The Project activities will identify and assess the extent of damage and what repairs are required for broken boreholes used as the primary source of drinking water in rural communities that had previously had to travel far to collect water. Comprehensive remediation of the assessed boreholes will be conducted, including flushing all sediments from the boreholes, replacing and/or repairing all broken and worn-out parts, re-assembling the pump, and reinstalling the borehole components and ensuring the borehole is pumping water optimally. The borehole components will be disinfected through chlorination to ensure a clean water supply. Extensive WASH training will be conducted in the community to ensure consistent practices of safe water collection from the borehole, hygienic handling, and secure storage at home. Water quality monitoring will be conducted to ascertain any contamination in the borehole after the rehabilitation. Quarterly monitoring visits will be undertaken to all boreholes to check on functionality, monitor water yield and use, and perform necessary repairs or sensitization.

Solarisation of the Boreholes

Solar technology will be installed in water wells to provide renewable power to boreholes. The solar photovoltaic panels convert the sun's energy into electricity. The electricity powers a submersible pump, which pumps water from a borehole to a storage tank. The water is then gravity-fed through pipes to water points. Solar energy reduces the costs of extracting water. Solarisation of the boreholes will include three essential pieces of equipment: pumps, control units, and solar modules.

Contribution to Sustainable Development

While the communities in the Project Boundary boil water to make it safer, providing a safe water supply source will help eliminate the need for boiling water. In the Project`s boundary, three-stone fires and inefficient stoves are used for boiling unsafe water, fueled primarily by non-renewable wood fuel in rural areas, thus increasing deforestation rates. With this Project's Activities, the need for boiling unsafe water, hence the extensive usage of non-renewable biomass, and the emissions associated with biomass burning will be reduced. Thanks to the project:

- Costs for buying fuel materials to boil water will be reduced.
- access to basic services (safe water supply) will be increased.

- Reduced smoke emissions from boiling water will decrease household air pollution and improve well-being, especially for women and children.
- The awareness of safely managed water will be increased through periodical WASH training.
- Water collection time will be reduced, benefiting women and girls especially and enabling them to have more time for other income-generation activities or educational activities.
- Disease occurrences due to unsafe water consumption will be prevented.
- The project activities will help create new pathways for local economic empowerment. They will enable local communities to earn income by participating in the WASH training activities and building capacity and know-how.
- With the Project Activity, deforestation rates will be reduced, and biodiversity will be restored.

A.1.1. Eligibility of the VPA under approved PoA

The Maji Bora Multi-Country Small-Scale Safe Water Supply Programme of Activities (PoA) includes the VPA in Kenya, as defined in section A.2 of the PoA-DD. This project aims to provide safe water by rehabilitating non-functional water points, reducing the need for households to boil water for treatment. Consequently, this will decrease firewood consumption and lower greenhouse gas emissions. The project qualifies under the PoA because it involves the "repair of community-wide safe water supply technologies such as hand-pumped boreholes" and provides "a safe water source to communities in the host country currently boiling water as a treatment method or, using the concept of suppressed demand, to members of the community who cannot boil water due to the unavailability or expense of firewood," as outlined in section A.3. of the PoA-DD.

Table 2 Eligibility for VPA inclusion as per PoA requirements

NO.	ELIGIBILITY CRITERION	DESCRIPTION/ REQUIRED CONDITION	DESCRIPTION OF THE VPA IN RELATION TO THE CRITERIA, MEANS OF VERIFICATION AND SUPPORTING EVIDENCE FOR INCLUSION
1	Location/Geographic boundary	The geographical boundary of each VPA is within the physical/geographical boundary of the PoA	The host country and location of this VPA is specified in Section A.2, and the location is in line with the locations outlined in Section A.2 of the POA-DD.
2	Technology	Technologies promoted under the VPAs provide clean and safe drinking water. The water supply technologies included under this PoA shall not involve any fossil fuel application.	Water Point Technology provided in this VPA includes clean and safe drinking water by rehabilitating and installing hand and solar pumps; it doesn't include fossil fuel-powered pumps. More detailed information can be found under Section A.3 of this VPA-DD, which is identical to Section A.3 of the PoA DD.
3	Double Counting of Impacts	Each VPA needs to conform to documentation requirements to ensure unique identifications of (1) product and (2) end-user locations. (1) Unique Identifier for Project Technology: The implemented project technology can be identified and allocated to the end-user and VPA through unique numbers/markers referenced in the household database. (2) Unique Identifier for end-user: Each end-user (here:household/institution) will be allocated a unique number. The end-user number and the unique ID of the project technology will be documented in the VPA and PoA database of the CME.	The VPA is not registered under any other voluntary or compulsory emission reduction accounting certification schemes. Each water point is assigned a unique ID and GPS coordinates.

<table>
<tr><td>4</td><td>Host Country Requirements</td><td>All VPAs shall follow the applicable Host Country's legal, environmental, ecological, and social regulations.</td><td>This VPA is compliant with these regulations.</td></tr>
<tr><td>5</td><td>Additionality</td><td>Each VPA shall demonstrate additionality by conforming to the additionality requirements of one of the following two options:
1.Applicable GS4GG Activity Requirements
2.CDM Tool 21 Demonstration of additionality of small-scale project activities</td><td>Set out in Section B.5</td></tr>
<tr><td>6</td><td>Project Technology Performance Level</td><td>A detailed description of the planned project technology will include as a minimum:
- Manufacturer name,
- product name (if applicable),
- technology type,
- capacity (in case of pumps: rated flow rate, or flow-rate calculation)
The water directly supplied by the water source (CWS or from the CWT) must comply with i. Microbial quality in line with (i) national standards or guidelines for microbial quality of drinking water, or in their absence, (ii) the guideline values for verification of microbial quality from the Guidelines for drinking water quality, 4th edition (Table 7.10, WHO, 2017);</td><td><table><tr><td>Manufacturer name</td><td colspan="2">Davis&Shirtliff</td></tr><tr><td>technology type</td><td colspan="2">Afridev, India MKII, and India MKIII pumps are all borehole pumps or simply hand pumps.</td></tr><tr><td>capacity</td><td>Afridev
India MKII
India MKIII</td><td>1,300 liters per hour, up to a depth of 45 meters
900 liters per hour, up to a depth of 40 meters
720 liters per hour up to a depth of 40 meters</td></tr></table></td></tr>
</table>

7	Legal Ownership	Each VPA shall outline proper means of demonstrating legal ownership of Products generated under the VPA (see criteria in A.3 of PoA-DD).	Griot UK Ltd. is the Coordinating/Managing Entity that communicates with the Gold Standard and legally owns the carbon credits generated by the water point technologies.
8	Start Date	Water point technologies installed/rehabilitated under each VPA shall be evidenced with the rehabilitation completion date, which will be stored on an electronic database.	The start date of the VPA will be confirmed by signed carbon transfer forms and repair confirmation forms.
9	Crediting Period	The duration of the crediting period of each VPA shall not exceed 20 years after the start date of the PoA.	Set out in Section C in this VPA-DD.
10	Expected technical life of project technology	The expected technical life of an individual project technology will be defined in the PDD for each VPA.	20 years
11	Methodology	Each VPA will apply the Gold Standard GS4GG methodology: 'Methodology for Emission Reductions from Safe Drinking Water Supply', Version 01 and adhere to all applicability conditions and other requirements of the methodology. Each VPA will also adhere to the tools referred to in Section B.2 of PoA-DD.	This VPA applies the Gold Standard GS4GG methodology: 'Methodology for Emission Reductions from Safe Drinking Water Supply', Version 01: Please see Section B.5.

12	Target Group	The target group of the activity shall be households, SMEs, schools, health facilities, institutions and/or communities. The rehabilitation/installation of each water point technologies needs to be recorded via an accurate and complete record.	VPA targets mainly rural communities and households.
13	Sampling	Each VPA will adhere to the sampling requirements stipulated in "Standard for Sampling and Surveys for CDM project Activities and programmes of Activities".	Set out in Section B.7.2 of this VPA-DD.
14	Stakeholder Consultation and Environmental Analysis	Each VPA will conduct a Local Stakeholder Consultation / SFR and adhere to the Gold Standard´s Stakeholder Consultation Rules and Requirements.	Set out in Section E of this VPA-DD.
15	Scale	The annual emission reductions achieved by each VPA are limited to a maximum of 60,000 tons of CO2e from Type III components.	This VPA is a small-scale project whereby the total emission reductions don't exceed 60,000 tCO2e per year.
16	SDG claims	The SDG outcome assessments will be conducted on the VPA level for the core SDGs targeted by the PoA (see section A.4. PoA-DD). VPAs seeking inclusion in the PoA need to address at least the three core SDGs of the PoA and provide the appropriate monitoring protocol for these SDGs in the VPA DD.	Refer to section B.6 in this VPA-DD.

17	Safeguarding Principles	The CME will conduct the Safeguarding Principles Assessment as per the Gold Standard GS4GG Principles & Requirements at the VPA level.	This VPA will monitor Principle 3. Community Health, Safety and Working Conditions: Incidences of waterborne illnesses will be monitored through the Annual Monitoring Project Survey. The project will carry out a WASH programme, including WASH training at the beginning of the project and subsequent WASH follow-up training. Refer to section D and Appendix 1 in VPA-DD

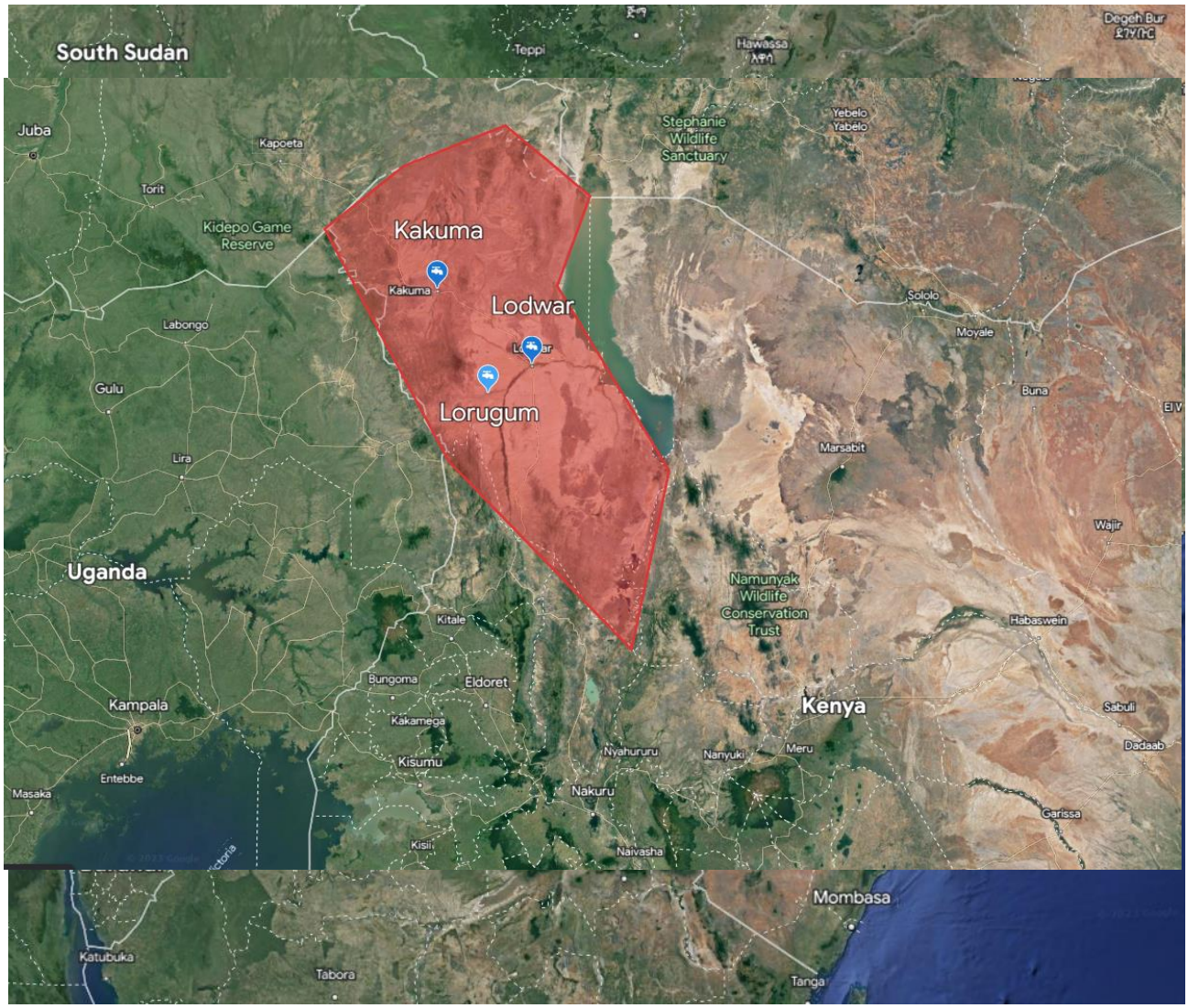
A.1.2. Legal ownership of products generated by the VPA and legal rights to alter use of resources required to service the project

Carbon transfer agreements were signed between CME and the representatives of the villages where the VPA is located. So, the CME has full rights over the Products generated from GS ER Certification.

A.2. Location of VPA

Kakuma, Lorugum, and Lodwar towns in Turkana County are shown below. The target and fuel collection areas are defined as being contained within the project boundary, with the outer limits clearly defined below. Most beneficiaries collect their wood fuel locally near their homes, so the firewood collection area and target area are considered the same. To avoid double-counting, GPS coordinates for each water point technology will be provided, recording their location. Each water point technology will be given a unique number, and its details will be recorded on an electronic database to ease monitoring.

Country	State	Town/Community	Latitude	Longitude
Kenya	Turkana County	Lorugum	2.9303603	35.118979
Kenya	Turkana County	Kakuma	3.7308654	34.8489228
Kenya	Turkana County	Lodwar	3.115332	35.5976914



A.3. Technologies and/or measures

Rehabilitation of the existing Boreholes

The PoA will identify and assess the extent of damage and what repairs are required for broken boreholes used as the primary source of drinking water in rural communities currently travelling far distances to collect water. Comprehensive remediation of the assessed boreholes will be conducted, including flushing all sediments from the boreholes, replacing and/or repairing all broken and worn-out parts, re-assembling the pump, and reinstalling the borehole components and ensuring the borehole is pumping water optimally.

The borehole components will be disinfected through chlorination to ensure a clean water supply. Extensive WASH training will be conducted in the community to ensure consistent practices of safe water collection from the borehole, hygienic handling, and

secure storage at home. Water quality monitoring will be conducted to ascertain any contamination in the borehole after the rehabilitation. Quarterly monitoring visits will be undertaken to all boreholes to check on functionality, monitor water yield and use, and perform necessary repairs or sensitization.

The hand pumps that need rehabilitation are mostly of Afridev type also including India Mark, with the average flow rates (L/min at specific head) of 23.3 L/min at 10 m, 18.3 L/min at 15 m, 15.0 L/min at 20 m, 11.7 L/min at 30 m. The hand pump shown in the figure below withdraws water from varying depths of 10-30 m. The pump requires a concrete slab to be constructed underneath the pump to reduce the amount of loose, contaminated water that would otherwise flow through the soil and down into the water supply. The rehabilitated boreholes will supply 60 liters of safe water per household daily.

Solarization of the Boreholes

Solarisation of the boreholes will include three essential pieces of equipment: pumps, control units, and solar modules.

Three types of pumps are being considered for the new solar pump installations: Submersible Grundfos, Dayliff, and Pedrollo-type pumps with sub-motors will be employed. Submersible pumps are specifically suitable for water supply from boreholes. They feature a hydraulic design that incorporates impellers, which, together with

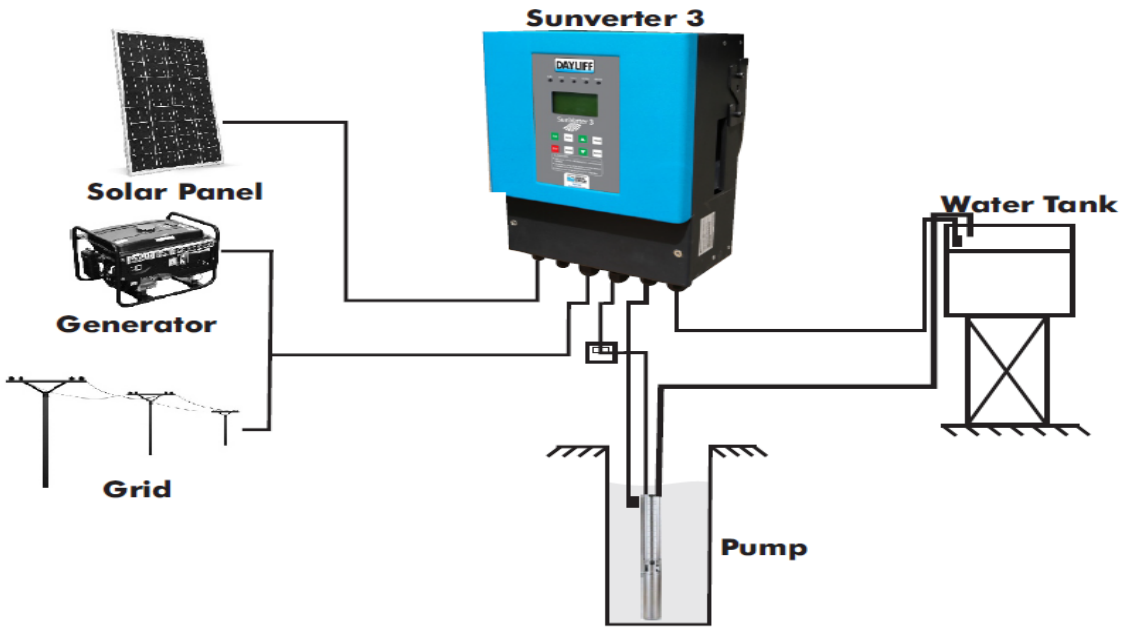
resistant component materials, provide high resistance to sand content in the pumped water.

Solar pumping inverters will be employed as control units, delivering an optimal pump output with complete motor protection, detecting water level and overflow, and preventing idle running. More specifically, the Dayliff Sunverter 3 type is considered the latest update of the established Sunverter range of advanced AC/DC inverters specially designed for solar-powering AC motors in various water-pumping applications. Dayliff Sunverter 3 type has a hybrid capability that enables concurrent operation with direct AC power from mains or generator supply while prioritizing solar supply. It is adaptable to all AC motor types and retrofitted to existing AC supply installations in solarisation projects.

Solar PV modules to be used will consist of high-efficiency crystalline solar cells to provide the required energy to run the pump even at low irradiation levels. Solar modules will be made of high transmission rate tempered glass with an anti-reflection coating to increase the power output and provide mechanical strength.

Moreover, a well-designed solar PV support structure is paramount to the long-term durability of any solar installation. Structures will be strong and secure and endure the substantial forces of the panel weights and high wind speeds.

An exemplary flow scheme of the process to be employed is given below:



A.4. Scale of the VPA

This VPA meets the relevant activity requirements for a small-scale project. Emission Reductions achieved by this VPA will be limited to 60,000 ERs per year.

A.5. Funding sources of VPA

There is no public or ODA funding for this project activity; all revenue for the project will be through the sales of VERs. Please refer to the ODA declaration form.

SECTION B. APPLICATION OF APPROVED GOLD STANDARD METHODOLOGY (IES) AND/OR DEMONSTRATION OF SDG CONTRIBUTIONS

B.1. Reference of approved methodology (ies)

Gold Standard´s Methodology for Emission Reductions from Safe Drinking Water Supply v 1.0. has been employed for the quantification of emission reductions.

B.2. Applicability of methodology (ies)

Methodological Applicability Criteria	Justification
Eligible household water treatment technologies (HWT), institutional water treatment technologies (IWT), and community-level water treatment technologies (CWT) include bleach/chlorine, water filter (ceramic, sand, composite, membrane, etc.), UV disinfection, etc.	This VPA will not introduce water treatment technologies; hence, this criterion does not apply to this VPA:
Eligible community water supply technologies (CWS) include new installation of new borehole hand-pumps, borehole hand-pumps rehabilitation, solar-powered drinking water pumps, etc. Water pumps powered by fossil-fuel engines are not eligible, except backup fossil–fuel engines used for no more than 10% of operating hours.	This VPA will include the installation of new borehole hand pumps, the rehabilitation of borehole hand pumps, and solar-powered drinking water pumps. Water pumps powered by fossil-fuel engines are not included in this project activity.
All projects involving CWT and CWS technologies must also include ongoing maintenance and repair of the project technology.	This VPA includes continuing maintenance and repair of the water point technologies. As required, maintenance records will be provided during the project's monitoring.
Where the project involves the rehabilitation of an existing technology, the project developer shall provide evidence that the existing technology is	This VPA will provide evidence in the form of an official letter stating that the existing technology is non-operational and that there is no planned maintenance or repair

non-operational and that there is no planned maintenance or repair for at least 3 months after the date it became non-operational.	for at least 3 months after it became non-operational.
This methodology allows for project activities to include safe water treatment and/or supply technologies implemented for end-users in households, and/or commercial premises such as shops or institutional premises including half or full-day/boarding schools, prisons, army camps & and refugee camps.	This VPA will mainly include safe water supply technologies for households, but some institutions like schools and health facilities might also be included. The biggest refugee camp is located in Kakuma, one of the project boundaries. A water point is foreseen to be installed or rehabilitated for the refugees living in the camp.
In cases where the safe water is retrieved at the CWT or CWS location, the water in its improved form shall be available within a distance of 1 km or less from the end-users, as demonstrated by satellite imaging or GPS coordinates of each CWT or CWS location. Alternatively, as a proxy, a total collection time of 30 minutes or less for a round trip may be demonstrated, including queuing, and using the travel modes of walking or pedalling.	For this VPA, the water in its improved form will be available within 1 km or less of the end-users. The GPS coordinates of each water point technology will demonstrate this.
Project technology performance level (HWT and IWT): It shall be demonstrated based on the report of laboratory testing or official notification that the project technology or equipment achieves either (i) the performance target classification 3-star or 2-star level, meaning "Comprehensive Protection," as per the WHO International Scheme to Evaluate Household Water Treatment Technologies (World Health Organization, 2011) or (ii)	This VPA does not include water treatment technologies; hence, this criterion is not applicable to this VPA.

compliance with the national standard or guideline for household drinking water treatment technology; if no national guideline or standard is available, then the project technology shall comply with the WHO International Scheme requirements as per (i)	
Project technology performance level (CWT and CWS): For each individual CWT or CWS, it shall be demonstrated at the start of each crediting period with water quality testing reports that the water directly supplied by the project water technology/source achieves both: 1. microbial quality in line with either (i) national standards or guidelines for microbial quality of drinking water, or in the absence of such requirements, (ii) the guideline values for verification of microbial quality from the Guidelines for drinking-water quality (Table 7.10, WHO, 2017); and 2. compliance with (i) national standards or guidelines on priority chemical contamination and physical and aesthetic aspects, or in the absence of such requirements, (ii) international standards or guidelines on priority chemical contamination and physical and aesthetic aspects.	This VPA will demonstrate via periodic water quality testing reports that the water microbial quality directly supplied by the project water source complies with the national water quality standard or WHO guideline.
The project must conduct annual water hygiene education campaigns for the end-users.	The project will organise relevant water hygiene campaigns annually to train end

	users regarding water point technology usage and sustainable management.
A project applying this methodology may make SDG claims if relevant monitoring parameter(s) is included in the monitoring plan to demonstrate and confirm the project's contributions to SDGs.	This VPA will contribute to SDG 5, SDG 6, SDG 8, SDG 13, and SDG 15.

B.3. VPA boundary

The project boundary includes geographical sites of each rehabilitated/installed water point technology. No other equipment using fossil fuels or electricity exists in the project boundary. The household, commercial and institutional buildings where the end users of the water point technology are all included in the project boundary.

	Source	GHGs	Included?	Justification/Explanation
Baseline scenario	Emissions from wood fuels utilized for obtaining safe drinking water displaced due to project activity	CO_2	Yes	Major source of emissions
		CH_4	Yes	Minor source of emissions
		N_2O	Yes	Minor source of emissions
	Emissions from fossil fuels utilized for obtaining safe drinking water displaced due to project activity	CO_2	Yes	Major source of emissions
		CH_4	No	Excluded for simplification
		N_2O	No	Excluded for simplification
Project scenario	Emissions from electricity for operating project water supply technology	CO2	No	No electricity will be used in the project scenario in water points.
		CH4	No	Excluded for simplification
		N2O	No	Excluded for simplification
	Emissions from fossil fuels for operating project water supply/treatment technology	CO2	No	No fossil fuel will be used in the project scenario in water points.
		CH4	No	Excluded for simplification
		N2O	No	Excluded for simplification

B.4. Establishment and description of baseline scenario

Kenya's lack of improved sanitation has significant health, economic, and social impacts. Poor sanitation is a leading risk factor for mortality and morbidity, with unsafe water and sanitation contributing to 5.3% of all deaths.[1]. Over 75% of the country's disease burden is due to poor hygiene, inadequate sanitation, and unsafe drinking water, with diarrheal diseases being a major issue, especially among children under five, resulting in around 19,500 deaths annually. Childhood stunting, affecting 35% of children, is linked to poor sanitation and open defecation, impacting educational and productivity outcomes.[2].

Economically, Kenya loses an estimated KES 27 billion (USD 365 million) annually due to poor sanitation, including USD 88 million from open defecation. Socially, poor sanitation disproportionately affects the poorest families and children, exacerbating health burdens and poverty. Women and girls in informal settlements face increased vulnerability to gender-based violence due to inadequate sanitation facilities. Continued lack of progress in sanitation threatens Kenya's water sources, undermines human dignity, and hampers poverty reduction efforts.[3].

The Government of Kenya aimed to improve access to sanitation and reduce the population without basic sanitation by 63% by 2015. In line with the Millennium Development Goals (MDGs), Kenya sought to ensure that all households knew the importance of environmental sanitation and hygiene (ESH) practices for better health. The goal was for 90% of households to access hygienic, affordable, and sustainable toilet facilities, improved housing, food safety, safe drinking water, and proper waste disposal. Additionally, every school would have separate hygienic toilets and hand-washing facilities for boys and girls. Achieving these targets was expected to reduce sanitation-related diseases significantly.

Moving forward to the adoption of the 2030 Agenda for Sustainable Development, The Kenya Environmental Sanitation and Hygiene Policy 2016-2030 (KESHP) aims to achieve universal access to improved sanitation and a clean, healthy environment by

[1] WHO 2009, Global Health Risks Global Health Risks, WHO Mortality and burden of disease attributable to selected major risks
[2] MOH 2012, Report of the Global Hand washing Day in Kenya, 2012
[3] World Bank Group Water and Sanitation Programme (WSP), "Economic Impact of Poor Sanitation" in Kenya, updated using 2010 DHS data

2030, aligning with Kenya Vision 2030 and the global Sustainable Development Goals. It emphasizes a rights-based approach, public-private partnerships, and increased investment from both sectors. The policy is structured into seven chapters and highlights the roles and responsibilities of stakeholders, establishing the National Environmental Sanitation Coordination and Regulatory Authority (NESCRA) and the National Sanitation Fund (NASF) to address institutional and financial challenges.

The policy focuses on eight key strategies: scaling up sanitation access, ensuring a clean environment, fostering private sector involvement, building governance capacity, securing sustainable financing, creating a supportive legal framework, establishing a research and development framework, and strengthening monitoring systems.

Complementary activities include sanitation services, waste treatment, water safety, hygiene promotion, public education, and regulation. It addresses urban and rural areas, local institutions, and public spaces, promoting the use of wastewater for agriculture and biogas projects. County governments will enforce sanitation standards, recognizing sanitation and a clean environment as human rights and emphasizing community-led initiatives, gender responsiveness, social inclusion, and the polluter pays principle.[4].

Baseline surveys revealed that users would typically boil water for drinking in the absence of the project activity. The VPA identified the applicable baseline scenarios for fuel, technology, and end-user groups. The following tables present the drinking water sources, the baseline water boiling technologies and their thermal efficiencies, and the baseline fuels used for water boiling within the project boundary.

[4] https://www.fao.org/faolex/results/details/en/c/LEX-FAOC179039/

Water sources and Treatment

What is the main source of drinking water for members of your household in the dry and rainy season?

	Dry season	Rainy Season
Piped water		
Piped into dwelling	2	2
Piped into compound, yard or plot	0	0
Piped to neighbour	1	2
Public tap / standpipe	3	4
Borehole or tubewell	5	4
Dug well		
Protected well	5	5
Unprotected well	79	79
Water from spring		
Protected spring	0	0
Unprotected spring	0	0
Rainwater collection	1	1
Delivered water		
Tanker-truck	0	0
Cart with small tank / drum	0	0
Water kiosk	13	12
Packaged water		
Bottled water	0	0
Sachet water	0	0
Surface water (river, stream, dam, lake, pond, canal, irrigation channel)	34	51

Piped water, boreholes, water from protected springs, rainwater collection, water kiosks, delivered water, and packaged water are considered improved drinking water sources. In the baseline survey conducted in Turkana, 114 households reported using an unimproved drinking water source, while 29 households reported using both an improved and an unimproved water source. Participants had the option to select multiple choices to indicate their water sources, and some selected both unimproved and improved sources. It was also observed that the usage percentage of unimproved water sources was higher during the rainy season. Overall, more than 80% of the households utilized an unimproved water source in the baseline scenario.

Dry Season **Sources of drinking water**	**# of Households**	**% of Households**
Improved	29	20%
Unimproved	114	80%

Rainy Season Sources of drinking water	# of Households	% of Households
Improved	29	18%
Unimproved	131	82%

Furthermore, to assess the VPA's contribution to SDG 6.1, the baseline survey included questions regarding the time required to collect drinking water. Improved drinking water sources are designed and constructed to potentially deliver safe water. The JMP categorizes the population using improved sources into three groups based on the level of service provided:

To qualify as a safely managed drinking water service, an improved source must meet three criteria:

1. It should be accessible from the premises.
2. Water should be available when needed.
3. The water supplied should be free from contamination.

If an improved source meets these criteria but takes 30 minutes or less to collect water on a round trip, it is classified as a basic drinking water service. If water collection from an improved source exceeds 30 minutes, it is categorized as a limited service. The JMP also differentiates between populations using unimproved sources, such as unprotected wells or springs, and those drinking surface water collected directly from rivers, dams, lakes, streams, or irrigation canals.

The levels are defined as follows:

- **SAFELY MANAGED**: Drinking water from an improved source located on premises, available when needed, and free from fecal and priority chemical contamination.
- **BASIC**: Drinking water from an improved source, with collection time not exceeding 30 minutes for a round trip, including queuing.
- **LIMITED**: Drinking water from an improved source for which collection time exceeds 30 minutes for a round trip, including queuing.

- **UNIMPROVED**: Drinking water from an unprotected dug well or unprotected spring.

As shown in the following table and figure, no households were classified as BASIC since none reported a collection time of less than 30 minutes. Over 80% were classified as UNIMPROVED, including those utilizing surface water. 10% were classified as LIMITED, as these households use an improved source, but the collection time exceeds the 30-minute threshold specified by JMP. The average collection time was determined to be 131 minutes, with water collection occurring 16 times per week. Additionally, 97% of the households reported that adult women or girls are responsible for collecting water.

	Water Source					Collection Time						Who collects water?			
	Piped water	Dug well	Rainwater collection	Water kiosk	Surface water	10 - 44	44 - 78	78 - 112	112 - 146	146 - 180	> 180	Adult woman (>15 years)	Adult man (>15 years)	Girl (<15 years)	Boy (<15 years)
Total Number	12	84	1	12	51	9	27	2	27	0	34	96	4	70	1
Percentage	8%	53%	1%	8%	32%	9.1%	27.3%	2%	27.3%	0	34.3%	56%	2%	41%	0.6%

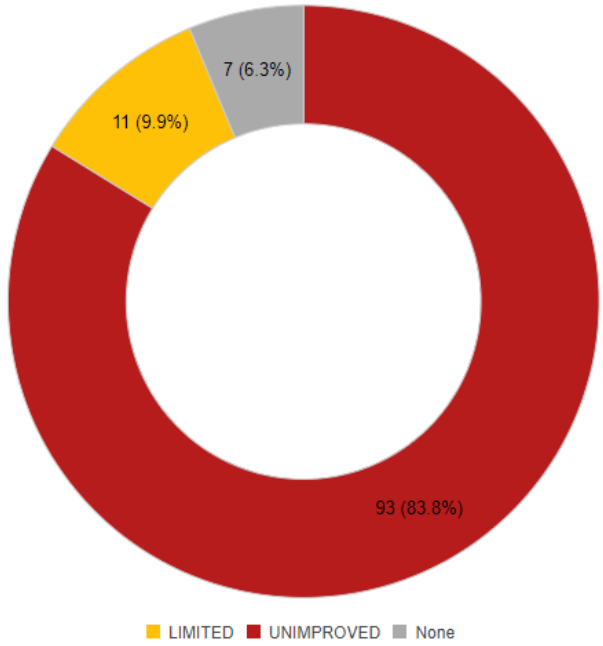
17	If water source is not piped on premises, how long does it take to go there, get water, and come back?		
		Members do not collect	1
		Number of minutes	131,08
		Don't know	1
18	Who usually goes to this source to fetch water for your household?		
		Adult woman (>15 years)	96
		Adult man (>15 years)	4
		Girl (<15 years)	70
		Boy (<15 years)	1
19	How many trips did that person make in the last week?		
		Number of times	16,76
		Don't know	0
20	In the last month, has there been any time when your household did not have sufficient quantities of drinking water when needed?		
		Yes, at least once	98
		No, always sufficient	2
		Don't know	0
21	What was the (main) reason you were unable to access sufficient quantities of water when needed?		
		Water is not available from source	12
		Water is too expensive	2
		Source is not accessible	88
		Other (specify)	0

Gold Standard
for the Global Goals

TEMPLATE

- **BASIC:** Drinking water from an improved source, provided collection time is not more than 30 minutes for a roundtrip including queuing
- **LIMITED:** Drinking water from an improved source for which collection time exceeds 30 minutes for a roundtrip including queuing
- **UNIMPROVED:** Drinking water from an unprotected dug well or unprotected spring
-

SDG 6.1 Water Service Levels



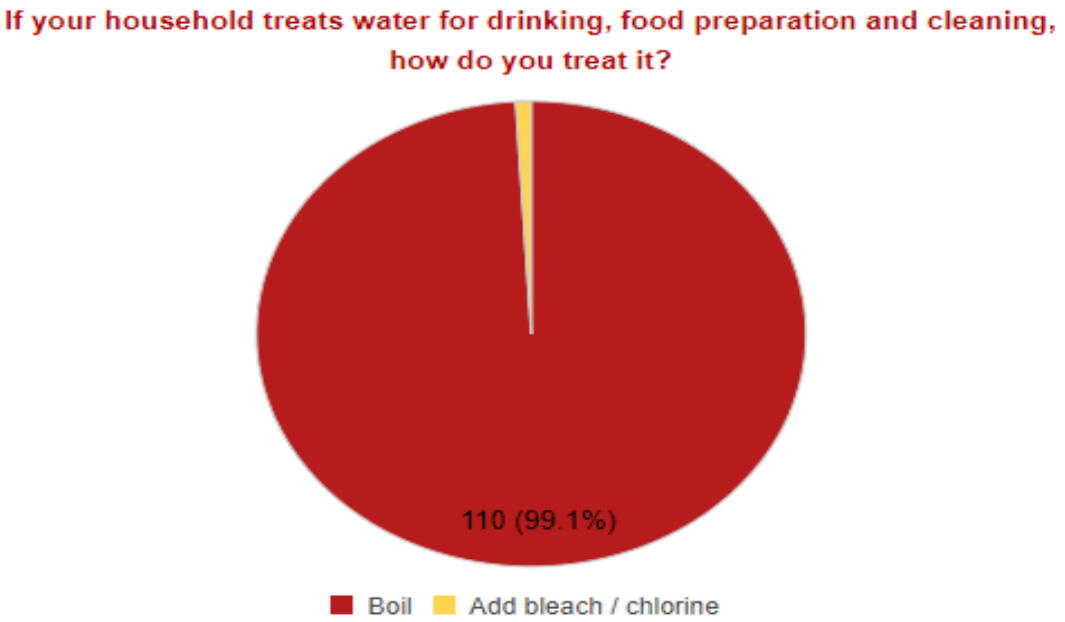
*For further indicators of **Household Hygiene and Sanitation** please visit: **https://share.mwater.co/v3/dashboard_link/901d6b98fdbe406d86bfb31fa11def8a?share=26abc3f0f6994173bdfc4116a5dde9b7**

*For further information on **Water Sources, Treatment Methods, and Gender Service Level** indicators please visit: **https://share.mwater.co/v3/dashboard_link/07595f335d3745a389187a854e87b8a2?share=5bfc92d3a49244c29a2ed232af998990**

TEMPLATE

If your household treats water for drinking, food preparation and cleaning, how do you treat it?	
Boil	100
Add bleach / chlorine	1
Strain it through a cloth	0
Use water filter (ceramic, sand, composite, reverse osmosis, etc)	0
Solar disinfection	0
Let it stand and settle	0
Don't know	0
Other, Please Specify:	0

Regarding treatment processes, 99% of the participants reported that they treated their water by boiling it.



Baseline Treatment Method	# of Households	% of Households
Boil	100	99%
Add bleach/chlorine	1	1%

Fuel use

35 What is the main type of fuel do you use for boiling water in the dry and rainy seasons? *Please check all that apply.*

	Dry Season	Rainy Season
Wood	105	105
Charcoal	5	5
LPG	0	0
Electricity	0	0
Agricultural Waste (rice husk, coconut, dung)	0	0
Other, please specify:	0	0

36 What is the secondary type of fuel do you use for boiling water in the dry and rainy seasons? *Please check all that apply.*

No secondary fuel	0	0

	Dry Season	Rainy Season
Wood	95	95
Charcoal	14	14
LPG	0	0
Electricity	0	0
Agricultural Waste (rice husk, coconut, dung)	0	0

37 How often do you use each type of fuel?

Main fuel	Secondary fuel
96%	4%

Regarding fuel used while treating drinking water, 95% of the participants reported using wood fuel to treat their water.

Baseline Fuel Used	# of Households	% of Households
Wood	105	95%
Charcoal	5	5%

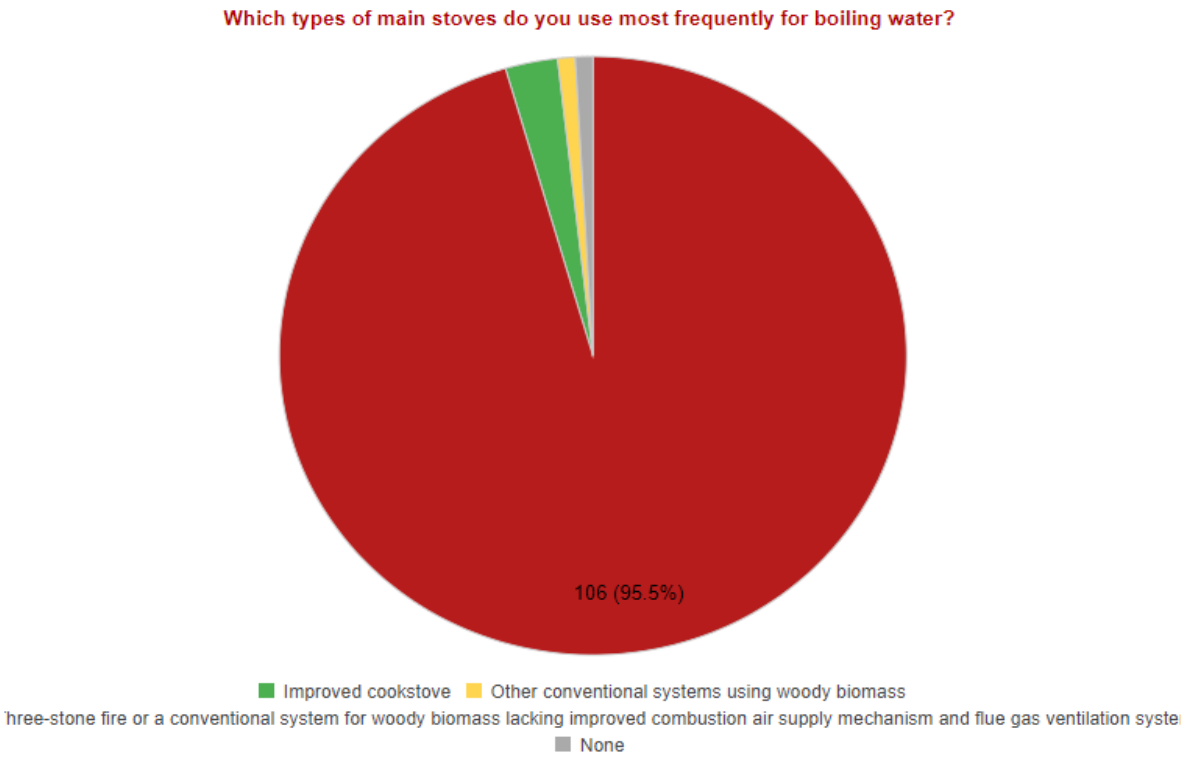
If we further categorize the fuels based on whether they are used in a traditional stove or an improved stove, we obtain the following numbers:

Baseline Fuel Used	# of Households	% of Households
Traditional Wood	104	94.5%
Traditional Charcoal	3	2.7%
Improved Wood	1	0.9%
Improved Charcoal	2	1.8%

Regarding stove types, more than 96% of the households reported using only three-stone fires to boil drinking water. Of 111 surveyed individuals, 10 responded that they use both a three-stone fire and an improved cookstove. At the same time, only 3 households reported using an improved cookstove without a three-stone fire. However, 107 households specified the use of a three-stone fire either alone or with other technologies, which corresponds to almost 96% of the surveyed households. 18 households reported that they use no secondary stove. More than 80% of the households surveyed reported conventional stove usage as a secondary stove.

Stove Types		
32	Which types of main stoves do you use most frequently for boiling water? *(Note all cookstoves used)*	
	Three-stone fire or a conventional system for woody biomass lacking improved combustion air supply mechanism and flue gas ventilation system	106
	Other conventional systems using woody biomass	0
	Improved cookstove	3
	LPG	0
	Other fossil fuel combusting systems	1
	Electricity	0
	Other, Please Specify:	0
33	Which types of secondary stoves do you use most frequently for boiling water? *(Note all cookstoves used)*	
	No secondary stove	18
	Three-stone fire or a conventional system for woody biomass lacking improved combustion air supply mechanism and flue gas ventilation system	88
	Other conventional systems using woody biomass	2
	Improved cookstove	2
	LPG	0
	Other fossil fuel combusting systems	0
	Electricity	0
	Other, Please Specify:	0

34	How often do you use each stove?	
	Main stove	Secondary stove
	95%	5%



Baseline Stove Type	# of Households	% of Households
Three-stone firewood fuel	106	96%
Other fossil fuel combusting system	1	1%
Improved stove	3	3%

B.5. Demonstration of additionality

Specify the methodology, activity requirement or product requirement that establishes deemed additionality for the proposed project (including the version number and the specific paragraph, if applicable).	According to the GS4GG Community Services Activity Requirements (Version 1.2, Paragraph 4.1.9), projects that meet any of the following criteria are considered automatically additional and do not need to prove financial additionality at the time of design certification: (a) Inclusion in the Positive List (Annex B of this document)

	(b) Location in LDC, SIDS, or LLDC (c) Microscale projects As specified in the Positive List (Annex B), the project fulfills the criteria outlined in section 1.1.3: project activities consisting solely of isolated units where the users of the technology/measure are households, communities, or institutions, and where each unit results in ≤ 600 MWh of energy savings per year or ≤ 600 tonnes of emission reductions per year. Therefore, the project meets the Positive List criteria specified in the CSA Requirements and is thus considered automatically additional.
Describe how the proposed VPA meets the criteria for deemed additionality.	Each project unit must achieve emission reductions of less than 600 tCO2e per year. If the VPA produces more than 60,000 tCO2e annually, the VERs will be limited to 60,000 tCO2e per year.

B.5.1. Prior Consideration

This is a regular project. Hence, prior consideration is not applicable.

B.5.2. Ongoing Financial Need

Not Applicable. The project is automatically additional as per Annex B of CSA Requirements as explained in B.5 above.

B.6. Sustainable Development Goals (SDG) outcomes

Relevant Target/Indicator for each of the three SDGs

SUSTAINABLE DEVELOPMENT GOALS TARGETED	MOST RELEVANT SDG TARGET	SDG IMPACT **INDICATOR (PROPOSED OR SDG INDICATOR)**

SDG 13 Climate Action	Target 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.	Amount of GHG emissions avoided or sequestered.
SDG 5 Gender Equality	Target 5.1 End all forms of discrimination against all women and girls everywhere Target 5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic, and public life.	Women's empowerment and gender equality
SDG 6 Ensure availability and sustainable management of water and sanitation for all	Target 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all. 6.1.1 Proportion of the population using safely managed drinking water services Target 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations. 6.2.1 Proportion of the population using (a) safely managed sanitation services and (b) a hand-washing facility with soap and water	Access to improved sources of water Access to safely managed water sources and sanitation services Access to basic services

SDG 8 Decent Work and Economic Growth	8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity, and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services	Total number of jobs created
SDG 15 Life on Land	Target 15.1 By 2020, ensure the conservation, restoration, and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains, and drylands, in line with obligations under international agreements.	Reduced deforestation attributed to wood fuel savings

B.6.1. Explanation of methodological choices/approaches for estimating the SDG Impact

Methodological Approaches for Estimating SDG 5 Impact

Globally, women and girls bear the primary burden of unpaid domestic work, which leaves them with less time for rest, education, and economic opportunities, resulting in time poverty. This disparity is exacerbated by the fact that women must balance unpaid domestic responsibilities such as collecting firewood and water with their paid work, making their time even more scarce compared to men. Women are widely acknowledged as the foremost collectors of natural resources.

These trends underscore the potential impact of reducing household reliance on firewood, particularly in alleviating women's time poverty. By reducing the need to collect water and firewood—tasks disproportionately borne by women—the time burden on them can be significantly lessened. Centralizing safe water sources closer to communities and public institutions reduces the distance travelled for water collection, thereby minimizing the time spent per trip. Moreover, maintaining these water sources ensures a reliable supply for cooking, drinking, and food preparation, further reducing the overall time spent on water-related tasks.

Reducing household time spent on water collection can be considered a meaningful step toward achieving SDG targets.

The overall reduction in time spent collecting water by the project activity is calculated as follows:

$$TR_y = T_{b,y} - T_{p,y}$$

Where:

TR_y	Total reduction time spent collecting water for project activity in year y (hours)
$T_{b,y}$	Time spent collecting water per household per day prior to project (hours)
$T_{p,y}$	Time spent collecting water per household per day in project (hours)

The project is anticipated to decrease the time spent collecting water. For ex-ante estimations, it is assumed that households that previously spent more than 30 minutes collecting water will reduce this time to an average of 30 minutes post-project.

Methodological Approaches for Estimating SDG 6 Impact

The quantification of SDG 6 outcome is based on the volume of safe water provided, meeting national quality standards. The amount of safe water the project delivers will be measured using a flow meter at the motorized unit and through sampling for boreholes. These calculations will follow the parameters specified in sections B.6.2 and B.7.1 of the VPA-DD

Methodological Approaches for Estimating SDG 8 Impact

The quantification of SDG 8 outcomes will be based on monitoring the number of temporary and permanent jobs created. The type and number of jobs, along with their employment status and duration, will be recorded.

Methodological Approaches for Estimating SDG 15 Impact

Parameter: Amount of firewood saved by the project per year.

The total firewood and charcoal saved will be calculated based on the amount of water served by the following formula:

Amount of fuelwood saved= $(SE_{w,b,y} * ((1 - C_b - X_{cleanboil,y})*Q_y)/ NCV_{fuelwood})$

NCV: Net calorific value for fuelwood (0.0156 TJ/t)

Methodological Approaches for Estimating SDG 13 Impact

CO2 emission reductions serve as the indicator to show that the project has enhanced capacity for effective climate change-related planning and management. These reductions are quantified using the VPA's emission calculations based on parameters

detailed in Sections B.6.2 and B.7.1. Comprehensive calculations will be submitted for each Verification.

As per the applied GS methodology, the baseline emission factor shall be calculated as follows:

$$EF_b = SE_{w,b,y} * \sum_f \left(x_f * (EF_{b,f,CO2} * f_{NRB,f,y} + EF_{b,f,nonCO2})\right) \div 10^9 \qquad \text{Eq. 1}$$

Where:

EF_b	=	Emission factor for the use of fuel to obtain safe water in the baseline (tCO_2e/L)
$SE_{w,b,y}$	=	Specific energy required to boil water (kJ/L), to be calculated as per the paragraph below
x_f	=	Proportion of fuel *f* used in the baseline (fraction determined based on an energy basis)
$EF_{b,f,CO2}$	=	CO_2 emission factor from use of fuel *f* (tCO_2/TJ)
$EF_{b,f,nonCO2}$	=	Non-CO_2 emission factor arising from use of fuel *f*, when the baseline fuel *f* is biomass or charcoal (tCO_2e/TJ). This parameter is omitted when *f* is a fossil fuel.
$f_{NRB,f,y}$	=	Fractional non-renewability status of woody biomass fuel during year *y* (fraction). For biomass, it is the fraction of woody biomass that can be established as non-renewable. This parameter is omitted when *f* is a fossil fuel.
f	=	Index for baseline fuel types

The specific energy required to boil water using the baseline technology (SEw,b,y) is determined as follows by calculating the energy input required to obtain 1 L of boiling water, including boiling and vaporization losses, taking into account default or measured stove efficiency

$$SE_{w,b,y} = 360.83/\eta_{wb}$$ *Eq. 2*

Where:

360.83 = Default amount of energy required to obtain 1 L of water after 5 minutes of boiling from a first principles approach[17] kJ/l

η_{wb} = Efficiency of the stoves for baseline water boiling (%). Weighted average of baseline stove types.

$$BE_y = EF_b \times \left(1 - C_b - X_{cleanboil,y}\right) \times Q_y \times M_{q,y}$$ *Eq. 3*

Where:

BE_y = Baseline emissions from the use of fuel to obtain safe water in the baseline (tCO_2e)

C_b = Proportion of project end-users who in the baseline were already using a safe water supply that did not require boiling (%)

$X_{cleanboil,y}$ = Proportion of project end-users that boil safe water in the project year *y* (%)

Q_y = Quantity of safe drinking water provided by the project in year *y* (L)

$M_{q,y}$ = Modifier for the water quality in year *y*

In the case of CWT and CWS, the quantity of safe drinking water provided by the project Q_y is determined as follows:

$$Q_y = \min\left(Q_{m,y}, Q_{pop,y}\right)$$ *Eq. 4*

Where:

$Q_{m,y}$ = Monitored quantity of safe water provided by the project in year *y* (L).

$Q_{pop,y}$ = Quantity of safe drinking water that could be consumed by project end-users in year *y* (L)

$$Q_{pop,y} = \sum_p HH_{p,y} \times HN_{p,y} \times QPW_p \times DO_{p,y} \quad \text{Eq. 5}$$

Where:

$HH_{p,y}$	=	Number of premises type *p* served by the project in year *y*
$HN_{p,y}$	=	Number of individuals per premises type *p* (e.g. household, school) in year *y*
QPW_p	=	Volume of drinking water per person per day for premises type *p* (L). Apply the default value or monitored value through water consumption field tests in the project scenario, capped at 5.5 L per person per day.
$DO_{p,y}$	=	Days the project technology is operational for end-users in premises *p* in year *y*

Project emissions

Project emissions may result from the operation of new low-emission water treatment technologies. Project emissions (PEy) shall be calculated as follows:

$$PE_y = PE_{ff,p,y} + PE_{ec,p,y} \quad \text{Eq. 8}$$

Where:

PE_y	=	Project emissions in year *y* (tCO_2)
$PE_{ff,p,y}$	=	Project emissions from fossil fuel use in year *y* (tCO_2)
$PE_{ec,p,y}$	=	Project emissions from electricity use in year *y* (tCO_2)

The project will not use fossil fuels, resulting in zero emissions from fossil fuel sources. All boreholes will be operated manually and equipped with hand pumps.

Leakage emissions

Leakage from non-renewable biomass can be excluded, as households supplied with safe water systems do not use lower-emitting energy sources, and the project activity does not increase the use of non-renewable biomass.

The emission reductions are calculated as follows:

$$ER_y = BE_y - PE_y - LE_y \qquad \text{Eq. 11}$$

Where:

ER_y = Emission reductions in year y (t CO_2e/yr)

BE_y = Baseline emissions in year y (t CO_2e/yr)

PE_y = Project emissions in year y (t CO_2e/yr)

LE_y = Leakage emissions in year y (t CO_2e/yr)

B.6.2. Data and parameters fixed ex-ante

SDG13

a. Related to water quality

Data/parameter	Number of households/institution per CWT/CWS
Unit	- Coordinates of CWT/CWS - Number of end-user premises, quantity
Description	End users' premises (e.g. households, institutions) within 1 km distance of project water source
Source of data	- GPS coordinates for each project borehole. - Number of eligible households/institutions for each borehole
Value(s) applied	150
Choice of data or Measurement methods and procedures	The project implementer compiled household lists from 38 sampled boreholes, revealing a total of 8,000 households, which averages 210 households per borehole. Given the variations, with some urban boreholes serving up to 1,000 households and fewer households in rural areas, a conservative average of 150 households per borehole was adopted. This figure aligns with the 2019 Kenya population census, which reported 164,519 households across Turkana County's 68,233 km². Using Google Earth, the total project area for rehabilitation work in Turkana County

	was determined to be 13,356.445 km²[5]. Applying a simple ratio-proportion calculation, an average of 160 households per km² was found in the project area. These estimates will be validated post-operation by cross-referencing with village chiefs and using population density maps from WorldPop[6], which provide recent, high-resolution data for further verification.
Purpose of data	Determination of number of eligible households.
Additional comment	The number will be confirmed using Google Earth to ensure compliance with the requirement of a 1 km radius around each CWS.

Data/parameter	Project technology description
Unit	N/A
Description	The project applies zero-emission water supply technologies.
Source of data	- Manufacturer specifications - Technical reports from the installer
Value(s) applied	**Project technology** Manufacturer name: Davis&Shirtliff technology type: Afridev, India MKII, and India MKIII pumps are all borehole or hand pumps. capacity: Afridev: 1,300 liters per hour, up to a depth of 45 meters India MKII: 900 liters per hour, up to a depth of 40 meters India MKIII: 720 liters per hour up to a depth of 40 meters

[5] Please See Page 11 Table 2.2 https://www.knbs.or.ke/wp-content/uploads/2023/09/2019-Kenya-population-and-Housing-Census-Volume-2-Distribution-of-Population-by-Administrative-Units.pdf
[6] https://www.worldpop.org/

Choice of data or Measurement methods and procedures	**New boreholes:** • Technical specification provided by the manufacturer of new hand pumps • Installation date **Rehabilitated boreholes:** • Evidence Letter from local government for non-operational time for all boreholes and lack of an existing maintenance or repair plan. • Original installation date • Information/evidence to confirm the details of rehabilitation activity
Purpose of data	Confirmation of technology specifications and performance level
Additional comment	N/A

Data/parameter	Project technology performance level (CWT or CWS)
Unit	N/A
Description	The water directly supplied by the project must comply with: i. Microbial quality in line with (i) national standards or guidelines for microbial quality of drinking water, or in their absence, (ii) the guideline values for verification of microbial quality from the Guidelines for drinking-water quality, 4th edition (Table 7.10, WHO, 2017); and ii. Chemical quality (i) national standards or guidelines on priority chemical contamination and physical and aesthetic aspects, or in the absence of such requirements, (ii) international standards or guidelines on priority chemical contamination18 and physical and aesthetic aspects Once at the start of the crediting period, microbial quality at the CWS locations must be retested following an event that could lead to contamination of the source water (e.g. flooding).
Source of data	Water quality test reports provided by approved and accredited laboratories by relevant health authorities.
Value(s) applied	N/A

Choice of data or Measurement methods and procedures	Accredited laboratories by local health authorities that have an adequate quality management plan in place that addresses both quality assurance and quality control test procedures.
Purpose of data	To ensure a safe water supply for drinking and to assess the project's contributions to SDG 13
Additional comment	N/A

Data/parameter	Regulatory framework for safe water supply
Unit	N/A
Description	National, sub-national, and local regulations or guidance for safe drinking water supply, operation, and maintenance, including any tariff requirements.
Source of data	National, sub-national, and local authorities
Value(s) applied	The regulatory framework for water, sanitation, and hygiene in Kenya includes several key policies and guidelines designed to ensure a safe and adequate water supply and sanitation and hygiene practices across the country. Kenya Environmental Sanitation and Hygiene Policy (2016-2030): This policy recognizes the impact of unsafe drinking water, inadequate hygiene, and poor sanitation on public health. It develops and implements interventions to address fecal contamination and vector breeding in water storage and promotes appropriate technologies for water treatment and safety. The policy targets improvements at household, school, and community levels. Water Act (2016): This act regulates water resources management, water and sewerage services, and the establishment of relevant institutions. It establishes the Water Resources Authority (WRA) for water resources management and the Water Services Regulatory Board (WASREB) for regulating water and sewerage services. National Water Policy: Ensures access to safe, reliable, and sustainable water and sanitation services for all.

	Promotes integrated water resources management, investment in water infrastructure, and capacity building. National Environmental Sanitation and Hygiene Strategy (2021-2025): This strategy provides strategic direction for improving sanitation and hygiene practices. It encourages community-led total sanitation, school hygiene programs, and public-private partnerships. Kenya Vision 2030: Aims for a clean, secure, and sustainable environment by 2030. Includes safe water and sanitation as a key component of social and economic development. Kenya Standards for Drinking Water Quality: Defines the permissible limits for various contaminants in drinking water and ensures water providers meet quality standards to protect public health. The Public Health Act provides a legal framework for promoting public health, including sanitation and hygiene standards. It empowers public health officers to enforce hygiene and sanitation regulations. County Governments are responsible for providing water and sanitation services within their jurisdictions. They work with national agencies and communities to implement water, sanitation, and hygiene projects.
Choice of data or Measurement methods and procedures	National policies and guidelines in the water sector in Kenya. The project aligns fully with Kenya's relevant water resources policies and frameworks. It does not contradict or undermine any national, subnational, or local regulations governing safe drinking water supply, operation, maintenance, or tariff requirements. Furthermore, the national standards and local regulations for safe drinking water supply do not impose any restrictions on the parameters used in the methodology; hence, they do not affect the calculations for emission reductions.
Purpose of data	To assess the project's contributions to SDG 13
Additional comment	N/A

Data/parameter	Water sources in the project boundary
Unit	N/A
Description	improved and unimproved water sources in Turkana, Kenya.
Source of data	Baseline Survey
Value(s) applied	**Dry Season** **Sources of drinking water** / **# of Households** / **% of Households** Improved / 29 / 20% Unimproved / 114 / 80% **Sources (Rainy Season)** / **# of Households** / **% of Households** Improved / 29 / 18% Unimproved / 131 / 82%
Choice of data or Measurement methods and procedures	Baseline Survey
Purpose of data	Identification of baseline scenario
Additional comment	N/A

b. Related to emission reductions

Data/parameter	Stove technologies used in the project boundary
Unit	N/A
Description	The proportion of different stove types used in premises in the geographical area of the project.
Source of data	Baseline Survey

Value(s) applied	The following categories of stove types are identified in the project boundary: • Three-stone fire • Improved cookstoves • Other conventional systems using woody biomass

Baseline Stoves	# of Households	% of Households
Three-stone firewood fuel	106	96%
Other fossil fuel combusting systems	1	1%
Improved stove	3	3%

Choice of data or Measurement methods and procedures	As per methodology
Purpose of data	Assessment of baseline scenario and determination of baseline emissions
Additional comment	N/A

Data/parameter	Expected technical life or project technology
Unit	Time period and operational hours
Description	The expected technical life of an individual project technology
Source of data	Manufacturer specifications
Value(s) applied	>5 years
Choice of data or Measurement methods and procedures	Manufacturer specification
Purpose of data	Assessment of technical life against crediting period and if necessary (total crediting period ≥ expected technical life) inclusion of appropriate replacement mechanism as

	part of the project design. Determination of baseline emissions
Additional comment	N/A

Data/parameter	X_f
Unit	Percentage
Description	Percentage of fuel f use in the target population
Source of data	Baseline survey
Value(s) applied	**Baseline Fuel Used** / **# of Households** / **% of Households** Wood / 105 / 95% Charcoal / 5 / 5%
Choice of data or Measurement methods and procedures	As per methodology, baseline surveys were conducted.
Purpose of data	Determination of baseline emissions
Additional comment	N/A

Data/parameter	$EF_{b,CO2}$
Unit	tCO_2e/TJ
Description	CO_2 emission factor arising from the use of fuels in baseline scenario
Source of data	IPCC defaults for wood and charcoal, the following defaults derived from the IPCC shall be applied: Wood: 112 tCO2/TJ Charcoal: 165.22 tCO2/TJ (includes charcoal production emissions)
Value(s) applied	Wood: 112 tCO2/TJ

	Charcoal: 165.22 tCO2/TJ (includes charcoal production emissions)
Choice of data or Measurement methods and procedures	As per methodology
Purpose of data	Calculation of baseline methodology
Additional comment	N/A

Data/parameter	$EF_{b,non\ CO2}$
Unit	tCO_2e/TJ
Description	Non-CO_2 (CH_4 and N_2O) emission factor arising from use of wood fuel in the baseline scenario
Source of data	IPCC defaults For wood and charcoal, the following defaults derived from the IPCC shall be applied: AR5 GWP - Wood: 9.46 tCO2e/TJ - Charcoal: 44.83 tCO2e/TJ (includes production emissions of CH4 and N2O) AR4 GWP - Wood: 8.692 tCO2e/TJ - Charcoal: 40.26 tCO2e/TJ (includes production emissions of CH4 and N2O)
Value(s) applied	Fuelwood- 9.46 Charcoal-44.83
Choice of data or Measurement methods and procedures	As per methodology
Purpose of data	Calculation of baseline emissions
Additional comment	N/A

Data/parameter	η_{wb}
Unit	Percentage
Description	Weighted average efficiency of the baseline water boiling devices.
Source of data	Baseline survey
Value(s) applied	Stove Technology Usage: **Stove Technology** / **Households (%)** Traditional / 3 Stone Fire: 96% Other Combusting Systems: 1% Improved Stove: 3% Stove Efficiency: **Stove Technology** / **% Efficiency** Traditional / 3 Stone Fire: 10 Other Combusting Systems: 20 Improved Stove: 30 Thus, η_{wb} = 96%* 0.1+1%*0.20+3%*0.3 = 10.7%
Choice of data or Measurement methods and procedures	The following default values for cookstoves are applied to calculate the weighted average of the water boiling efficiency. Cookstove Type Efficiency Three-stone fire 10% Other Combusting Systems 20% Improved stoves 30%
Purpose of data	Calculation of baseline emissions
Additional comment	N/A

Data/parameter	C_b
Unit	Percentage
Description	Proportion of project end-users who in the baseline were already using safe water, either from an improved water source, or from a water treatment method other than boiling.
Source of data	Baseline survey
Value(s) applied	**Baseline Treatment Method** **Type of treatment method** **# of Households**

	Receiving safe water without treatment	0
	treating/ would have treated water without boiling	111
	treating/ would have treated water via boiling	111
	Cb	**0%**
Choice of data or Measurement methods and procedures	Baseline survey	
Purpose of data	Assessment of baseline emissions	
Additional comment	N/A	

Data/parameter	$QPWp$
Unit	Liters/person/day
Description	The volume of drinking water per person per day for premises type *p*
Source of data	**Option 1**: Apply the default value per person. In the case of institutions such as schools, the value should reflect the expected drinking water use per person while on the premises of the institution, in line with the following defaults: - Full-day premises: 4 L/person/day - Boarding school: 4 L/person/day - Half-time premises: 3 L/person/day **Option 2:** Water Consumption Field Tests. - In all cases, the value is capped at 5.5 L/person/day
Value(s) applied	4 (during monitoring WCFT will be conducted to determine the number)
Choice of data or Measurement methods and procedures	The water consumption field test (WCFT) measures project-supplied clean water consumption volumes. The WCFT is conducted with the end user's representative of the project scenario target population currently using the technology. The WCFT must be designed to ensure that monitoring is representative of typical technology use practices and that: - it is transparent and can easily be replicated, - it is conservative, - the sample is randomly selected so as not to introduce a material bias and

	- the impact of daily and seasonal variations on the expected average water consumption is accounted for The WCFT must be conducted over 3 days, not including weekends, and the average value (l/person/day) should be determined after excluding outliers. Households and institutions must be explicitly told that they must behave and consume water normally, reflecting a typical daily water consumption pattern. Any sampling method can be used, provided the sample is selected randomly.
Purpose of data	Assessment of baseline emissions
Additional comment	Every two years

Data/parameter	$f_{NRB,f,y}$
Unit	percentage
Description	Fractional non-renewability status of woody biomass fuel during year y in case the baseline fuel is biomass or charcoal
Source of data	fNRB report by Seed Ecology.
Value(s) applied	89.33%
Choice of data or Measurement methods and procedures	Default value provided by Seed Ecology
Purpose of data	Assessment of baseline emissions
Additional comment	N/A

B.6.3. Ex ante estimation of SDG Impact

SDG 13 Climate Action

$$EF_b = SE_{w,b,y} * \sum_f \left(x_f * \left(EF_{b,f,CO2} * f_{NRB,f,y} + EF_{b,f,nonCO2}\right)\right) \div 10^9 \qquad \text{Eq. 1}$$

$$SE_{w,b,y} = 360.83/\eta_{wb} \qquad \text{Eq. 2}$$

Parameter	Unit	Description	Data Source	Value
EF_b	tCO2e/L	Emission factor for the use of fuel to obtain safe water in the baseline	Baseline Calculations	0.000382
$SE_{w,b,y}$	kJ/L	Specific energy required to boil water	Baseline Calculations	3,372.24
η_{wb}	%	Efficiency of the stoves for baseline water boiling	Baseline Survey	10.7%
x_f (Fuel wood)	%	Proportion of fuel wood used in the baseline	Baseline Survey	95%
x_f (Charcoal)	%	Proportion of charcoal used in the baseline	Baseline Survey	5%
$EF_{b,f,CO2}$	tCO2/TJ	CO2 emission factor from use of fuel wood	Default Value	112
$EF_{b,f,CO2}$	tCO2/TJ	CO2 emission factor from use of charcoal	Default Value	165.22
$f_{NRB,f,y}$	%	Fractional non-renewability status of woody biomass fuel during year y	Default Value	89.33%
$EF_{b,f,nonCO2}$	tCO2/TJ	Non-CO2 emission factor arising from use of fuel wood	Default Value	9.46
$EF_{b,f,nonCO2}$	tCO2/TJ	Non-CO2 emission factor arising from use of charcoal	Default Value	44.83

$$BE_y = EF_b \times \left(1 - C_b - X_{cleanboil,y}\right) \times Q_y \times M_{q,y} \qquad \textit{Eq. 3}$$

Parameter	Unit	Description	Data Source	Value
BE_y	tCO2e	Baseline emissions	Calculation	714.87
EF_b	tCO2e/L	Emission factor for the use of fuel in the baseline	Calculation	0.000380
C_b	%	Proportion of project end-	Baseline Survey	0%

		users who in the baseline were already using a safe water supply that did not require boiling		
$X_{cleanboil,y}$	%	Proportion of project end-users that boil safe water in the project year *y*	Assumption	0%
Q_y	L	Quantity of safe drinking water provided by the project	Calculation/Monitoring	1873800
$M_{q,y}$	-	Modifier for the water quality	Assumption	1

$$Q_y = \min(Q_{m,y}, Q_{pop,y}) \quad \textit{Eq. 4}$$

Parameter	Unit	Description	Data Source	Value
$Q_{m,y}$	L	Monitored quantity of safe water provided by the project in year y	Flow meters	2,226,583.33
$Q_{pop,y}$	L	Quantity of safe drinking water that could be consumed	Calculation	1,873,800

Flow meters are being installed based on a sampling approach suggested by the Methodology, with a 95% confidence interval and a 10% margin of error. The same processes are followed when deciding on boreholes for sampling. Boreholes are stratified according to their end-user type, technology, and age. Currently, 10 flow meters have been installed in Turkana, and installation is ongoing according to the provided sampled borehole list.

One of the flow meters, Kaakim B, showed a reading of 924 m³ on 07.05.2024. Rehabilitation work for this borehole was completed on 16.12.2023 and has been in operation since then. Therefore, the daily flow was calculated as follows:

16.12.2024 – 07.05.2024 +1 =144 days and 924m3 ÷ 144day = 6.42 m3/day =6,416.67 liters/day which will result in one year 6,416.67 liters/day × 347 day =2,226,583.33 liters

$$Q_{pop,y} = \sum_p HH_{p,y} \times HN_{p,y} \times QPW_p \times DO_{p,y} \quad \text{Eq. 5}$$

Parameter	Unit	Description	Data Source	Value
$Q_{pop,y}$	L		Calculation	1873800
$HH_{p,y}$	number	Number of premises type p served	Baseline Survey	150
$HN_{p,y}$	number	Number of individuals per premises type p	Baseline Survey	9
QPW_p	L	Volume of drinking water per person per day	Default Value	4
$DO_{p,y}$	number	Days the project technology is operational in year y	Assumption	347

SDG 15 Life on Land

The amount of fuel wood saved can be calculated with the following equation:

$$SEw,b,y * ((1 - Cb - Xcleanboil,y)*Qy)/ NCV_{fuelwood}$$

Parameter	Unit	Description	Data Source	Value
$SE_{w,b,y}$	kJ/L	Specific energy required to boil water	Baseline Calculations	3,372.24
C_b	%	Proportion of project end-users who in the baseline were already using a safe water supply that did not require boiling	Baseline Survey	0%

$X_{cleanboil,y}$	%	Proportion of project end-users that boil safe water in the project year *y*	Assumption	0%
Q_y	L	Quantity of safe drinking water provided by the project	Calculation/Monitoring	1873800
$NCV_{fuelwood}$	TJ/t	Net calorific value of fuel wood	Default Value	0.0156

The project activity can save 404.65 tons of fuel wood annually.

SDG 6 Clean Water and Sanitation

Parameter	Unit	Description	Data Source	Value
$Q_{m,y}$	L	Monitored the quantity of safe water provided by the project in year y	Flow meters	2,226,583.33
$Q_{pop,y}$	L	Quantity of safe drinking water that could be consumed	Calculation	1,873,800

SDG 5 Gender Equality

Based on the baseline survey, the average time spent collecting water for all participating households was 131 minutes. Assuming that this time will be reduced to 30 minutes due to the project activity, a total decrease of 77% in time spent collecting water can be expected.

	Baseline Scenario	Project scenario
Average time spent collecting water	131 min	30 min
% difference	-77%	

SDG 8 Decent Work and Economic Growth

Employment records will be provided for each employee working for the VPA. 25 jobs have been created for Turkana VPA.

Jobs created for the VPA	Number
Number of permanent jobs created	10
Number of temporary jobs created	15
TOTAL	**25**

B.6.4. Summary of ex-ante estimates of each SDG outcome

SDG 13 Climate Action

YEAR	BASELINE ESTIMATE	PROJECT ESTIMATE	NET BENEFIT
2024	0	59,976	59,976
2025	0	59,976	59,976
2026	0	59,976	59,976
2027	0	59,976	59,976
2028	0	59,976	59,976
Total	0	299880	299880
Total number of crediting years		5	
Annual average over the crediting period		59,976	

SDG 5 Gender Equality

YEAR	BASELINE ESTIMATE	PROJECT ESTIMATE	NET BENEFIT
2024	0%	77%	77%
2025	0%	77%	77%
2026	0%	77%	77%
2027	0%	77%	77%
2028	0%	77%	77%
Total	0%	77%	77%
Total number of crediting years		5	
Annual average over the crediting period		77%	

SDG 6 Clean Water and sanitation

YEAR	BASELINE ESTIMATE	PROJECT ESTIMATE	NET BENEFIT
2024	0	1,873,800	1,873,800
2025	0	1,873,800	1,873,800
2026	0	1,873,800	1,873,800
2027	0	1,873,800	1,873,800
2028	0	1,873,800	1,873,800
Total	0	9,369,000	9,369,000
Total number of crediting years		5	
Annual average over the crediting period		1,873,800	

SDG 8 Decent Work and Economic Growth

YEAR	BASELINE ESTIMATE	PROJECT ESTIMATE	NET BENEFIT
2024	0	25	25
2025	0	25	25
2026	0	25	25
2027	0	25	25
2028	0	25	25
Total	0	125	125
Total number of crediting years		5	
Annual average over the crediting period		125	

SDG 15 Life on Land

YEAR	BASELINE ESTIMATE	PROJECT ESTIMATE	NET BENEFIT
2024	0	404	404
2025	0	404	404
2026	0	404	404
2027	0	404	404

2028	0	404	404
Total	0	2020	2020
Total number of crediting years		5	
Annual average over the crediting period		404	

B.7. Monitoring plan

B.7.1. Data and parameters to be monitored

SDG 13

Data / Parameter	$M_{q,y}$
Unit	Fraction
Description	Ongoing water quality is indicated as the fraction of the samples that pass the microbial quality standard
Source of data	Field Test or Test in Laboratories
Value(s) applied	1
Measurement methods and procedures	Water quality tests will be conducted on a sampling basis, adhering to the bacterial quality standard of less than 1 CFU E. coli per 100 ml. The sampling will determine the proportion of pass and fail results. The samples will be tested using either field testing kits or laboratory methods.
Monitoring frequency	Annual sampling and the first round of testing will be conducted at least six months after the start date.
QA/QC procedures	1. Laboratories used for water quality testing must be approved by local health authorities and/or have quality accreditation; and 2. The laboratory used must demonstrate that it has an adequate quality management plan in place that addresses both quality assurance and quality control test procedures. 3. Field testing kits are also eligible, e.g., based on the Colony Forming Unit method or Most Probable Number method. To use the field testing kits the project shall meet the following requirements:

	a. Testing kits must be approved by national agencies or meet standards set by relevant international organizations e.g. US-EPA, and b. Testing kits shall be tested for their accuracy and robustness prior to application for project-level monitoring. Local or accredited laboratories shall conduct water quality tests using testing kits and a relevant ISO standard or an equivalent standard in parallel with field testing kits.
Purpose of data	Determination of baseline emissions
Additional comment	If the proportion of samples not meeting Safe Drinking Water Quality Standards exceeds a threshold, no emission reductions can be claimed for the corresponding monitoring period. Thresholds: - Project or VPA year 1: 20% - Project or VPA year 2: 15% - Project or VPA year 3 or above: 10%

(SDG 4 and SDG 6)

Data / Parameter	Water hygiene education campaigns
Unit	-
Description	Hygiene campaigns carried out among project safe water end-users.
Source of data	Report of annual hygiene campaign results
Value(s) applied	To be determined
Measurement methods and procedures	Surveys will be conducted in person, over the phone, or via messaging (e.g., text, app) to cover all the JMP core questions for drinking water and hygiene. The activities will be detailed in a "Report of Annual Hygiene Campaigns Results". The impacts of the hygiene campaign will be assessed using the WHO/UNICEF Joint Monitoring Programme Core questions for drinking water and hygiene to determine the fraction of the households and institutions where Safe water and Hygiene practices are found to fulfill "safely managed" or "basic" requirements.
Monitoring frequency	Annually
QA/QC procedures	A fraction of the households where Safe water and

	Hygiene practices are found to fulfil "safely managed" or "basic" requirements are expected to increase over time because of the hygiene campaigns.
Purpose of data	Compliance with Safe Drinking Water Quality Standards
Additional comment	Collaboration with local health units is also a priority, focusing on initiatives like promoting female hygiene practices, encouraging the use of sanitation facilities, and managing waste disposal.

b. Related to emission reductions

SDG 13

Data / Parameter	$X_{cleanboil,y}$
Unit	Percentage
Description	The proportion of project end-users that boil safe (treated, or from safe supply) water after installation of the project technology in year y
Source of data	Project Survey
Value(s) applied	0 %
Measurement methods and procedures	This survey may be performed in person, by telephone, by messaging (e.g. text, app), appropriate to the context.
Monitoring frequency	Annually
QA/QC procedures	
Purpose of data	Calculation of baseline emissions
Additional comment	

SDG 6 and SDG 13

Data / Parameter	$Q_{m,y}$
Unit	Litres/year
Description	Monitored quantity of safe water provided by the CWT project in year y

Source of data	Flow meter measurement
Value(s) applied	2,226,583.33
Measurement methods and procedures	At the central location of the CWS or CWT: Option 1: Flow meter measures water volume directly Option 2: The operation sensor directly measures operation time or pump stroke count, and volume is calculated as capacity (defined in the Project technology description) multiplied by operation time or pump strokes, depending on the sensor type. This may be measured on a sampling basis, in which case follow section 4.2 |General requirements for sampling, below.
Monitoring frequency	Continuously
QA/QC procedures	Follow manufacturer, sector, national, or international standards or guidelines for calibration and maintenance of the measurement device.
Purpose of data	Calculation of emission reductions
Additional comment	

SDG 13

Data / Parameter	$HN_{p,y}$
Unit	Number
Description	Number of individuals per premises type p in the project boundary in year y
Source of data	Any of the following sources will be used: - Project survey - Official government publications or statistics
Value(s) applied	9
Measurement methods and procedures	-
Monitoring frequency	Annually
QA/QC procedures	The value applied shall be cross-checked against at least one other source on the list. For cross-check purposes, sources applied may be up to 5 years old. Further, cross-checking with older sources may be used provided they provide conservative results.

Purpose of data	Calculation of emission reductions
Additional comment	

Data / Parameter	$HH_{p,y}$
Unit	Number
Description	Number of premises type p served by the project in year y
Source of data	Survey of the premises (e.g., households, schools) within 1 km distance of the project water source to check how often the premises used the project water source during the year. This survey may be part of the project survey and may be performed in person, by telephone, or by messaging (e.g., text, app), appropriate to the context. Premises that report at least every two days of use may be counted.
Value(s) applied	150
Measurement methods and procedures	-
Monitoring frequency	Annually
QA/QC procedures	Population density maps from WorldPop[7], which offer recent high-resolution data freely available for all countries, will be utilized for further verification.
Purpose of data	Calculation of emission reductions
Additional comment	

Data / Parameter	$DO_{p,y}$
Unit	Days
Description	Days the project technology is operational for end-users

[7] https://www.worldpop.org/

	in premises p in year y
Source of data	In order of preference: 1. Measure directly using an operation sensor, or 2. Demonstrate from the log of operation and maintenance system.
Value(s) applied	347
Measurement methods and procedures	In order of preference: 1. Measure directly using an operation sensor, or 2. Demonstrate from log of operation and maintenance system.
Monitoring frequency	Annually
QA/QC procedures	Values higher than 347 days may only be applied when option 1 is used. 347 days is 95% of days, which is in line with pump maintenance in the literature. For schools and other institutions, as applicable, the days must also be limited by the number of school days in the period, considering weekends and holidays.
Purpose of data	Calculation of emission reductions
Additional comment	

SDG 5 Gender Equality

Data / Parameter	$HH_{timeproject}$
Unit	Percentage (%)
Description	The difference between the average number of minutes spent collecting water in the baseline scenario and the project scenario
Source of data	Monitoring Survey and Baseline Survey
Value(s) applied	At least a 50% reduction in the average time spent collecting water
Measurement methods and procedures	This parameter will be monitored as part of the monitoring survey. Users will be asked as part of the

	monitoring survey the time spent collecting water in the project scenario.
Monitoring frequency	biennial
QA/QC procedures	-
Purpose of data	SDG 5 contribution
Additional comment	-

SDG 6 Clean Water and sanitation

Data / Parameter	Access to safely managed water sources and sanitation services
Unit	Number of rehabilitated/installed water points
Description	Number of water points providing safe drinking water to beneficiaries in the project
Source of data	Total Number of water points rehabilitated/installed under the project providing safe drinking water to beneficiaries in the project
Value(s) applied	84 (Ex-post water quality tests will determine the water quality)
Measurement methods and procedures	water quality tests will be conducted to measure the quality of drinking water
Monitoring frequency	Annual
QA/QC procedures	water quality tests will be conducted to measure the quality of drinking water
Purpose of data	SDG 6 contribution
Additional comment	-

SDG 8 Decent Work and Economic Growth

Data / Parameter	Number of people employed by the project
Unit	Number of people
Description	Temporary and permanent jobs were created during the

	implementation of the project.
Source of data	Employment Records provided by the Project Implementer
Value(s) applied	25
Measurement methods and procedures	All employees will be registered and trained to implement health and safety measures, and each hand pump mechanic will sign a contract.
Monitoring frequency	Annually
QA/QC procedures	Employment records
Purpose of data	SDG 8 contribution
Additional comment	-

SDG 15 Life on Land

Data / Parameter	FW_{saved}
Unit	tonnes
Description	Tonnes of fuel wood saved due to project activity
Source of data	Baseline calculations
Value(s) applied	404
Measurement methods and procedures	Baseline calculations
Monitoring frequency	Annual
QA/QC procedures	-
Purpose of data	SDG 15 contribution
Additional comment	-

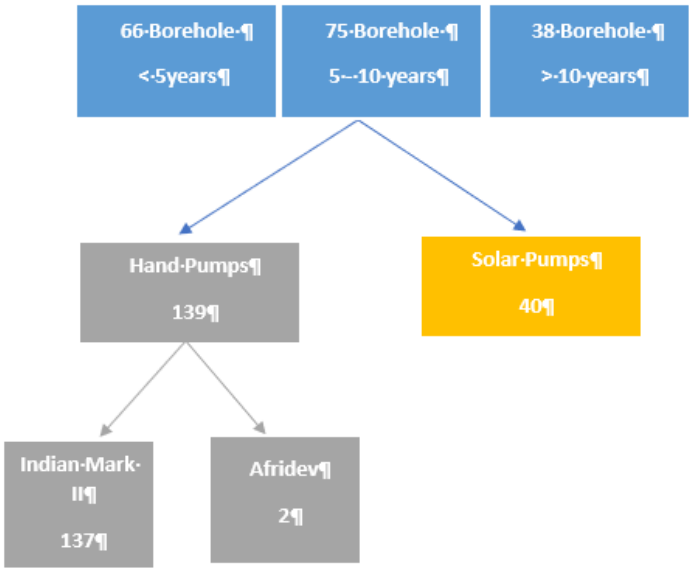
B.7.2. Sampling plan

The sampling frame consists of the project boundaries, encompassing all houses within a 1-kilometer radius of the water points. To ensure the reliability of sampling efforts in the Turkana region's borehole rehabilitation project, a confidence/precision criterion of

95/10 was used. The sample size was determined using the CDMs tool, resulting in a multi-stage sampling approach for the 179 boreholes identified for rehabilitation.

Borehole Distribution:

- **Total Boreholes:** 179
  - **Hand Pumps:** 139
    - **Indian MK II:** 137
    - **Afridev Type:** 2
  - **Solar Pumps:** 40



Borehole Age Distribution:

- **5 to 10 years:** 42%
- **Younger than 5 years:** 37%
- **Older than 10 years:** 21%

End-user Type:

- **Households:** 171 boreholes
- **Institutions:** 8 boreholes

A sample size of 37 boreholes was selected to ensure representation from all groups based on the criteria of pump type, pump model, borehole age, and end-user type. This representative sampling enables comprehensive assessment and reliable data for the rehabilitation efforts

Sample Size Determination for a Proportion Parameter		confidence/precision criterion
Survey design: Stratified random sampling		95/10
Calculation method: Precision via confidence interval		
Based on proportional allocation		

Instruction for using this calculator	
Input information in cells coloured in orange	
Outputs are displayed in cells coloured in green	

Input	Value	Notes
Confidence level	95%	e.g. for 90% enter 90
Relative precision	10%	e.g. for 10% enter 10
z multiplier	1,960	determined by confidence level
Overall proportion	0,900	determined by stratum inputs
Overall variance	0,090	determined by stratum inputs
V, ratio of variance to proportion squared	0,111	determined by stratum inputs
Population size, N	177	determined by stratum inputs
Predicted sample size, n	35	rounded up to nearest integer
Individual stratum sample sizes in column G summing to	37	FINAL SAMPLE SIZE

number of strata: 3 (Input value on a decimal scale)

stratum number	expected proportion, p	population size, g	proportional allocation
1	0,9	20	4
2	0,9	13	3
3	0,9	7	2
4	0,9	45	9
5	0,9	62	13
6	0,9	30	6
7			0
8			0
9			0
10			0

Moving forward with the monitoring, the project will also employ representative sampling in line with the requirements of the applied methodology. Stratified random sampling will be used to determine the usage rate of the water points as well as water quality testing samples. The water points will be categorized based on the appropriate category. The sample size for each category will be determined based on the expected

usage rate using the stratified random sampling approach, following the "Guideline: Sampling and Surveys for CDM Project Activities and Programmes of Activities Ver.4.0" and the "Standard: Sampling and Surveys for CDM Project Activities and Programmes of Activities Ver.9.0".

B.7.3. Other elements of monitoring plan

To ensure uniformity and accuracy in data collection, standardized forms with clear instructions for data collectors have been developed. A secure, web-based data entry system has been implemented to streamline and standardize data input. This system features an offline-capable data entry module, which allows data to be synced to the project server whenever internet access is available. The module includes several mathematical and logical validations to minimize data entry errors and incorporates control mechanisms to maintain high data quality. Data submitted to the server is instantly available for further processing through various web-based interfaces. Additionally, all project staff involved in data collection are thoroughly trained in the relevant tools and methodologies.

With this database, the following information is recorded for each water point.

- Unique IDs of water points
- GPS coordinates of the water points
- The rehabilitation date of the water points
- Drilling method, pump device, supply for groundwater system

Operational and Management Structure for Monitoring:

Monitoring Team: The project developer has constructed a team of 10 to monitor activities. The team includes a project manager, technical experts, community liaisons, and external staff.

Monitoring Team	Responsibilities
project manager	coordinates monitoring activities, data collection, and analysis and oversees data collection on-site, and ensures adherence to protocols.
technical experts	Rehabilitation of boreholes, water quality testing, water quantity measurements
community liaisons	Survey conductance, community feedback

external staff including carbon consultancy	data analysis, reporting, and decision-making based on monitoring findings

Data Archiving and Feedback Mechanisms:

Monitoring data will be securely stored in the web-based data entry system and also backed up in hard copies in Excel format to safeguard against potential data loss due to technical failures or other unforeseen issues. Additionally, mechanisms will be put in place to gather feedback from stakeholders based on monitoring results. This feedback will be used to refine project strategies, address emerging issues, and enhance overall performance.

SECTION C. DURATION AND CREDITING PERIOD

C.1. Duration of project

C.1.1. Start date of VPA

December 17, 2023, marks the initial rehabilitation date for the Turkana VPA, establishing it as the VPA start date.

C.1.2. Expected operational lifetime of VPA

20 years

C.2. Crediting period of project

C.2.1. Start date of crediting period

17.12.2023

C.2.2. Total length of crediting period

15 years (5 years, twice renewable)

SECTION D. SUMMARY OF SAFEGUARDING PRINCIPLES AND GENDER SENSITIVE ASSESSMENT

D.1. Safeguarding Principles that will be monitored

A completed Safeguarding Principles Assessment is in Appendix 1, ongoing monitoring is summarised below.

PRINCIPLES	MITIGATION MEASURES ADDED TO THE MONITORING PLAN
Principle 1. Human Rights	Not required
Principle 2. Gender Equality and Women's Empowerment	Not required
Principle 3. Community Health and Safety	Not required
Principle 4.1 Sites of Cultural and Historical Heritage	Not required
Principle 4.2 Forced Eviction and Displacement	Not required
Principle 4.3 Land Tenure and Other Rights	Not required
Principle 4.4 Indigenous Peoples	Not required
Principle 5. Corruption	Not required
Principle 6.1 Labour Rights and Working Conditions	Not required
Principle 6.2 Negative Economic Consequences	Not required
Principle 7.1 GHG Emissions	Not required
Principle 7.2 Energy Supply	Not required
Principle 8.1 Impact on Natural Water Patterns/Flows	Not required
Principle 8.2 Erosion and/or Water Body Instability	Not required
Principle 9.1 Landscape Modification and Soil	Not required
Principle 9.2 Vulnerability to Natural Disaster	Not required
Principle 9.3 Biosafety and Genetic Resources	Not required
Principle 9.4 Release of pollutants	Not required
Principle 9.5 Hazardous and Non-hazardous Waste	Not required
Principle 9.6 Pesticides & Fertilisers	Not required
Principle 9.7 Harvesting of Forests	Not required
Principle 9.8 Food Security	Not required
Principle 9.9 Animal welfare	Not required
Principle 9.10 High Conservation Value (HCV) Areas and Critical Habitats	Not required
Principle 9.11 Endangered Species	Not required

Principle 9.12 Invasive Alien Species	Not required

D.2. Assessment that project complies with GS4GG Gender Sensitive requirements

Question 1 - Explain how the project reflects the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy?	The project ensures equal opportunities for women and men to participate in and benefit from project outcomes. Women have equitable access to safe water points and WASH training programs as men. Stakeholder consultations prioritize gender balance in decision-making, including women's representation in planning committees, leadership roles, and community consultations to ensure their perspectives are heard. The project also establishes safe spaces for reporting gender-based violence (GBV) incidents, with trained staff to address these issues. Employment opportunities for local women are prioritized within project activities, and gender considerations are consistently integrated during stakeholder consultations, baseline surveys, and throughout project implementation to address potential gender-related challenges.

Question 2 - Explain how the project aligns with existing country policies, strategies and best practices	The project aligns with national gender equality policies, integrating sensitivity into core strategies by ensuring equal participation and benefits for women and men, prioritizing gender balance in decision-making, and addressing gender-specific needs throughout planning and implementation. It promotes women's empowerment, tackles gender-based violence, and enhances women's economic opportunities. Capacity building for project staff and stakeholders on gender sensitivity equips them to manage gender-related challenges effectively. Through stakeholder consultations, the project actively engages with local communities, government bodies, and civil society organizations to ensure alignment with their gender-related priorities and concerns. This participatory approach enhances the project's relevance and effectiveness in addressing gender issues.
Question 3 - Is an Expert required for the Gender Safeguarding Principles & Requirements?	The project activities engaged with diverse stakeholders, including women's groups, local communities, government agencies, and civil society organizations. Consultation ensured their perspectives were incorporated into project design and implementation. Based on the above, an expert's assistance on Gender/Environment issues is not deemed required.

Question 4 - Is an Expert required to assist with Gender issues at the Stakeholder Consultation?	No, refer above

SECTION E. SUMMARY OF LOCAL STAKEHOLDER CONSULTATION

Please refer to the separate Stakeholder Consultation Report for a complete report on the initial consultation and stakeholder feedback round.

E.1. Summary of stakeholder mitigation measures

During recent consultations, stakeholders provided valuable feedback and requests concerning the project. One stakeholder highlighted issues with failed pumps and requested the inclusion of their village in the project boundary. In response, the project team committed to mapping the area for potential rehabilitation and considering the requested borehole if it meets the established criteria.

Stakeholders expressed optimism for the project's success but noted the lack of previous consultative meetings. The project team acknowledged this feedback with appreciation and reinforced their commitment to ongoing stakeholder engagement.

Concerns were raised about a hand pump providing dirty water due to its location near a riverbank and issues with high salinity in a nearby village, forcing the community to seek alternative water sources. Additionally, a request was made to include a specific village in the project boundary. The project team assured that efforts would be made to provide safe drinking water through borehole rehabilitation and considered the possibility of introducing a salinity filter project. The inclusion of the requested village would also be reviewed.

Stakeholders addressed the issue of sustainability in previous projects and requested that schools be served with separate pumps from the community. The project team responded by ensuring that sustainability and repair mechanisms would be integral to the project strategy and considered providing separate pumps for schools.

Water issues were also reported in a particular area, and additional boreholes were requested in other villages. The stakeholders expressed readiness to support the project, and the project team acknowledged this support and included the requested boreholes in the feasibility assessment.

A hospital was requested to be included in the project due to its water challenges. The project team agreed to assess the feasibility of including hospital boreholes in the project.

Concerns about the effectiveness of past projects and the need for community involvement from the start were shared. The project team expressed gratitude for this feedback and reaffirmed their commitment to engaging the community throughout the project.

There were also requests to address salinity issues and include additional villages in the project. The project team reiterated their focus on addressing salinity concerns and incorporated the additional villages into the feasibility assessment.

Lastly, feedback was provided about land ownership issues affecting borehole drilling and suggestions for considering the needs of a local water users association. Additionally, there were recommendations for promoting tree planting as a climate change mitigation strategy. The project team assured that land ownership issues would be carefully vetted, and conflict-free zones would be prioritized for rehabilitation, and they welcomed suggestions on climate change and tree planting.

E.2. Final continuous input / grievance mechanism

METHOD	INCLUDE ALL DETAILS OF CHOSEN METHOD (S) SO THAT THEY MAY BE UNDERSTOOD AND, WHERE RELEVANT, USED BY READERS.	
Continuous Input / Grievance Expression Process Book (mandatory)	The logbook was placed in Offices of Chief Officers in Lodwar, Lorugum and Kakuma.	
GS Contact (mandatory)	help@goldstandard.org	
Telephone access (optional)	0700111121 0800724903 0740963380	Local and free telephone and SMS access is provided by the CME´s local NGO partners, who are eligible to communicate in the local language.
Internet/email access (optional)	eric@griot.co.uk hywel@griot.co.uk	

SECTION F. Eligibility and inclusion criteria for VPAs inclusion

>>

The below table shall be completed for all VPAs.

The CME shall provide clear description on how eligibility criteria set at real case VPAs are complied with for each real case and regular VPAs submitted for inclusion.

The CME shall not change the eligibility criteria and required condition set at real case VPAs. At the time of inclusion of regular VPAs, the CME shall only describe how the regular VPAs comply with the eligibility criterion.

NO.	ELIGIBILITY CRITERION	DESCRIPTION/ REQUIRED CONDITION	DESCRIPTION OF THE VPA IN RELATION TO THE CRITERIA, MEANS OF VERIFICATION/SUPPORTING EVIDENCE FOR INCLUSION
1			
2			
3			
...			

APPENDIX 1 - SAFEGUARDING PRINCIPLES ASSESSMENT

Complete the Assessment below and copy all Mitigation Measures for each Principle into SECTION D above. Please refer to the instructions in the Guide to Completing this Form below.

SOCIAL SAFEGUARDING PRINCIPLES		
Reference requirement	Question	Response
ERROR! REFERENCE SOURCE NOT FOUND.ERROR! REFERENCE SOURCE NOT FOUND.		
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project developer, its representatives and the Project disrespect internationally proclaimed human rights?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Is the project involved or complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Have local communities or individuals raised human rights concerns regarding the project (e.g., during the stakeholder engagement process, grievance processes, public statements)?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Is there a risk that rights-holders (e.g., Project-affected stakeholders) do not have the capacity to claim their rights?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Does this project undermine national or regional measures for the realisation of the right to development?	☐ YES ☒ NO
If the answer to any of the questions above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.		
Please add text here…		
Would the project potentially involve or lead to:		
ERROR! REFERENCE SOURCE NOT FOUND.	adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalised groups?	☐ YES ☐ POTENTIALLY ☒ NO

ERROR! REFERENCE SOURCE NOT FOUND.	inequitable or discriminatory impacts on affected populations, particularly people living in poverty or marginalised or excluded individuals or groups, including persons with disabilities?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	restrictions in availability, quality of and/or access to resources or basic services, in particular to marginalised individuals or groups, including persons with disabilities?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	exacerbation of conflicts among and/or the risk of violence to project-affected communities and individuals?	☐ YES ☐ POTENTIALLY ☒ NO

Briefly describe below how the project incorporates a human rights-based approach.
For example, by describing how the project design:

- is informed by human rights analysis, including from UN human rights mechanisms (human rights treaty bodies, universal periodic review, special procedures)
- includes measures to assist the government to realise (respect, protect and fulfil) human rights under international law and to implement human rights-related standards in national law (whichever is higher)
- enhances the availability, accessibility and quality of benefits and services for potentially marginalised individuals and groups, and to increase their inclusion in decision-making processes that may impact them (consistent with the non-discrimination and equality human rights principle)
- provides reasonable accommodations to strengthen inclusivity and accessibility of project benefits and services to persons with disabilities.

- *The project identified the most vulnerable groups, current barriers to water access, and specific human rights violations related to water in the project area.*
- *The project improves the availability, accessibility, and quality of water for marginalized groups by installing boreholes in underserved areas, ensuring they are operational year-round, and monitoring water quality regularly to meet health standards. It also actively engages marginalized groups, such as women, indigenous peoples, and low-income families, in the planning and decision-making processes to ensure their specific needs are addressed.*
- *The project established community water management committees with representatives from all demographic groups, including marginalized and vulnerable populations. Moving forward, the project will provide training on human rights, water management, and borehole maintenance to empower communities to take ownership of their water resources and ensure sustainability.*
- *The project has set up mechanisms for community members to voice concerns and provide feedback on the project which involves a transparent process for addressing grievances. The project ensures that grievance mechanisms are accessible to all, including those with limited literacy skills or those who speak minority languages.*

ERROR! REFERENCE SOURCE NOT FOUND.**ERROR! REFERENCE SOURCE NOT FOUND.**

ERROR! REFERENCE SOURCE	Have women's groups/leaders raised gender equality concerns regarding the project, (e.g., during the	☐ YES ☒ NO

NOT FOUND.	stakeholder engagement process, grievance processes, public statements)?	
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project undermine the principles of non-discrimination, equal treatment, and equal pay for equal work?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project prevent men and women from having equal opportunities to participate in identified tasks and activities, whether through paid work, volunteer work, or community contributions, as appropriate?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project limit the participation of women or men based on pregnancy, maternity/paternity leave, or marital status?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Is information about project objectives being communicated in a way that is inappropriate for the local context and not tailored to the methods of understanding of both women and men, which could hinder their participation?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Has the project assessed gender risks without referencing the country's gender strategy or equivalent national commitment?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Has expert stakeholder(s) been involved, and has their input been requested for the project design on gender equality and women's empowerment?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project potentially involve or lead to:		
ERROR! REFERENCE SOURCE NOT FOUND.	adverse impacts on gender equality and/or the situation of women and girls?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	exacerbation of risks of gender-based violence? For example, through the influx of workers to a community, changes in community and household power dynamics, increased exposure to unsafe public places and/or transport, etc.	☐ YES ☐ POTENTIALLY ☒ NO

ERROR! REFERENCE SOURCE NOT FOUND.	reproducing discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	limitations on women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well-being.	☐ YES ☐ POTENTIALLY ☒ NO

Briefly describe below how the project is addressing any identified risk to gender equality and women's empowerment.

- *The project assessed how water access impacts women and men differently, identifying barriers women face in accessing water, and understanding the socio-cultural dynamics that may hinder women's participation.*
- *The project ensured that women were actively involved in the planning and decision-making processes. This is achieved by setting gender quotas for community water management committees, holding focused group consultations with women to understand their needs and concerns during stakeholder meetings.*
- *The project implemented measures to address gender-specific barriers to water access. For instance, the project located boreholes in safe and accessible areas to reduce the physical burden and safety risks for women and girls who typically collect water and ensure that water points are situated in locations where women feel safe.*
- *The project activities created opportunities for women's economic empowerment by hiring women for implementation roles and providing training on technical skills related to water management.*
- *The project integrates gender-sensitive indicators into its monitoring framework and will actively track women's participation in project activities, their access to water, and any changes in their socio-economic status because of the project. This data will be used to make necessary adjustments and ensure that the project effectively promotes gender equality.*
- *The project will implement measures to mitigate the risk of gender-based violence related to water collection and project activities by establishing safe reporting mechanisms and partnering with local organizations that support survivors of GBV.*
- *During annual WASH training, the project will also involve men and boys in gender equality initiatives to promote shared responsibility for water management and challenge traditional gender roles. This can help create a supportive environment for women's empowerment and ensure that changes in gender dynamics are sustainable.*

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ERROR! REFERENCE SOURCE	Does the project involve potential risks to the health and safety of affected communities during its life cycle?	☐ YES ☒ NO

ERROR! REFERENCE SOURCE NOT FOUND.		
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project involve any potential risks to the workers' safety and health?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project potentially involve or lead to:

ERROR! REFERENCE SOURCE NOT FOUND.	construction and/or infrastructure development (e.g., roads, buildings, dams)?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	air pollution, noise, vibration, traffic, injuries, physical hazards, poor surface water quality due to runoff, erosion, sanitation?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	harm or losses due to failure of structural elements of the project (e.g., collapse of buildings or infrastructure)?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	risks of water-borne or other vector-borne diseases (e.g., temporary breeding habitats), communicable and noncommunicable diseases, nutritional disorders, mental health?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g., explosives, fuel and other chemicals during construction and operation)?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	adverse impacts on ecosystems and ecosystem services relevant to communities' health (e.g., food, surface water purification, natural buffers from flooding)?	☐ YES ☐ POTENTIALLY ☒ NO

Briefly describe below how the project is addressing any identified risk related to community health and safety.

- *At the beginning of the project, the project evaluated environmental hazards, potential contamination sources, and safety concerns for workers and community members.*

- *The project activities implemented a robust water quality monitoring system to regularly test for contaminants. This ensured that the rehabilitated boreholes provided safe drinking water, minimizing health risks related to waterborne diseases.*
- *During the construction phase, the project provides proper training and protective equipment to workers and establishes clear safety protocols to prevent accidents.*
- *The project activities will conduct annual health education campaigns to raise awareness about safe water usage, hygiene practices, and sanitation. To ensure broad dissemination of information, these campaigns will be tailored to different community segments, including schools, households, and local health centres when relevant.*
- *The project activities will develop and implement emergency response plans to address potential health and safety incidents including training community members and project staff on responding to emergencies such as water contamination, accidents during construction, or natural disasters affecting water supply.*
- *The project will collaborate with local health authorities to ensure alignment with existing public health strategies and facilitate rapid response in case of health emergencies. This partnership can also support the distribution of health resources and information.*
- *The project will integrate sanitation and waste management components to prevent water source contamination. This includes building latrines, properly disposing of waste materials from construction, and community-led initiatives to keep water points clean.*
- *The project will engage the community by forming water management committees responsible for overseeing the maintenance and cleanliness of the boreholes. It will also provide training on health and safety measures related to water usage and management to empower the community to take an active role in safeguarding its water supply.*
- *The project will conduct annual surveys on waterborne diseases and assessments of overall community well-being to monitor the impact of the project on community health.*
- *The project will establish accessible grievance mechanisms for community members to report health and safety concerns related to the project, ensuring that issues are promptly addressed, and that the community feels empowered to voice their concerns.*

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ERROR! REFERENCE SOURCE NOT FOUND.	Does the project involve altering, damaging, or removing sites, objects, or structures of significant cultural heritage?	☐ YES ☒ NO

If the answer to question above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project potentially involve or lead to:

ERROR! REFERENCE SOURCE	activities adjacent to or within a cultural heritage site?	☐ YES ☐ POTENTIALLY ☒ NO

NOT FOUND.		
ERROR! REFERENCE SOURCE NOT FOUND.	significant excavations, demolitions, movement of earth, flooding or other environmental changes?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	alterations to landscapes and natural features with cultural significance?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	adverse impacts to sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g., knowledge, innovations, practices)? (Note: projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	utilisation of tangible and/or intangible forms (e.g., practices, traditional knowledge) of Cultural Heritage for commercial or other purposes?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to question above is "YES" or "POTENTIALLY" - are the communities made aware of their right under the law, scope and nature of proposed development and its potential consequences?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to question above is "YES" - does the project provide equitable sharing of benefits from commercialisation of such knowledge, innovation, or practice, consistent with their customs and traditions?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to question above is "YES" - are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to question above is "YES", has project design been changed, modified, updated considering opinions and recommendations of an Expert Stakeholder?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

ERROR! REFERENCE SOURCE NOT FOUND.ERROR! REFERENCE SOURCE NOT FOUND.		
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project involve any risks related to involuntary relocation of people?	☐ YES ☒ NO

If the answer to question above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project potentially involve or lead to:

ERROR! REFERENCE SOURCE NOT FOUND.	risk of forced evictions or involuntary relocation of people?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	temporary or permanent and full or partial physical displacement (including people without legally recognisable claims to land)?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	economic displacement (e.g., loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to question above is "YES" or "POTENTIALLY", - has the project developed Resettlement Action Plan or Livelihood Action Plan in consultation and agreement with affected individual, group or community? - has the project integrated Resettlement Action Plan or Livelihood Action Plan into the Project design?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to question above is "YES" - are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to question above is "YES", have project design been changed, modified, updated considering opinions and recommendations of an Expert Stakeholder?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

ERROR! REFERENCE SOURCE NOT FOUND.ERROR! REFERENCE SOURCE NOT FOUND.		
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project involve any risks related to identifying and managing legitimate tenure rights that may be affected by the project?	☐ YES ☒ NO
If the answer to question above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.		
Please add text here….		
Would the project potentially involve or lead to:		
ERROR! REFERENCE SOURCE NOT FOUND.	impacts on or changes to land tenure arrangements and/or community-based property rights/customary rights to land, territories and/or resources?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	uncertainties with regards to land tenure, access rights, usage rights or land ownership? Examples include, but are not limited to water access rights, community-based property rights and customary rights.	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Changes in legal arrangements, if yes, are the changes done in line with relevant laws and regulations?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	Changes in legal arrangements, if yes, are these changes agree with free, prior and informed consent of the involved stakeholders?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	Does some other entity (other than the project developer) hold uncontested land title for the entire Project Boundary?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to question above is "YES", have project design been changed, modified, updated considering opinions and recommendations of an Expert Stakeholder?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE	Have project developer in consultation with stakeholders established a functioning mechanism to receive, process, resolve, communicate and record grievances?	☒ YES ☐ NO ☐ NA

NOT FOUND.		

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

The project developer set up mechanisms for community members to voice concerns and provide feedback on the project. This involved regular community meetings, suggestion boxes, and a transparent process for addressing grievances. The project developer ensures that these mechanisms are accessible to all, including those with limited literacy skills or those who speak minority languages.

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ERROR! REFERENCE SOURCE NOT FOUND.	Does the project involve Indigenous People within the Project area of influence who may be affected directly or indirectly by the Project?	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project potentially involve or lead to:

ERROR! REFERENCE SOURCE NOT FOUND.	affect areas where indigenous peoples are present (including project area of influence)	☒ YES ☐ POTENTIALLY ☐ NO
ERROR! REFERENCE SOURCE NOT FOUND.	affect areas, land and territory claimed by indigenous peoples?	☒ YES ☐ POTENTIALLY ☐ NO
ERROR! REFERENCE SOURCE NOT FOUND.	impacts (positive or negative) to the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples?	☒ YES ☐ POTENTIALLY ☐ NO
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to above questions is ''YES'' or "POTENTIALLY", - Is it determined that the proposed project may affect the rights, lands, resources, or territories of indigenous people? - Has an "Indigenous People Plan" (IPP) or "Indigenous People Plan Framework" been elaborated and included in the project documentation? - Was the plan developed in accordance with the effective and meaningful participation of indigenous peoples and in accordance with UNDP Guidelines?	☐ YES ☐ NO ☒ NA

ERROR! REFERENCE SOURCE NOT FOUND.	risk of forcibly removing indigenous people from their lands and territories?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	utilisation and/or commercial development of natural resources on lands and territories claimed by indigenous peoples? Consider, and where appropriate ensure, consistency with the answers under Principle 4.1 above	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND. ERROR! REFERENCE SOURCE NOT FOUND.	If answer to question above is "YES" or "POTENTIALLY" - Did the project obtain free, prior and informed consent from indigenous people before taking their cultural, intellectual, religious, and/or spiritual property? - Does the project ensure that the indigenous people receive an equitable sharing of benefits resulting from the use of their traditional knowledge and practices? ? - Does the project ensure that the sharing of benefits resulting from the use of indigenous peoples' traditional knowledge and practices is culturally appropriate and inclusive? - Does the project ensure that the provision of equitable sharing of benefits does not impede land rights or equal access to basic services including health services, clean water, energy, education, safe and decent working conditions, and housing?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project lack appropriate feedback and grievance channels for Indigenous Peoples and their representatives?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	Has a grievance mechanism not been established at the beginning of programme or project implementation with due consideration given to customary dispute settlement mechanisms among the Indigenous Peoples concerned and will it remain operational throughout the project cycle?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to question above is "YES", have project design been changed, modified, updated considering opinions and recommendations of an Expert Stakeholder?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

- *At the beginning of the project stakeholder meetings were conducted along with focus group discussions, and participatory workshops with indigenous leaders and community members were also conducted to understand their needs, preferences, and any potential cultural sensitivities related to water sources.*
- *The project activities incorporate traditional knowledge and practices into the project design and implementation to enhance cultural relevance and acceptance.*
- *The project activities create opportunities for indigenous people to participate in and benefit from project-related employment, capacity-building, and resource management initiatives. They also establish benefit-sharing mechanisms that allocate a portion of the project's resources or benefits to the community.*
- *The project activities set up local grievance committees composed of Indigenous representatives and project staff to handle complaints, mediate disputes and provide clear information on how to access these mechanisms.*
- *The project's impact on indigenous communities will be regularly monitored through participatory methods and adjusting project activities as needed to mitigate adverse effects.*

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ERROR! REFERENCE SOURCE NOT FOUND.	Does the project involve, or is it complicit in, contributing to or reinforcing corruption or corrupt projects?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project have a risk of encouraging bribery, kickbacks, or other unethical behavior?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

ECONOMIC SAFEGUARDING PRINCIPLES

ERROR! REFERENCE SOURCE NOT FOUND.ERROR! REFERENCE SOURCE NOT FOUND.

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ERROR! REFERENCE SOURCE NOT FOUND.	Does the project involve, facilitate, or condone forced labor, or pose a potential risk of forced labor?	☐ YES ☒ NO

ERROR! REFERENCE SOURCE NOT FOUND.	Does the project violate any labor or health and safety laws, international obligations, or ILO conventions?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project violate the principles of equal opportunity and fair treatment in its employment decisions?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project violate national laws, if available regarding non-discrimination in employment?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND. ERROR! REFERENCE SOURCE NOT FOUND.	Does the project allow child labor?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND. ERROR! REFERENCE SOURCE NOT FOUND.	Does the project have insufficient processes and measures in place to ensure the safety and health of project workers?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project have insufficient measures to safeguard and support vulnerable project workers, such as women, people with disabilities, migrant workers, and young workers, and to prevent any kind of harassment, abuse, bullying, or exploitation, including gender-based violence (GBV)?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project have no grievance mechanism available for workers to voice workplace concerns? Is information about this mechanism not provided to workers at the time of recruitment, or is it not easily accessible?	☐ YES ☒ NO
If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		

Please add text here….

Would the project potentially involve or lead to: (NOTE: APPLIES TO BOTH PROJECT AND CONTRACTOR WORKERS)		
ERROR! REFERENCE SOURCE NOT FOUND.	use of forced labour?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	working conditions that do not meet national labour laws and international commitments?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	working conditions that may deny freedom of association and collective bargaining?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	absence of documented working agreements with all individual workers *if such agreements do not exist, or do not address working conditions and terms of employment, the project developer shall provide reasonable working conditions and terms of employment.*	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	use of migrant workers? *if engaged, the developer shall ensure that they are engaged substantially equivalent terms and conditions to non-migrant workers carrying out similar work.*	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	having no arrangements for basic services[8] for workers? *the project developer shall put in place and implement policies on the quality and management of the accommodation and provision of basic services in a manner consistent with the principles of non-discrimination and equal opportunity. Workers' accommodation arrangements should not restrict workers' freedom of movement or of association*	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE	any form of discrimination or harassment based on factors unrelated to job requirements, such as gender, race,	☐ YES ☐ POTENTIALLY

[8] Basic services requirements refer to minimum space, supply of water, adequate sewage and garbage disposal system, appropriate protection against heat, cold, damp, noise, fire, and disease-carrying animals, adequate sanitary and washing facilities, ventilation, cooking and storage facilities and natural and artificial lighting, and in some cases basic medical services.

NOT FOUND.	nationality, ethnicity, social or indigenous origin, religion or belief, disability, age, or sexual orientation?	☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	any form of discrimination in any aspect of employment, such as recruitment, compensation, working conditions, training, job assignment, promotion, termination, or discipline?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	harassment, intimidation, and/or exploitation, especially in regard to women?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	discriminatory working conditions and/or lack of equal opportunity where national law provides provision to address non-discrimination in employment?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	use of child labour? (including third-party engaged workers)	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	inadequate and verifiable mechanisms for age verification?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	no processes and measures in place for the safety and health of project workers?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	No provision of safety and health training provisions, including on the proper use and maintenance of personal protective equipment conducted by competent persons and the maintenance of training records?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	No provision to record and document accidents, diseases, incidents, and any resulting injuries, illnesses, or deaths?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	occupational health and safety risks due to physical, chemical, biological and psychosocial hazards (including violence and harassment) throughout the project life-cycle?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	No measures to protect vulnerable project workers from harassment, exploitation, and gender-based violence (GBV)? This includes women, people with disabilities, migrant workers, and young workers.	☐ YES ☒ NO
ERROR! REFERENCE	No grievance mechanism available for workers to voice workplace concerns.	☐ YES ☒ NO

SOURCE NOT FOUND.		
ERROR! REFERENCE SOURCE NOT FOUND.	No measures for due diligence and the establishment of policies and procedures to manage and monitor the performance of third-party employees in the project?	☐ YES ☒ NO

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

- *The project ensures compliance with national labor laws and international labor standards (e.g., ILO conventions) guarantees that workers' rights are protected, and that the project adheres to recognized ethical practices by establishing clear policies that comply with labor laws, including minimum wage regulations, working hours, health and safety standards, and non-discrimination policies.*
- *The project implements comprehensive health and safety protocols, provides necessary personal protective equipment (PPE), conducts regular safety training sessions, and ensures that all work sites are regularly inspected and maintained.*
- *The project sets wage rates that meet or exceed the local minimum wage, provides benefits such as health insurance, paid leave, and retirement plans, and ensures timely wage payment to ensure that workers are adequately compensated for their labor, contributing to their economic stability and well-being.*
- *The project actively promotes diversity in hiring, training, and promotion practices to promote a diverse and inclusive workplace, enhancing social equity and cohesion.*
- *The project encourages regular dialogue between workers and management and provides platforms for workers to express their concerns and suggestions to ensure that workers have a voice in decision-making processes, enhancing their sense of ownership and accountability.*
- *The project provides training and capacity-building opportunities to help workers develop new skills and enhance their employability, focusing on both technical skills and soft skills.*
- *The project does not use forced or child labor, upholds fundamental human rights, and aligns with international labor standards.*
- *The project provides accessible grievance mechanisms to ensure that workers can report issues without fear of retaliation and that disputes are resolved fairly and transparently.*
- *The project designs project activities that create decent jobs, stimulate local economies, support small and medium-sized enterprises (SMEs), and promote sustainable practices that contribute to economic resilience and growth.*

ERROR! REFERENCE SOURCE NOT FOUND.ERROR! REFERENCE SOURCE NOT FOUND.

ERROR! REFERENCE SOURCE NOT FOUND.	Is there a risk of project failure during implementation or after project certification due to a lack of financial resources?	☐ YES ☒ NO

ERROR! REFERENCE SOURCE NOT FOUND.	Does the project have potential negative impacts or pose a risk to the local economy?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Are there any potential risks or negative impacts this project may have on vulnerable or marginalised social groups, despite the benefits it may bring?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here…

Would the project involve or lead to:

ERROR! REFERENCE SOURCE NOT FOUND.	economic impacts (negative/detrimental) to the local economy?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	negative economic consequences during and after project implementation, e.g., for vulnerable and marginalised social groups in targeted communities?	☐ YES ☐ POTENTIALLY ☒ NO

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

ERROR! REFERENCE SOURCE NOT FOUND.ERROR! REFERENCE SOURCE NOT FOUND.

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ERROR! REFERENCE SOURCE NOT FOUND.	Does the project have a risk of increasing greenhouse gas emissions over the Baseline Scenario?	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project involve or lead to:

ERROR! REFERENCE SOURCE NOT FOUND.	increase greenhouse gas emissions over the Baseline Scenario?	☐ YES ☐ POTENTIALLY ☒ NO

If the answer is "yes" or "potentially" to the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

ERROR! REFERENCE SOURCE NOT FOUND.ERROR! REFERENCE SOURCE NOT FOUND.

ERROR! REFERENCE SOURCE NOT FOUND.	Does the project pose a risk to the availability and reliability of energy supply to other users?	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project involve or lead to:

ERROR! REFERENCE SOURCE NOT FOUND.	negative impact on the availability and reliability of energy supply to other users?	☐ YES ☐ POTENTIALLY ☒ NO

If the answer is "yes" or "potentially" to the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

ERROR! REFERENCE SOURCE NOT FOUND.**ERROR! REFERENCE SOURCE NOT FOUND.**

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ERROR! REFERENCE SOURCE NOT FOUND.	Does the project increase water usage to a level that will not allow for the maintenance of environmental flows?	☐ YES ☒ NO
ERROR! REFERENCE	Does the project result in the discharge of wastewater that does not meet the required standard for beneficial reuse	☐ YES ☒ NO

SOURCE NOT FOUND.	and could therefore negatively impact the environmental flow?	
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project have the potential risk to exceed the rate of recharge for the groundwater source?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project involve any processes or activities that could contaminate the groundwater and render it unsuitable for use?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project involve or lead to:

ERROR! REFERENCE SOURCE NOT FOUND.	affect the natural or pre-existing pattern of watercourses, groundwater and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Wastewater discharge of quality that does not meet the required standard for beneficial reuse?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	significant extraction, diversion of ground water? For example, construction of dams, reservoirs, river basin developments, groundwater extraction	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

ERROR! REFERENCE SOURCE NOT FOUND.ERROR! REFERENCE SOURCE NOT FOUND.

ERROR! REFERENCE	Does the project have a risk of negatively impacting the catchment and has it been assessed and addressed?	☐ YES ☒ NO

SOURCE NOT FOUND.		

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project involve or lead to:

ERROR! REFERENCE SOURCE NOT FOUND. - **ERROR! REFERENCE SOURCE NOT FOUND.**	negatively impact on the catchment area? If yes, Erosion prevention measures, including soil and slope protection measures, must be implemented before project commencement. These measures should involve natural terracing, infiltration strips, permanent ground cover, hedge and tree rows, and effective slope length assessment. Regular reassessment of these measures is necessary.	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

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ERROR! REFERENCE SOURCE NOT FOUND.ERROR! REFERENCE SOURCE NOT FOUND.

ERROR! REFERENCE SOURCE NOT FOUND. - **ERROR! REFERENCE SOURCE NOT FOUND.**	Is there any risk of soil resource degradation or loss of ecosystem services provided by soils in the project? If yes, the project shall maintain healthy soils by minimising negative impacts on soil health, productivity, structure, and water retention. Steps to minimise soil degradation include crop rotation, composting, using N-fixing plants, and reducing tillage and ecologically harmful substances.	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		
Please add text here….		
Would the project involve or lead to:		
ERROR! REFERENCE SOURCE NOT FOUND.	production, harvesting, and/or management of living natural resources by small-scale landholders and/or local communities?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	if answer to above question "yes" or "potentially", does project adopt appropriate and culturally sensitive sustainable resource management practices?	☐ YES ☐ NO ☒ NA
If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.		
Please add text here….		
ERROR! REFERENCE SOURCE NOT FOUND.ERROR! REFERENCE SOURCE NOT FOUND.		
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project have any risks associated with natural or man-made hazards that could result from land use changes due to the project?	☐ YES ☒ NO
If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		
Please add text here….		
Would the project involve or lead to:		
ERROR! REFERENCE SOURCE NOT FOUND.	any potential risks that require emergency preparedness and response planning?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	if answer to above question "yes" or "potentially", did the project developer disclose appropriate information about emergency preparedness and response to affected communities?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.
Please add text here….

ERROR! REFERENCE SOURCE NOT FOUND.ERROR! REFERENCE SOURCE NOT FOUND.		
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project involve the transfer, handling, and use of genetically modified organisms/living modified organisms that may result in adverse effects on biological diversity?	☐ YES ☒ NO
If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		
Please add text here….		
Would the project involve or lead to:		
ERROR! REFERENCE SOURCE NOT FOUND.	the transfer, handling and use of genetically modified organisms/living modified organisms (GMOs/LMOs) that result from modern biotechnology	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to above question is "yes" has a risk assessment by a competent Expert stakeholder been carried out in accordance with Annex iii of the Cartagena protocol on biosafety to the convention on biological diversity?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to above question is "yes" has any risks identified in the risk assessment?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	Forestry (for example Afforestation/Reforestation) involving GMO planting? *Note - Forestry projects (for example Afforestation/ Reforestation) involving GMO planting are not eligible for Certification under Gold Standard for the Global Goals.*	☐ YES ☐ NO ☒ NA
If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.		
Please add text here….		

ERROR! REFERENCE SOURCE NOT FOUND.ERROR! REFERENCE SOURCE NOT FOUND.

ERROR! REFERENCE SOURCE NOT FOUND.	Does the project have a risk of releasing pollutants to air, water, and land in routine, non-routine, or accidental circumstances?	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project involve or lead to:

ERROR! REFERENCE SOURCE NOT FOUND.	any potential risk of pollutant release that cannot be avoided?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to above question is "Yes" or "potentially", has the project identified all potential pollution sources that may degrade the quality of soil, air, surface, and groundwater in the project area?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to above question is "Yes" or "potentially", do the pollution prevention and control technologies and practices applied during the project life cycle align with national regulations or international best practices?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to above question is "Yes", is there a monitoring plan to ensure that mitigation measures are implemented, and resources are protected?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

ERROR! REFERENCE SOURCE NOT FOUND.ERROR! REFERENCE SOURCE NOT FOUND.

ERROR! REFERENCE SOURCE NOT FOUND.	Does the project involve the generation of waste materials (both hazardous and non-hazardous)?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project involve risk of release of hazardous materials resulting from their production, transportation, handling, storage, or use?	☐ YES ☒ NO

ERROR! REFERENCE SOURCE NOT FOUND.	Does the project involve the use of any chemicals or materials subject to international bans or phase-outs?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project involve or lead to:

ERROR! REFERENCE SOURCE NOT FOUND.	the generation and management of waste materials?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	treatment, destruction, or disposal of waste material?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to above question is “Yes”, does the project involve an environmentally friendly method that includes appropriate control of emissions and residues resulting from the handling and processing of waste material?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	risk of release of hazardous materials resulting from their production, transportation, handling, storage, or use?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to above question is "yes”, does project has measures in place to address health risks?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	Involve manufacture, trade, and use of chemicals and hazardous materials subject to international bans or phase-outs due to their high toxicity to living organisms, environmental persistence, potential for bioaccumulation, or potential for depletion of the ozone layer	☐ YES ☐ POTENTIALLY ☒ NO

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

ERROR! REFERENCE SOURCE NOT FOUND.ERROR! REFERENCE SOURCE NOT FOUND.

ERROR! REFERENCE SOURCE NOT FOUND.	Does the project involve the use of chemical pesticides?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project involve purchase, store, manufacture, trade or use products that fall in Classes IA (extremely hazardous) and IB (highly hazardous)	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project use fertilisers, and if so, are measures being taken to minimise their use and nutrient losses to the environment?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project involve or lead to:

ERROR! REFERENCE SOURCE NOT FOUND.	chemical pesticides use for pest management?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to question above is "yes" or "potentially", does project has documented Chemical Pesticides Policy in place?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	purchase, store, use, manufacture, or trade in Class II (moderately hazardous) pesticides?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to question above is "yes" or "potentially", does project has appropriate controls on manufacture, procurement, or distribution and/or use of these chemicals?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

ERROR! REFERENCE SOURCE NOT FOUND.ERROR! REFERENCE SOURCE NOT FOUND.

ERROR! REFERENCE SOURCE NOT FOUND.	Does the project have a risk of unsustainable forest management, including timber harvesting?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project pose a risk of depleting biodiversity and ecosystem functionality in areas where improved forest management is undertaken?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project risk not meeting requirements for environment-friendly, socially beneficial, and economically viable plantations using native species whenever possible?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

ERROR! REFERENCE SOURCE NOT FOUND.ERROR! REFERENCE SOURCE NOT FOUND.

ERROR! REFERENCE SOURCE NOT FOUND.	Does the project involve the risk of negatively influencing access to and availability of food for people affected?	☐ YES ☒ NO

If the answer to the question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project involve or lead to:

ERROR! REFERENCE SOURCE NOT FOUND.	modification of the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	☐ YES ☐ POTENTIALLY ☒ NO

If the answer is "yes" or "potentially" to the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

ERROR! REFERENCE SOURCE NOT FOUND. ERROR! REFERENCE SOURCE NOT FOUND.

ERROR! REFERENCE	Does the project involve any risks to animal welfare?	☐ YES ☒ NO

SOURCE NOT FOUND.	Animal welfare shall be ensured by providing access to water and food, appropriate environment, humane treatment, and staff training. Evidence of mistreatment will be treated as an immediate non-conformity.	
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project involve any potential risk of excessive or inadequate use of veterinary medicines?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project involve the risk of administering synthetic growth promoters, including hormones?	☐ YES ☒ NO
If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		
Please add text here….		
Would the project involve or lead to:		
ERROR! REFERENCE SOURCE NOT FOUND.	animal husbandry or harvesting of fish populations or other aquatic species?[9]	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	limiting access for animals to basic needs like drinking water, adequate food, daylight, appropriate shelter etc.?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	inadequate measures to isolate sick animals and control the spread of disease, especially zoonotic diseases?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	inadequate low-stress methods, equipment, and facilities that facilitate calm animal movement.	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE	inadequate measures to ensure that animals are exposed to the least stress possible during transportation and slaughtering?	☐ YES ☐ NO

[9] 'Involve' means if the project mechanism and/or impact(s) are achieved via changing animal husbandry practices in some way.

SOURCE NOT FOUND.		☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	inappropriate spacing per animal and stocking rates per land unit?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	inadequate measures to address the specific needs of aquatic animals?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND. ERROR! REFERENCE SOURCE NOT FOUND.	primary production of living natural resources such as animal husbandry, aquaculture, and fisheries? If the answer is yes, implement industry-standard sustainable management practices in line with to one or more relevant and credible standards and utilise available technologies.	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

ERROR! REFERENCE SOURCE NOT FOUND.ERROR! REFERENCE SOURCE NOT FOUND.

ERROR! REFERENCE SOURCE NOT FOUND.	Does the project have the risk of negatively impacting HCV areas and/or critical habitats?	☐ YES ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project in the project area or area of downstream impacts have risks to the following: native tree patches, individual native trees, freshwater resources (including rivers, lakes, swamps, temporary water bodies, and wells), habitats of rare, threatened, and endangered species, and biodiversity-enhancing areas?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project involve or lead to:		
ERROR! REFERENCE SOURCE NOT FOUND.	identified habitats as HCV areas and or Critical habitats?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to above question is "yes", does the project have any risks that could negatively impact the catchment, project success, and surrounding HCV and ecological assets, as well as any measurable adverse impacts on the criteria or biodiversity values for which the critical habitat was designated, and on the ecological processes supporting that biodiversity?	☐ YES ☐ NO ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to above question is "yes", is a robust, appropriately designed, and long-term Habitats and Biodiversity Action Plan absent which will make the project unable to achieve net gains of those biodiversity values for which the critical habitat was designated?	☐ YES ☐ NO ☒ N/A
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project area or area of downstream impacts have native tree patches, individual native trees, freshwater resources (including rivers, lakes, swamps, temporary water bodies, and wells), habitats of rare, threatened, and endangered species, and biodiversity-enhancing areas?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	If the answer to the above question is "yes", will the project have any adverse effects on these areas?	☐ YES ☐ No ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	If the answer to above question is "yes", does the project has opportunities to minimise unwarranted conversion or degradation of the habitat and to enhance the habitat as part of its development?	☐ YES ☐ No ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	Is the project applying Land Use & Forest Activity Requirements and managing a minimum 10% of the project area to protect or enhance the biological diversity of native ecosystems following HCV approach as per the given requirements?	☐ YES ☐ No ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA
If the answer is "yes" or "potentially" to any of the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.		
Please add text here….		

ERROR! REFERENCE SOURCE NOT FOUND.ERROR! REFERENCE SOURCE NOT FOUND.		
ERROR! REFERENCE SOURCE NOT FOUND.	Does the project lead to the reduction or negative impact on any recognised Endangered, Vulnerable or Critically Endangered species?	☐ YES ☒ NO
If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		
Please add text here….		
Would the project involve or lead to:		
ERROR! REFERENCE SOURCE NOT FOUND.	distortion of habitats of endangered species?	☐ YES ☐ POTENTIALLY ☒ NA
ERROR! REFERENCE SOURCE NOT FOUND.	If answer to the above question is "yes", does the project plan to protect and enhance them?	☐ YES ☐ POTENTIALLY ☐ NO ☒ N/A
ERROR! REFERENCE SOURCE NOT FOUND.	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA
If the answer is "yes" or "potentially" to any of the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.		
Please add text here….		
ERROR! REFERENCE SOURCE NOT FOUND.ERROR! REFERENCE SOURCE NOT FOUND.		
ERROR! REFERENCE SOURCE NOT FOUND.	Does project introduce any alien species (not currently established in the country or region of the project) into new environments?	☐ YES ☒ NO
If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		
Please add text here….		

Would the project involve or lead to:		
ERROR! REFERENCE SOURCE NOT FOUND.	risk of introducing any alien species with a high risk of invasive behaviour regardless of whether such introductions are permitted under the existing regulatory framework?	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	risk of potential accidental or unintended introductions including the transportation of substrates and vectors (such as soil, ballast, and plant materials) that may harbour alien species.	☐ YES ☐ POTENTIALLY ☒ NO
ERROR! REFERENCE SOURCE NOT FOUND.	risk of spreading alien species into areas in which they have not already been established?	☐ YES ☐ POTENTIALLY ☒ NO
If the answer is "yes" or "potentially" to any of the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.		
Please add text here….		

APPENDIX 2- CONTACT INFORMATION OF VPA IMPLEMENTER

Organisation name	
Registration number with relevant authority	
Street/P.O. Box	
Building	
City	
State/Region	
Postcode	
Country	
Telephone	
E-mail	
Website	
Contact person	
Title	
Salutation	
Last name	
Middle name	
First name	
Department	
Mobile	
Direct tel.	
Personal e-mail	