Gold Standard for the Global Goals

TEMPLATE

MONITORING REPORT

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VERSION **v. 1.1**

RELATED SUPPORT - **TEMPLATE GUIDE Monitoring Report v. 1.1**

This document contains the following Sections

KEY PROJECT INFORMATION

Programme of Activity Information

GS ID of Programme	GS1340
Title of Programme	Efficient cookstoves in Burkina Faso (PoA)
Version of POA-DD applicable to this monitoring report	4
Name and GS ID of fully Validated CPA/VPAs (i.e. non compliance check)	- GS1340 Efficient cookstoves in Burkina Faso – VPA-01 - tiipaalga F3PA cookstoves in Bam and Loroum (GS2456) - GS1340 Efficient cookstoves in Burkina Faso – VPA-02 - tiipaalga F3PA cookstoves in Bam and Loroum (GS3516) - GS1340 Efficient cookstoves in Burkina Faso – VPA-03 - tiipaalga F3PA cookstoves in Bam and Loroum (GS3517) - GS1340 Efficient cookstoves in Burkina Faso – VPA-04 - tiipaalga F3PA cookstoves in Bam and Loroum (GS3518) - GS1340 Efficient cookstoves in Burkina Faso – VPA-05 - tiipaalga F3PA cookstoves in Bam and Loroum (GS3519) - GS1340 Efficient cookstoves in Burkina Faso – VPA-06 - tiipaalga F3PA cookstoves in Bam and Loroum (GS3520) - GS1340 Efficient cookstoves in Burkina Faso – VPA-07 - tiipaalga F3PA cookstoves in Bam and Loroum (GS3521) - GS1340 Efficient cookstoves in Burkina Faso – VPA-08 - tiipaalga F3PA cookstoves in Bam and Loroum (GS3522) - GS1340 Efficient cookstoves in Burkina Faso – VPA-09 - tiipaalga F3PA cookstoves in Bam and Loroum (GS3523) - GS1340 Efficient cookstoves in Burkina Faso – VPA-10 - tiipaalga F3PA cookstoves in Bam and Loroum (GS3524) - GS1340 Efficient cookstoves in Burkina Faso – VPA-11– Tiipaalga – F3PA cookstoves in Kourwéogo (GS6152) - GS1340 Efficient cookstoves in Burkina Faso – VPA-12– Tiipaalga – F3PA cookstoves in Kourwéogo (GS6419) - GS1340 Efficient cookstoves in Burkina Faso – VPA-13– Tiipaalga – F3PA cookstoves in Kourwéogo (GS6420) - GS1340 Efficient cookstoves in Burkina Faso - VPA-14 – Improved cookstove F3PA project in Nahouri (GS10778)

	- GS1340 Efficient cookstoves in Burkina Faso - VPA-15 – Improved cookstove F3PA project in Nahouri (GS10779) - GS1340 Efficient cookstoves in Burkina Faso - VPA-16 – Improved cookstove F3PA project in Nahouri (GS10780) - GS1340 Efficient cookstoves in Burkina Faso - VPA-17 – Improved cookstove F3PA project in Nahouri (GS10781) - GS1340 Efficient cookstoves in Burkina Faso - VPA-18 – tiipaalga F3PA cookstoves in Center-South Protected Areas (GS10922) - GS1340 Efficient cookstoves in Burkina Faso - VPA-19 – tiipaalga F3PA cookstoves in Center-South Protected Areas (GS10923) - GS1340 Efficient cookstoves in Burkina Faso - VPA-20 – tiipaalga F3PA cookstoves in Center-South Protected Areas (GS10924) - GS1340 Efficient cookstoves in Burkina Faso - VPA-21 – tiipaalga F3PA cookstoves in Center-South Protected Areas (GS10925) - GS1340 Efficient cookstoves in Burkina Faso - VPA-22 – tiipaalga F3PA cookstoves in Center-South Protected Areas (GS10926) - GS1340 Efficient cookstoves in Burkina Faso - VPA-23 – tiipaalga F3PA cookstoves in Center-South Protected Areas (GS10927) - GS1340 Efficient cookstoves in Burkina Faso - VPA-24 – tiipaalga F3PA cookstoves in Center-South Protected Areas (GS10928) - GS1340 Efficient cookstoves in Burkina Faso – VPA-25 – Solidagro F3PA cookstoves in Passoré (GS11070) - GS1340 Efficient cookstoves in Burkina Faso – VPA-26 – Solidagro F3PA cookstoves in Passoré (GS11071) - GS1340 Efficient cookstoves in Burkina Faso – VPA-27 – Solidagro F3PA cookstoves in Passoré (GS11072) - GS1340 Efficient cookstoves in Burkina Faso – VPA-28 – Solidagro F3PA cookstoves in Passoré (GS11073) - GS1340 Efficient cookstoves in Burkina Faso – VPA-29 – Improved cookstove F3PA project in Nahouri (GS11074)

Key Project Information

GS ID (s) of Project (s)	- GS10778 (VPA-14) - GS10779 (VPA-15) - GS10780 (VPA-16)

	- GS10781 (VPA-17) - GS11074 (VPA-29)
Title of the project (s) covered by monitoring report	- GS1340 Efficient cookstoves in Burkina Faso - VPA-14 – Improved cookstove F3PA project in Nahouri (GS10778) - GS1340 Efficient cookstoves in Burkina Faso - VPA-15 – Improved cookstove F3PA project in Nahouri (GS10779) - GS1340 Efficient cookstoves in Burkina Faso - VPA-16 – Improved cookstove F3PA project in Nahouri (GS10780) - GS1340 Efficient cookstoves in Burkina Faso - VPA-17 – Improved cookstove F3PA project in Nahouri (GS10781) - GS1340 Efficient cookstoves in Burkina Faso- VPA-29- improved cookstove F3PA project in Nahouri (GS11074)
Version number of the PDD/VPA-DD (s) applicable to this monitoring report	GS10778 (VPA-14): v8.0 GS10779 (VPA-15): v8.0 GS10780 (VPA-16): v8.0 GS10781 (VPA-17): v8.0 GS11074 (VPA-29): v4.0
Version number of the monitoring report	3.0
Completion date of the monitoring report	27/09/2023
Date of project design certification	GS10778 (VPA-14): 12/03/2021 GS10779 (VPA-15): 12/03/2021 GS10780 (VPA-16): 12/03/2021 GS10781 (VPA-17): 12/03/2021 GS11074 (VPA-29): 26/07/2021
Date of Last Annual Report	02/12/2022
Monitoring period number	GS10778 (VPA-14): MP2 GS10779 (VPA-15): MP2 GS10780 (VPA-16): MP2 GS10781 (VPA-17): MP2 GS11074 (VPA-29): MP1
Duration of this monitoring period	GS10778 (VPA-14): 01/01/2021-31/12/2021 GS10779 (VPA-15): 01/01/2021-31/12/2021 GS10780 (VPA-16): 01/01/2021-31/12/2021 GS10781 (VPA-17): 01/01/2021-31/12/2021 GS11074 (VPA-29): 22/02/2021-31/12/2021
Project Representative	Association tiipaalga
Host Country	Burkina Faso

Activity Requirements applied	☒ Community Services Activities ☐ Renewable Energy Activities ☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Methodology (ies) applied and version number	Gold Standard Simplified Methodology for Efficient Cookstoves, v1.0 February 2013
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A

Table 1 - Sustainable Development Contributions Achieved

Sustainable Development Goals Targeted	SDG Impact	Amount Achieved	Units/ Products
SDG 13	Emission reductions	VPA 14: 10,000 tCO2e (12,193 tCO2e) VPA 15: 10,000 tCO2e (12,293 tCO2e) VPA 16: 10,000 tCO2e (12,200) VPA 17: 9,895 VPA 29: 2,599 Total : 42,494	VERs
SDG 1	Parameter #1: Number of leader women (Monitrice endogène) who benefit from microcredit	Parameter #1: 553	Number
	Parameter #2: total amount in FCFA or € of benefit generated by Income Generating Activities which are managed by the leader women (Monitrice	Parameter #2: 10,620€ or 6,898,450 FCFA	€ or FCFA

	endogène) and funded by the microcredit scheme		
SDG 1	Total estimated amount saved by stove users on wood fuel purchase for the group of VPA's	6,418 €	€
SDG 3	Proportion of households perceiving: - less often smoke levels - incidence of coughing - incidence of respiratory illness - incidence of itchy eyes	 100% 100% 100% 100%	Percentage
SDG 4	Number of training initiatives for staff involved in the programme	1	Number
SDG 4	Number of workshops carried out for women for the group of VPA's	124	Number
SDG 5 (Social Empowerment Goals)- Rest and Leisure	Average time saving (in hours) per woman per week	2.3	Hours
SDG 5 (Social Empowerment Goals)- Applied skills and training	Number of person receive training for the construction of improved cook stoves and enhanced their skill	111,790 (89% women)	Number
SDG 5 (Economic Empowerment Goals) – Income and Expenditure	Number of women benefits from micro credit scheme	553	Number
SDG 5 (Economic Empowerment Goals) – Income and Expenditure	Total benefit of income generation activities finances from micro credit scheme	10,620€ or 6,898,450 FCFA	€ or FCFA
SDG 5 (Economic Empowerment	Amount of saving on fuel cost by women	6,418	€

Goals) – Income and Expenditure			
SDG 7	Number of F3PA efficient cookstoves disseminated for the group of VPA's	28,749	Number

Table 2 – Product Vintages

			Amount Achieved
No. VPA	**Start Dates**	**End Dates**	**VERs**
VPA 14	01/01/2021	31/12/2021	10,000
VPA 15	01/01/2021	31/12/2021	10,000
VPA 16	01/01/2021	31/12/2021	10,000
VPA 17	01/01/2021	31/12/2021	9,895
VPA 29	22/02/2021	31/12/2021	2,599

SECTION A. DESCRIPTION OF PROJECT

A.1. General description of project

This project "Improved cookstove F3PA project in Nahouri" consists of 5 micro-scale VPA projects of microscale PoA GS1340 'Efficient cookstoves in Burkina Faso' (ie VPA-14 (GS10778), VPA-15 (GS10779), VPA-16 (GS10780), VPA-17 (GS10781) and VPA-29 (GS11074) implemented by Association tiipaalga. The project promotes the distribution and utilisation of the mud made 3 stones efficient woodstove "F3PA" in the province of Nahouri in the region Centre-South of Burkina Faso. Association tiipaalga ensures the implementation of the project along with local communities/federation in an agreement with Fair Climate Fund, a social enterprise based in the Netherlands.

The F3PA is significantly more efficient than the traditional open fire three stone cooking method[1]. The project will thus help reduce wood consumption by more than half in each household and therefore preserve the local forests and their biodiversity. This will also help to combat the ever-increasing threat of desertification in the area. The efficient F3PA cookstoves replace the traditional stove whilst respecting the local three stone cooking culture. This is possible as the efficient F3PA cookstove, seen in the figure below, integrates the three stones from each household inside its design. These three stones represent the pillar of the household's marital union. The F3PA has further benefits like the reduction of harmful smoke in the local rural village households and the reduction of time spent in collecting wood. The project does not consist of a fuel switch as locally available wood is still being used.

Figure 1 Foyer Trois Pierre Amélioré "F3PA"

The project's approach involves training of women in the rural zones to build, use and maintain these efficient cookstoves themselves using local material. The training includes education on hygienic usage and on the threat of climate change and health hazards related to the old cooking system and inform on the health and environmental benefits of using such efficient cookstoves.

In addition to Gold Standard, the project will further certify under Fairtrade Climate Standard which would lead in a positive certification statement to the generation of Fairtrade Carbon Credits.
During this second monitoring period, a total of 12,690 households of the province Nahouri were equipped with F3PA efficient cookstoves. It is estimated that the project with VPAs VPA-14 (GS10778), VPA-15 (GS10779), VPA-16 (GS10780), VPA-17

[1] Rapport sur les tests de performances énegétiques des Foyers trois pierres améliorés (F3PA) de l'association Tiipaalga, Laboratoire Biomasse Energie et Biocarburnat de 2IE, Ouagadougou, July 2015 (see document « tiipaalga_Rapport de tests de performance énergétiques_F3PA_24_07_2015_VF.pdf »)

(GS10781) and VPA-29 (GS11074) has generated 42,494 tonnes of CO2eq emission reductions.

A.2. Location of project

- Host country: Burkina Faso
- Province: Nahouri
- Municipalities: Gniaro, Po and Tiebele
- Geographical location :

Municipality	Latitude	Longitude
Gniaro	11.376693	-1.378716
Po	11.167318	-1.144338
Tiébélé	11.097657	-0.965403

- Map:

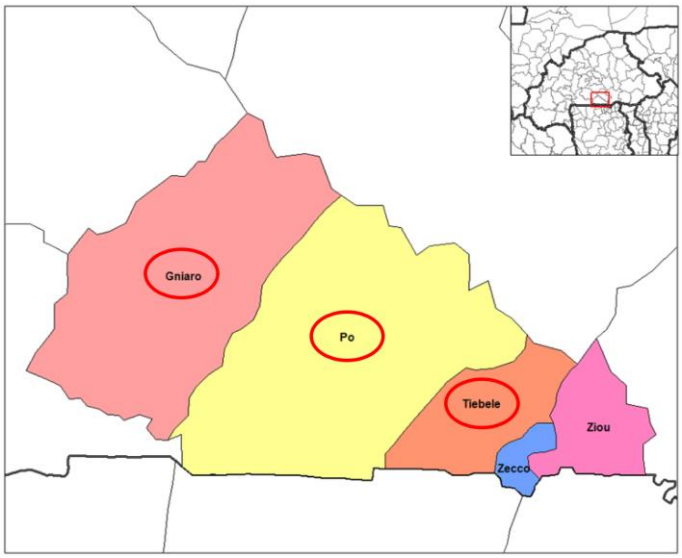

Figure 2 Location of project intervention area - 3 municipalities of Nahouri province

A.3. Reference of applied methodology

"The Gold Standard Simplified Methodology for Efficient Cookstoves", version 1.0

A.4. Crediting period of project

GS10778 (VPA-14): 29/02/2020-28/02/2030 (10 years)

GS10779 (VPA-15): 03/03/2020-02/03/2030 (10 years)

GS10780 (VPA-16): 05/03/2020-04/03/2030 (10 years)

GS10781 (VPA-17): 10/03/2020-09/03/2030 (10 years)

GS11074 (VPA-29): 22/02/2021- 21/02/2031 (10 years)

SECTION B. IMPLEMENTATION OF PROJECT

B.1. Description of implemented project

The implemented project is a group of five VPA's, i.e. VPA-14 (GS10778), VPA-15 (GS10779), VPA-16 (GS10780), VPA-17 (GS10781) and VPA-29 (GS11074). The implementation of VPAs 14, 15, 16 and 17 started in 2020, while VPA 29 started in 2021. The project activities have served the following number of households with F3PA efficient cookstoves with a corresponding calculated GHG offsets generated during the second monitoring period for VPA-14-17 and the first monitoring period for VPA-29:

GS/VPA number	Number of households	Dissemination calendar	Generated VER's this MP
GS10778/ VPA-14	3,017	29/02/2020-03/06/2020	10,000
GS10779/ VPA-15	3,036	03/03/2020-05/06/2020	10,000
GS10780/ VPA-16	3,017	05/03/2020-29/06/2020	10,000
GS10781/ VPA-17	2,840	10/03/2020-05/06/2021	9,895
GS11074/ VPA-29	780	22/02/2021-10/08/2021	2,599

B.1.1 Forward Action Requests

The Forward Action Requests for VPA 14 to 17 & 29 were

Forward Action Request # 1: The scanned stoves installation receipts with English translation for the waiver for the transfer of credit to the project shall be submitted prior to 1st verification.

- ➔ The carbon waiver contracts signed with the first eligible installed stove for each VPA are made available in the following documents:
  - VPA 29: *'VPA29-1401-01 et 02'*

Forward Action Request # 2: Evidence of project start date shall be checked at 1st verification. Stoves installed more than one year prior to project submission date to sustain cert shall not be included in the VPAs.

➔ The date of first submission of documents for preliminary review is 26/02/2021. First stove for VPA 29 have been installed have been installed less than one year of first submission[2].

Forward Action Request # 3: The PD shall record the baseline fuel for all users during the monitoring survey.

➔ The question regarding the type of fuel used for domestic cooking before the installation of the F3PA was included in the monitoring survey[3]. It appears that 100% of the surveyed households were using wood as fuel for domestic cooking during rainy and dry seasons before the start of the project.

B.2. Post-Design Certification changes

B.2.1. Temporary deviations from the approved Monitoring & Reporting Plan, methodology or standardized baseline

No temporary deviations have been made during this monitoring period.

B.2.2. Corrections

No corrections to project information or fixed parameters have been applied.

B.2.3. Changes to start date of crediting period

As defined in PDD pg. 48, footnote: "The start date of the crediting period corresponds to the installation date (registered in project database), which is 7 days after the construction date. The installation date is to be considered as the first date of usage of the F3PA efficient cookstove and thus start date of crediting period". The start dates of crediting periods have been revised and evidence of the new starting dates per VPA can be found in the different contracts signed with the households with the first date of usage per VPA:

- VPA 29 - Martine - 1401 – Tatanbie Adjedipiou (installation 22/02/2020)[4] ;

The start dates of crediting period changed compared to the VPA-DDs and are as follows for the VPAs:

[2] See contract 'VPA29-1401-01 et 02'. The construction date in the contract is 15/02/2021, whereas the installation date (registered in project database) is 22/02/2021, which is 7 days after the construction date. The installation date is to be considered as the first date of usage of the F3PA efficient cookstove and thus start date of crediting period.
[3] See document: '*GS1340_MS_VPA_14-17_29_MP2_20210419*'/ Tab 'Analysis', see line 84-89 and line 98-102.
[4] See document: 'VPA29-1401-01 et 02'

GS/VPA number	Initial start date of VPA from PDD	Start date of VPA
GS10774/ VPA-29	01/11/2020	22/02/2021

B.2.4. Permanent changes from the Design Certified monitoring plan, applied methodology or applied standardized baseline

No permanent changes have been made for this monitoring period.

B.2.5. Changes to project design of approved project

No changes to the project design have been made during this monitoring period.

SECTION C. DESCRIPTION OF MONITORING SYSTEM APPLIED BY THE PROJECT

Process of unique identification of stove users:

Significant part of the households in the project area are polygamous. Most of the wives within a household included in the carbon project have a cookstove set of at least two F3PA efficient cookstoves of different sizes. The project cookstoves are single pot stoves. As every cooking pot size has its specific size of cookstove, different sizes of project cookstoves have been implemented according to the cooking habits of the stove users. The sizes of the cooking pots and so the cookstoves used in the VPA's are 2, 3, 4, 5, 6, 7, 8, 10, 12 and 15 due to its frequency of utilization. The women using different cookstove sets in a polygamous household are credited as one single household.
The individual identification of the micro scale – VPA's is ensured with the identification of each household and each wife within the household using the project cookstoves by a unique serial number referring to the micro scale VPA 14, VPA 15, VPA 16, VPA 17 or VPA 29. The syntax of the unique serial number is defined as GS1340-VPA-xx-yyyy/z, where (i) GS1340 is the Gold Standard number of the PoA "Efficient cookstoves in Burkina Faso" to which the VPA belongs, (ii) VPA-xx is the number of the VPA of the PoA, (iii) yyyy is the number of the household from 1 to 9999 and (iv) z is the number of the wife in the household from 1 to 9.
The following information is documented for each household of which each wife of the household (when polygamous) has replaced all traditional three stones cookstoves for domestic use with project cookstoves:

i. Unique VPA ID number of each household and each wife within the household;
ii. Type and size of appliance (ex. F3PA – size 2);
iii. GPS Coordinates of the household;
iv. Name/Address/national ID Number/Mobile Number/Picture of wife with her project cookstoves;
v. Stove Installation Date.

All data are stored in an electronic database using AKVO Flow software (www.akvo.org). The following files are raw data files of data stored in the cloud:

- '*GS1340_VPA14-17_MP2_VPA 29_MP1_DR_HH_20220330*': distribution records (DR) of households with the following data:
  - Identifier (Unique internal ID number);
  - GS number: GS PoA-nr / VPA-nr / Household nr;
  - Location info;
  - Data on head of household.
- '*GS1340_VPA14-17_MP2_VPA 29_MP1_DR_ICS_20220330'*: data on wives and type of stoves used per wife within the household with the following data:
  - Identifier (Unique internal ID number) which is the unique key to household info ('*GS1340_VPA14-17_MP2_VPA 29_MP1_DR_HH_20220330*'):
  - Identification data per wife: name, picture of wife with her stoves;

- Data on stoves used per wife: size of stoves, installation dates of each stove, location of stoves, …

The start of the crediting period of each household is considered as the latest installation date of all stoves within the cooking sets of the different wives within the household (see file '*GS1340_VPA14-17_MP2_VPA 29_MP1_DR_Recent date_20220330*'). For each household, the number of days in age group 0-1 and age group 1-2 are calculated based on this date.

Data concerning double counting:

The project developer tiipaalga monitors any risks of double counting in this project, specifically determining whether any of the efficient cookstoves part of this project are counted in any other emission reduction project. There are other registered GHG reduction projects in Burkina Faso promoting the F3PA efficient cookstoves. Among those, one project is implemented in the north of Burkina Faso, in the provinces of Bam and Loroum, ie VPA-01 to 10 GS2456 and GS3516 to GS3524 under the same PoA GS1340. Another project under this PoA is located in the province Kourwéogo in the Plateau Central region (VPA-11 to 13, GS6152-6419-6420) and a third project is located in the provinces of Nahouri and Zoundwéogo (VPA-18 to 24, GS10922 to GS10928). Those projects are also monitored by tiipaalga, that ensures there is no double counting. Lastly, there is also a project in Passoré (VPA 25-28, GS11070 to GS11073) under the same PoA lead by Solidagro, but this is in a different province than the current project and therefore there is no risk of double counting. Association tiipaalga is also aware of another cookstove project[5] in Burkina Faso registered under the Gold Standard. However, this project promotes a different kind of stoves rather for non-domestic cooking purposes.
Association tiipaalga continues to monitor whether any other projects with same technology exist. In such cases, tiipaalga will make every effort to compare total distribution databases with the other project developer(s) to ensure that there is no overlap. In addition, the project continues to use all legal documentation outlined in the VPA-DD to ensure legal ownership over offsets, a step that further avoids double counting.

Data processing and archiving:
Distribution records are captured with Smartphones using the AKVO Flow software with necessary pictures and GPS coordinates. Monitoring data are extracted to Microsoft Excel for analyses. Records will be kept for two years after the project activity is completed.

Quality assurance and quality control measures

[5] The project (https://registry.goldstandard.org/projects/details/665) is an initiative of SNV, the Netherland Development Organization, to promote improved "dolo" stoves in the Boucle du Mouhoun Region of Burkina Faso. These stoves are used for brewing of "Dolo", a traditional local drink made from sorghum which is is consumed during any ceremony, rituals, festivities and non-special occasions.

Quality control rules were developed for the F3PA efficient cookstoves and were explained during the stove construction trainings. Quality control rules included in the construction protocol of the F3PA efficient cookstove are among others:

- It should be possible to move a hand between the wall of the cookstove and the cookpot;
- The height of the wood entrance of the cookstove is at most half the total height of the cookstove;
- The distance between the cooking pot and floor of cookstove should either not be higher than a hand or the handles of the cooking pot should be higher than the wall of the cookstove.

During monitoring surveys the F3PA efficient cookstoves are evaluated with the following statuses:

- *Green:* the construction norms have been respected and the F3PA efficient cookstove does not need any maintenance action. It means that (i) the outer surface of the F3PA efficient cookstove are not washed by rain, (ii) there is no hole in the floor of the efficient stove;
- *Orange:* the construction norms have been respected, but the efficient cookstove has not well been maintained. It concerns F3PA efficient cookstoves (i) from which the outer surface has been washed by rain and that need re-polishing; (ii) that have some cracks, but which are external and do not affect the quality of the combustion of the wood. For these cases, the application of the reparation protocol will fix the cracks and repolish the surface, so that the status will turn again into green.
- *Red:* the construction norms are not respected, or the F3PA efficient cookstoves have not been well maintained or used in a proper way. If the F3PA efficient cookstove has not been well constructed, the cookstove will not be registered in the initial database. A red cookstove needs to be reconstructed.

Orange cookstoves will be monitored, so that the maintenance activities of these stoves bring them again in green status. If these maintenance activities do not take place, they probably will in the short term, get into the red status. Orange F3PA efficient cookstoves are considered to have the same efficiency as the green F3PA efficient cookstoves of the same age group. The red F3PA efficient cookstoves will be monitored, as long as the cookstove has not been reconstructed. After reconstruction, the status of the F3PA efficient cookstove will turn to green. Red F3PA efficient cookstoves do not have the targeted efficiency of the F3PA efficient cookstove anymore, and so are not considered in the emission reduction calculations as long as they are not reconstructed.

Diagram of responsibilities

As there are several entities involved in initial data collection and project monitoring it is important to clearly designate the relationships between and responsibilities of entities. Tiipaalga will act as the managing entity of the project and be responsible for communication with the Gold Standard Foundation and the Objective Observer. CO2logic provides technical support in the initial data collection, data quality assurance,

monitoring, drafting of the verification report. A diagram of responsibilities is shown here below.

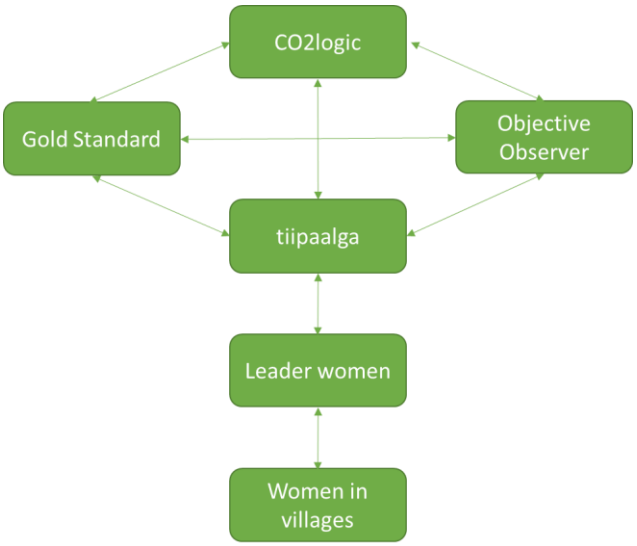

Figure 3 Diagram of responsibilities

Employees from Association tiipaalga train leader women, who are selected by the women in the villages, for the construction, the use and maintenance of mud made 3 stones efficient woodstoves. These leader women conduct the same training sessions with the women in their villages and help them to build the cookstoves. tiipaalga employees in collaboration with the leader women, will perform quality checks and collect the initial stove data.

End user information is collected by tiipaalga agents with mobile smartphone and is consolidated into an electronic database in the cloud from which project monitoring can be conducted. The central electronic database is accessible by tiipaalga and CO2logic. Data can be made available through data extraction. CO2logic performs quality checks. Monitoring tasks such as monitoring surveys are managed by tiipaalga and realized by the tiipaalga surveyors. They are the most capable of collecting these data because of extensive knowledge of the technology and end-users. The tiipaalga surveyors are trained and retrained prior conducting surveys during a 2-days training session which was this year conducted from 18/03/2022 till 19/03/2022[6]. CO2logic assists tiipaalga in cross-checking the integrity of data with other variables to ensure consistency and accuracy, and to avoid mistakes.

[6] Report of the training session, see document: 'NAHOURI_FormationRapport'.

SECTION D. DATA AND PARAMETERS

D.1. Data and parameters fixed ex ante or at renewal of crediting period

Relevant SDG Indicator	SDG 13, Climate Action
Data/parameter:	**$EF_{b,fuel,CO2}$**
Unit	tCO2/ton of firewood
Description	CO2 emission factor arising from use of firewood in baseline scenario
Source of data	IPCC default value, table 1.4 of Chapter 1 of Vol.2, 2006 IPCC Guidelines for National Greenhouse Gas Inventories
Value(s) applied)	1.747 tCO2/ton of firewood
Choice of data or measurement methods and procedures	As defined under the Gold Standard Simplified Methodology for Efficient Cookstoves v1.0
Purpose of data	Calculation of emission reductions
Additional comments	N/A

Relevant SDG Indicator	SDG 13, Climate Action
Data/parameter:	**$EF_{b,fuel,non\_CO2}$**
Unit	tCO2/ton of firewood
Description	Non-CO2 emission factor arising from use of firewood in baseline scenario
Source of data	IPCC Fifth Assessment Report: Climate Change (IPCC AR5)
Value(s) applied)	0.58 tCO2/ton of firewood
Choice of data or measurement methods and procedures	From rule update: Applicability of Global Warming Potential for Gold Standard For The Global Goals Projects (06/03/2021).
Purpose of data	Calculation of emission reductions
Additional comments	N/A

Relevant SDG Indicator	SDG 13, Climate Action
Data/parameter:	**η_b**
Unit	Fraction
Description	Efficiency of the cookstove being used in the baseline scenario

Source of data	Gold Standard Simplified Methodology for Efficient Cookstoves v1.0
Value(s) applied)	0.10
Choice of data or measurement methods and procedures	As defined under the Gold Standard Simplified Methodology for Efficient Cookstoves v1.0
Purpose of data	Calculation of emission reductions
Additional comments	N/A

Relevant SDG Indicator	**SDG 13, Climate Action**
Data/parameter:	η_p
Unit	Fraction
Description	Efficiency of the cookstove being used in the project scenario
Source of data	Determined following the Water Boiling Test Protocol
Value(s) applied)	0.234[7]
Choice of data or measurement methods and procedures	As defined under the Gold Standard Simplified Methodology for Efficient Cookstoves v1.0
Purpose of data	Calculation of emission reductions
Additional comments	For each wife of one household included in the VPA, at least two efficient cookstoves of the defined project sizes 2, 3, 4, 5, 6, 7, 8, 10, 12 and 15 will be installed according to the local cooking habits. Each size of project cookstove is tested according to the WBT protocol. To determine the project cookstove efficiency of one particular size, three sample runs have been carried out on one randomly selected project cookstove. The average of the three results is taken as the efficiency for the project cookstove of this particular size. The lowest value of project cookstove efficiency of the various sizes is taken as reference value for the efficiency

[7] Rapport sur les tests de performances énergétiques des Foyers trois pierres améliorés (F3PA) de l'association Tiipaalga, Laboratoire Biomasse Energie et Biocarburant de 2IE, Ouagadougou, July 2015 (see document « tiipaalga_Rapport de tests de performance énergétiques_F3PA_24_07_2015_VF.pdf » or in English : « tiipaalga_Report WBT thermal efficiency_F3PA_24_07_2015_VF_EN »)

	of the cookstoves being used in the project scenario to calculate the emission reductions. The project cookstove efficiency in the year y $\eta_{p,y}$ will be determined using the discount factor DF_{η} to account for efficiency loss of project cookstove per year of operation (fraction).

Relevant SDG Indicator	**SDG 13, Climate Action**
Data/parameter:	**$f_{NRB,b,y}$**
Unit	Fractional non-renewability
Description	Non-renewability status of wood fuel during year y
Source of data	Default NRB value provided by the CDM executive board and endorsed by the host country DNA (http://cdm.unfccc.int/DNA/fNRB/docs/burkina.pdf)
Value(s) applied)	0.90
Choice of data or measurement methods and procedures	As defined under the Gold Standard Simplified Methodology for Efficient Cookstoves v1.0
Purpose of data	Calculation of emission reductions
Additional comments	The project activity may choose to update the $f_{NRB,b,y}$ during the crediting period

Relevant SDG Indicator	**SDG 13, Climate Action**
Data/parameter:	**$B_{b,y}$**
Unit	Tonnes firewood per household per year
Description	Firewood consumption for cooking in the baseline
Source of data	Baseline field performance test approved during PDD validation. See document: '*GS1340_Tiipaalga_VPA14-17_BFPT_20201026_Analysis*'
Value(s) applied)	3.94
Choice of data or measurement methods and procedures	Option d of Field Performance Test has been chosen to determine the firewood consumption for cooking in the baseline.
Purpose of data	Calculation of emission reductions
Additional comments	The baseline performance field test (BFT) measures real, observed performance of the baseline cookstove in the field.

	Consumption is measured with a representative sample of end users under each defined baseline scenario using the baseline cookstove. A 90/10 confidence/precision must be met to use the mean value for baseline fuel consumption. In case of sampling across VPA's 95/10 confidence precision must be met. A minimum sample size of 30 is recommended. The Baseline Field Performance Test has been conducted between 02/02/2020 and 20/02/2020 in 10 randomly selected villages from the 80 villages located in the project boundary, i.e. the municipalities of Po, Tiébélé and Guiaro. The 3 municipalities included in the 5 VPAs are very close to each other (furthest distance of 80 km). The total surface of the province Nahouri where all 3 municipalities of the project boundary are located, is 3,754 km2. The villages are characterized by similar socio-economic conditions. Within each of the 10 village 11 households were randomly selected to meet the 95/10 confidence precision requirement for the mean value for baseline fuel consumption in the Baseline Field Performance Test for cross VPA's.

D.2 Data and parameters monitored

Relevant SDG Indicator	**SDG 1, No poverty**
Data/ Parameter	**Parameter #1: Number of leader women (Monitrice endogène) who benefit from microcredit** **Parameter #2: Total benefit from Income Generating activities financed through the microcredit scheme for the group of VPA's**
Unit	Parameter #1: N.A. Parameter #2: € or FCFA
Description	Parameter #1: Number of leader women (Monitrice endogène) who benefit from microcredit during the monitoring period Parameter #2: total amount in FCFA or € of benefit generated by Income Generating Activities which are managed by the leader women (Monitrice endogène) and funded by the microcredit scheme
Source of data	Report on the implementation of the microcredit scheme. See document: '*Rapport d'étape de Mise en place_Micro Crédit_2021_Nahouri_Revu_RESE _FR*' and '*Rapport d'étape de Mise en place_Micro Crédit_2021_Nahouri_Revu_RESE_EN Translation*'
Value(s) applied	Parameter #1: 553 Parameter #2: 10,620€ or 6,898,450 FCFA

Measurement methods and procedure	The measurement of both parameters is based on quantitative information collected in the reports regarding the microcredit scheme.
Monitoring frequency	After each implementation phase of the microcredit scheme
QA/QC procedures	The data is analyzed in the reports regarding the microcredit scheme made available for review.
Purpose of data	Calculation of the parameters "Number of leader women (Monitrice endogène) who benefit from microcredit" and "Total benefit from Income Generating activities financed through the microcredit scheme"
Additional comment	A total of 11,000,000 FCA or 16,765 € has been granted to 553 leader women within 20 villages (9 in the municipality of Pô and 11 in the municipality of Tiébélé). The following tables summarize the details regarding the microcredit scheme implemented after this monitoring period (February 2021).

- *Municipality of Pô*

Villages	Number of Leader women	Granted amount (FCFA)	Total benefit
Yaro	27	689,900	1,172,000
Bourou	20	645,500	1,140,000
Adongo	30	731,500	1,113,500
Tiakané	26	555,000	758,250
Songo 1	28	550,000	893,000
Pounkouyan	28	562,000	848,500
Langouerou	34	550,000	1,042,500
Gougogo	25	616,000	922,400
Badongo	41	2,256,000	2,650,000

- *Municipality of Tiébélé*

Villages	Number of Leader women	Granted amount (FCFA)	Total benefit
Kaya navio	28	610,000	804,800
Kaya-korso	28	660,000	853,400
Kya-fabolo	28	604,000	715,000
Idenia kora	24	1,105,000	1,617,500
Tiyalo	29	1,437,500	1,880,500
Lo-moulnia	28	1,039,000	1,421,000
KASSOLA	19	690,500	927,000
DOUABIE	18	584,000	900,500
KASSIRI	29	855,000	1,116,500
Coumpougbie	30	1,331,000	1,824,000

	<table><tr><td>Ballerbie II</td><td>33</td><td>844,000</td><td>1,214,000</td></tr></table> More details and the original tables can be found in documents: *'Rapport d'étape de Mise en place_Micro Crédit_2021_Nahouri_Revu_RESE _FR'* and *'Rapport d'étape de Mise en place_Micro Crédit_2021_Nahouri_Revu_RESE_EN Translation'*

Relevant SDG Indicator	**SDG 1, No poverty**
Data/ Parameter	**Total estimated amount saved by stove users on wood fuel purchase for the group of VPA's** Various expenses which women do after saving money required for the purchase of wood: i. School fees$_p$; ii. Purchase of medical drugs$_p$; iii. Purchase of food$_p$; iv. Investment for field crops$_p$; v. Purchase of equipments$_p$; vi. Income generating activities$_p$; vii. Savings$_p$.
Unit	€ or FCFA
Description	Total estimated amount in FCFA or € saved by the stove users on wood fuel purchase during the monitoring period i. School fees$_p$: Proportion of stove users using their saved money to school fees; ii. Purchase of medical drugs$_p$: Proportion of stove users using their saved money to purchase of medical drugs; iii. Purchase of food$_p$: Proportion of stove users using their saved money to iv. Investment for field crops$_p$: Proportion of stove users using their saved money to investments for field crops; v. Purchase of equipments$_p$: Proportion of stove users using their saved money to purchase of equipments; vi. Income generating activities$_p$: Proportion of stove users using their saved money to income generating activities; vii. Savings$_p$: Proportion of stove users using their saved money to savings.
Source of data	Monitoring survey, see document *'GS1340_MS_VPA14-17_MP2_VPA 29_MP1_20220809_ANALYSIS'*.
Value(s) applied	4,210,335 FCFA or 6,418 € Proportion of the usage of saved money: i. School fees$_p$: 100% ii. Purchase of medical drugs$_p$: 88% iii. Purchase of food$_p$: 100% iv. Investment for field crops$_p$: 0%

	v. Purchase of equipments$_p$: 0% vi. Income generating activities$_p$: 50% vii. Savings$_p$: 0%
Measurement methods and procedure	The measurement of the parameter is based on quantitative information collected during Monitoring surveys. The end users are asked whether they purchase wood fuel and if so, how much they spend on yearly basis. The result is extrapolated is on all stove users within the group of VPA's.
Monitoring frequency	Annual
QA/QC procedures	The data will be analysed in the monitoring report and raw data of the Monitoring surveys will be made available for review.
Purpose of data	Calculation of the parameter "Total estimated amount saved by stove users on wood fuel purchase"
Additional comment	N/A

Relevant SDG Indicator	**SDG 3, Good health and well-being**
Data/ Parameter	Proportion of households perceiving: **Smoke level reduction** **Incidence of coughing reduction** **Incidence of respiratory illness reduction** **Incidence of itchy eyes reduction**
Unit	Fraction
Description	Proportion of households perceiving less often smoke levels, incidence of coughing, incidence of respiratory illness, incidence of itchy eyes since the implementation of F3PA efficient cookstoves
Source of data	Monitoring survey, see document '*GS1340_MS_VPA14-17_MP2_VPA 29_MP1_20220809_ANALYSIS*'.
Value(s) applied	Proportion of households perceiving: Smoke level reduction: 100% Incidence of coughing reduction: 100% Incidence of respiratory illness reduction: 100% Incidence of itchy eyes reduction: 100%
Measurement methods and procedure	The measurement of the parameter is based on qualitative information collected during Monitoring surveys. The end users are asked whether, since they have the F3PA efficient cookstoves, smoke level occurs for each more often, less often among the family members or the situation has not changed. The same is asked for coughing, respiratory illnesses and itchy eyes.
Monitoring frequency	Annual
QA/QC procedures	The data is analyzed in the monitoring report and raw data of the Monitoring surveys is made available for review.
Purpose of data	Calculation of the parameter "Proportion of households perceiving less often smoke levels, incidence of coughing, incidence of respiratory illness, incidence of itchy eyes"

Additional comment	N.A.

Relevant SDG Indicator	SDG 4, Quality Education
Data/ Parameter	**Number of training initiatives for staff involved in the programme**
Unit	Number
Description	Number of training initiatives for staff involved in the programme in order to increase their performance in the programme
Source of data	Reports regarding the training initiatives See document '*NAHOURI_FormationRapport_ENGremarks.pdf*'
Value(s) applied	1
Measurement methods and procedure	The list of training initiatives during the corresponding monitoring period
Monitoring frequency	Annual
QA/QC procedures	The data is analyzed in the reports regarding the training initiatives, which is made available for review
Purpose of data	Calculation of the parameter "Number of trainings initiatives for staff involved in the programme"
Additional comment	Starting Friday 18th of March, three surveyors received a 2-day training. The purpose of the training was to teach the fundamentals of the usage survey with a theoretical and practical phase and to familiarize with the used tools (Akvo software). The surveyors were ultimately able to collect quality data from the households on the field for the purpose of the monitoring survey. More details regarding the training and the participants list can be found in document: '*NAHOURI_FormationRapport_ENGremarks.pdf*'.

Relevant SDG Indicator	SDG 4, Quality Education
Data/ Parameter	**Number of workshops carried out for women for the group of VPA's**
Unit	Number
Description	Number of workshops carried out for women in order to increase their empowerment
Source of data	Reports regarding the workshops carried out for women. Complete summary can be found in document '*Synthèse animations-formations projets carbone_NAHOURI*'
Value(s) applied	124
Measurement methods and procedure	The list of workshops carried out for women during the corresponding monitoring period
Monitoring frequency	Annual

QA/QC procedures	The data is analyzed in the reports regarding the workshops carried out for women, which is made available for review
Purpose of data	Calculation of the parameter "Number of workshops carried out for women"
Additional comment	Two types of workshops were organized: i) sensitization workshops; and ii) training workshops of leader women for the construction of F3PA efficient cookstoves. During the sensibilization sessions stove users are informed about the advantages of the project cookstoves for the climate and desertification of the project area, tiipaalga's activities, on how the banco or mud should be prepared for the construction of the cookstoves etc. During training sessions leader women are trained on how the F3PA efficient cookstoves should be constructed. In total, 11,790 participants were present during the workshops; 89% of which were women. A complete summary of the different sessions can be found in document : '*Synthèse animations-formations projets carbone_NAHOURI'*. The following table gives an overview of the number of sessions and number of participants:

Municipality	Sensitization sessions		Training workshops of leader women		Total	
	# sessions	# participants	# sessions	# participants	# sessions	# Participants
Pô	7	683	2	105	9	788
Tiébélé	64	5,360	26	1,437	90	6,797
Guiaro	20	2,271	5	1,934	25	4,205
Total	**91**	**8,314**	**33**	**3,476**	**124**	**11,790**

Evidence of the sensitization sessions and training workshops can be shared upon request.

Relevant SDG Indicator	SDG 5, Gender equality
Data/ Parameter	**Gender Responsive Indicator under Social Empowerment Goals – Rest and Leisure** **Average time saving (in hours) per woman per week** Various activities which women spend after saving time required for collecting fuel wood: (i) Domestic tasks$_p$; (ii) Income generating activities$_p$; (iii) Field labour$_p$; (iv) Gardening$_p$; (v) Participation to a literacy program$_p$; (vi) Community work$_p$; (vii) Religious activities$_p$.

Unit	Hours/week
Description	Average time saving (in hours) on wood fuel collection per woman per week during the monitoring period. Proportion of stove users using their saved time to do: i) Domestic tasks$_p$ = Proportion of stove users using their saved time to do domestic tasks ii) Income generating activities$_p$ = Proportion of stove users using their saved time to do income generating activities iii) Field labour$_p$ = Proportion of stove users using their saved time to do field labour iv) Gardening$_p$ = Proportion of stove users using their saved time to do gardening v) Participation to a literacy program$_p$ = Proportion of stove users using their saved time to participate to a literacy program vi) Community work$_p$ = Proportion of stove users using their saved time to do community work vii) Doing nothing$_p$ = Proportion of stove users using their saved time to do nothing viii) Religious activities$_p$ = Proportion of stove users using their saved time to do religious activities ix) Leisure$_p$ = Proportion of stove users using their saved time to do leisure
Source of data	Monitoring survey, see document '*GS1340_MS_VPA14-17_MP2_VPA 29_MP1_20220809_ANALYSIS*'.
Value(s) applied	Average time saving (in hours) on wood fuel collection: 2.3 hours/week. Proportion of stove users using their saved time to do: i. Domestic tasks$_p$: 100% ii. Income generating activities$_p$: 64% iii. Field labour$_p$: 55% iv. Gardening$_p$: 4% v. Participation to a literacy program$_p$: 0% vi. Community work$_p$: 1% vii. Doing nothing$_p$: 0% viii. Religious activities$_p$: 0% ix. Leisure: 0%
Measurement methods and procedure	The measurement of the parameter is based on quantitative information collected during Monitoring surveys. The end users are asked, how much time they spent collecting wood fuel for domestic cooking since they have the F3PA efficient cookstoves.
Monitoring frequency	Annual
QA/QC procedures	The data is analyzed in the monitoring report and raw data of the Monitoring surveys is made available for review.

Purpose of data	Calculation of the parameter "Average time saving (in hours) on wood fuel collection per woman per week during the monitoring period"
Additional comment	In order to be conservative, the smallest value is chosen between the monitoring survey and the PDD baseline survey baseline average time spent per week per woman on wood fuel collection. The reason is that during the monitoring interviews the surveyed households tend to have difficulties to evaluate the time spent for wood collection prior to the use of the ICS (i.e. sometimes more than one year ago). In this case, the baseline value based on the monitoring survey was the most conservative (5h instead of 5.8h for the baseline survey). For the project value, the monitoring survey value is taken since this is the only project value based on survey data.

Relevant SDG Indicator	**SDG 5, Gender Equality**
Data/ Parameter	**Gender Responsive Indicators under Social Empowerment Goals – Applied Skills and training** • Number of people (% women) receive training for the construction of improved cookstoves and enhanced their skill
Unit	Number
Description	Number of person participated in the workshop in order to increase their empowerment
Source of data	Reports regarding the workshops carried out for women. Complete summary can be found in document 'Synthèse animations-formations projets carbone_NAHOURI'.
Value(s) applied	11,790 (89% were women and 11% men)
Measurement methods and procedure	The list of workshops carried out for women during the corresponding monitoring period
Monitoring frequency	Annual
QA/QC procedures	The data is analyzed in the reports regarding the workshops carried out for women, which is made available for review
Purpose of data	Calculation of the parameter "Number of person receive applied skills and training"
Additional comment	Two types of workshops were organized: i) sensitization workshops; and ii) training workshops of leader women for the construction of F3PA efficient cookstoves. During the sensibilization sessions stove users are informed about the advantages of the project cookstoves for the climate and desertification of the project area, tiipaalga's activities, on how the banco or mud should be prepared for the construction of the cookstoves etc. During training sessions leader women are trained on how the F3PA efficient cookstoves should be constructed. In total, 11,790 participants were present during the workshops; 89% of

which were women. A complete summary of the different sessions can be found in document : '*Synthèse animations-formations projets carbone_NAHOURI*'.
The following table gives an overview of the number of sessions and number of participants:

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Total	**91**	**8,314**	**33**	**3,476**	**124**	**11,790**

Evidence of the sensitisation sessions and training workshops can be shared upon request.

Relevant SDG Indicator	**SDG 5, Gender Equality**
Data/ Parameter	**Gender Responsive Indicators under Economic Empowerment Goals – Income & Expenditure** • Indicator 1 - Number of women benefits from micro credit scheme • Indicator 2 - Total benefit of income generation activities finances from micro credit scheme • Indicator 3 - % Amount of saving on fuel cost by women
Unit	Indicator #1: Number Indicator #2: € or FCFA Indicator#3 : € or FCFA
Description	Indicator #1: Number of women benefits from micro credit scheme Indicator #2: Total benefit of income generation activities finances from micro credit scheme Indicator #3: % Amount of saving on fuel cost by women
Source of data	Report on the implementation of the microcredit scheme. See document: '*Rapport d'étape de Mise en place_Micro Crédit_2021_Nahouri_Revu_RESE _FR*' and '*Rapport d'étape de Mise en place_Micro Crédit_2021_Nahouri_Revu_RESE_EN Translation*'
Value(s) applied	Indicator #1: 553 Number Indicator #2: 10,620€ or 6,898,450 FCFA Indicator #3: 6,418 Euros

Measurement methods and procedure	The measurement of all the indicators are based on quantitative information collected in the reports regarding the microcredit scheme.
Monitoring frequency	After each implementation phase of the microcredit scheme
QA/QC procedures	The data is analyzed in the reports regarding the microcredit scheme made available for review.
Purpose of data	Calculation of the parameters Indicator #1: Number of women benefits from micro credit scheme Indicator #2: Total benefit of income generation activities finances from micro credit scheme Indicator #3: % Amount of saving on fuel cost by women
Additional comment	A total of 11,000,000 FCA or 16,765 € has been granted to 553 leader women within 20 villages (9 in the municipality of Pô and 11 in the municipality of Tiébélé). The following tables summarize the details regarding the microcredit scheme implemented after this monitoring period (February 2021).

- *Municipality of Pô*

Villages	Number of Leader women	Granted amount (FCFA)	Total benefit
Yaro	27	689,900	1,172,000
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Pounkouyan	28	562,000	848,500
Langouerou	34	550,000	1,042,500
Gougogo	25	616,000	922,400
Badongo	41	2,256,000	2,650,000

- *Municipality of Tiébélé*

Villages	Number of Leader women	Granted amount (FCFA)	Total benefit
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Kaya-korso	28	660,000	853,400
Kya-fabolo	28	604,000	715,000
Idenia kora	24	1,105,000	1,617,500
Tiyalo	29	1,437,500	1,880,500
Lo-moulnia	28	1,039,000	1,421,000
KASSOLA	19	690,500	927,000
DOUABIE	18	584,000	900,500
KASSIRI	29	855,000	1,116,500

	Coumpougbie	30	1,331,000	1,824,000
	Ballerbie II	33	844,000	1,214,000

More details and the original tables can be found in documents:
'Rapport d'étape de Mise en place_Micro Crédit_2021_Nahouri_Revu_RESE _FR' and *'Rapport d'étape de Mise en place_Micro Crédit_2021_Nahouri_Revu_RESE_EN Translation'*

Relevant SDG Indicator	**SDG 7, Affordable and clean energy**
Data/ Parameter	**Number of F3PA efficient cookstoves disseminated for the group of VPA's**
Unit	Number
Description	Number of F3PA efficient cookstoves included in the project database for project scenario p
Source of data	Project database. See document *'GS1340_VPA14-17_MP2_VPA 29_MP1_DR_ICS_20220330'*.
Value(s) applied	28,749
Measurement methods and procedure	The project database provides a list of end-users with number of F3PA efficient cookstoves per end-user.
Monitoring frequency	Continuous
QA/QC procedures	The data is analyzed in the monitoring report and Project database is made available for review.
Purpose of data	Calculation of the parameter "Number of F3PA efficient cookstoves disseminated"
Additional comment	It is foreseen that each household will have at least two F3PA efficient cookstoves.

Relevant SDG Indicator	**SDG 13, Climate action**
Data/ Parameter	$U_{p,1}$
Unit	Percentage
Description	Usage rate in project scenario p during year 1
Source of data	Annual usage/monitoring survey. See document *'GS1340_MS_VPA14-17_MP2_VPA 29_MP1_20220809_ANALYSIS'*.
Value(s) applied	99.09%
Measurement methods and procedure	The measurement of the usage rate is based on qualitative information collected in the usage/monitoring survey. A question concerning the current use of the technology is asked to each end user of the sample and is validated by the observation of the surveyor to determine the usage rate of each technology age category.
Monitoring frequency	Annual

QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Calculation of emission reductions
Additional comment	A usage parameter is derived for each age group of project cookstoves being credited. The usage survey will determine if the project cookstoves can be considered as 'in use' or 'not in use' and if the project cookstoves are in 'good condition' or 'not in good condition'. The record keeping system of the VPA is at household level (with household number) for which all baseline cookstove set(s) (comprising of several traditional three stone cookstoves for domestic use) have been replaced by project cookstove set(s). Cookstove set(s) within a household can only be considered 'in use' if all the cookstoves in the set(s) (in polygamous households all cookstoves of all cookstove sets of all women in the household) are being used. Similarly, cookstove set(s) can only be considered in 'good condition' as long as all cookstoves within the cookstove set(s) (in polygamous households all cookstoves of all cookstove sets of all women in the household) are in a 'good condition'. See document '*GS1340_MS_VPA14-17_MP2_VPA 29_MP1_20220809_ANALYSIS*'.

Relevant SDG Indicator	**SDG 13, Climate action**
Data/ Parameter	$U_{p,2}$
Unit	Percentage
Description	Usage rate in project scenario p during year 1
Source of data	Annual usage/monitoring survey. See document '*GS1340_MS_VPA14-17_MP2_VPA 29_MP1_20220809_ANALYSIS*'.
Value(s) applied	90.00%
Measurement methods and procedure	The measurement of the usage rate is based on qualitative information collected in the usage/monitoring survey. A question concerning the current use of the technology is asked to each end user of the sample and is validated by the observation of the surveyor to determine the usage rate of each technology age category.
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Calculation of emission reductions
Additional comment	A usage parameter is derived for each age group of project cookstoves being credited. The usage survey will determine if the project cookstoves can be considered as 'in use' or 'not in use' and if the project cookstoves are in 'good condition' or 'not in good condition'.

	The record keeping system of the VPA is at household level (with household number) for which all baseline cookstove set(s) (comprising of several traditional three stone cookstoves for domestic use) have been replaced by project cookstove set(s). Cookstove set(s) within a household can only be considered 'in use' if all the cookstoves in the set(s) (in polygamous households all cookstoves of all cookstove sets of all women in the household) are being used. Similarly, cookstove set(s) can only be considered in 'good condition' as long as all cookstoves within the cookstove set(s) (in polygamous households all cookstoves of all cookstove sets of all women in the household) are in a 'good condition'. See document *'GS1340_MS_VPA14-17_MP2_VPA 29_MP1_20220809_ANALYSIS'*.

Relevant SDG Indicator	**SDG 13, Climate action**
Data/ Parameter	**$N_{p,1}$**
Unit	Number of households included in the project (Units), based on days of usage of age group 0-1 during the monitoring period related to one year.
Description	Household in the project database for project scenario p through year i for which all baseline cookstove set(s) (comprising of several traditional three stone cookstoves for domestic use) have been replaced by project cookstove set(s).
Source of data	Project database. See document *'GS1340_VPA14-17_MP2_VPA 29_MP1_DR_Recent date_20220330'*.
Value(s) applied	VPA 14: 838 VPA 15: 896 VPA 16: 852 VPA 17: 1,777 VPA 29: 596 Total : 4,960
Measurement methods and procedure	For the determination of the number of usage days at household level for age group 0-1 during the corresponding monitoring period, the latest start day of use of all constructed F3PA efficient cookstoves within the household will be taken in order to have conservative approach. Number of households included in the project (Units) are calculated based on days of usage of age group 0-1 during the corresponding monitoring period related to one year.
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Calculation of emission reductions
Additional comment	A part of the households in the project area of the VPA are polygamous. Each wife of the household included in the

	carbon project must have at least two F3PA efficient cookstoves. This is a local cooking requirement as one is for the Mush "Tô", the other for the sauce "Sauce". Additional cookstoves could be used for boiling water or preparing the soup. All the traditional three stone cookstoves for domestic use will be replaced by the F3PA efficient cookstoves. This means that according to the needs of the household, an un-predetermined number of project cookstoves will be constructed and used at household level. As the quantity of firewood consumed in the baseline is determined at household level, the number of households will be monitored instead of project cookstoves to determine the emissions reductions. Women are trained by the Tiipaalga instructors or leader women to build the project cookstoves themselves using local materials according to a strict construction protocol. In tight collaboration of the project coordinator, the instructor and the leader women the logistical management, quality assurance of the project cookstoves according to the construction protocol and the management of the project database recording all constructed project cookstoves will be ensured. See document *'GS1340_VPA14-17_MP2_VPA 29_MP1_DR_Recent date_20220330'*, tab "Analysis".

Relevant SDG Indicator	**SDG 13, Climate action**
Data/ Parameter	**$N_{p,2}$**
Unit	Number of households included in the project (Units), based on days of usage of age group 1-2 during the monitoring period related to one year.
Description	Household in the project database for project scenario p through year i for which all baseline cookstove set(s) (comprising of several traditional three stone cookstoves for domestic use) have been replaced by project cookstove set(s).
Source of data	Project database. See document *'GS1340_VPA14-17_MP2_VPA 29_MP1_DR_Recent date_20220330'*.
Value(s) applied	VPA 14: 2,179 VPA 15: 2,140 VPA 16: 2,165 VPA 17: 548 VPA 29: 0 Total : 7,032
Measurement methods and procedure	For the determination of the number of usage days at household level for age group 1-2 during the corresponding monitoring period, the latest start day of use of all constructed F3PA efficient cookstoves within the household will be taken in order to have conservative approach.

	Number of households included in the project (Units) are calculated based on days of usage of age group 1-2 during the corresponding monitoring period related to one year.
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Calculation of emission reductions
Additional comment	A part of the households in the project area of the VPA are polygamous. Each wife of the household included in the carbon project must have at least two F3PA efficient cookstoves. This is a local cooking requirement as one is for the Mush "Tô", the other for the sauce "Sauce". Additional cookstoves could be used for boiling water or preparing the soup. All the traditional three stone cookstoves for domestic use will be replaced by the F3PA efficient cookstoves. This means that according to the needs of the household, an un-predetermined number of project cookstoves will be constructed and used at household level. As the quantity of firewood consumed in the baseline is determined at household level, the number of households will be monitored instead of project cookstoves to determine the emissions reductions. Women are trained by the Tiipaalga instructors or leader women to build the project cookstoves themselves using local materials according to a strict construction protocol. In tight collaboration of the project coordinator, the instructor and the leader women the logistical management, quality assurance of the project cookstoves according to the construction protocol and the management of the project database recording all constructed project cookstoves will be ensured. See document *'GS1340_VPA14-17_MP2_VPA 29_MP1_DR_Recent date_20220330'*

Relevant SDG Indicator	**SDG 13, Climate action**
Data/ Parameter	**DF_{η}**
Unit	Fraction
Description	Discount factor to account for efficiency loss of project stoves
Source of data	Gold Standard Simplified Methodology for Efficient Cookstoves v1.0
Value(s) applied	Default value: 0.99 i.e., 1 % efficiency loss per year
Measurement methods and procedure	N.A.
Monitoring frequency	N.A.
QA/QC procedures	N.A.
Purpose of data	Calculation of emission reductions
Additional comment	N.A.

Relevant SDG Indicator	SDG 13, Climate action
Data/ Parameter	**$DF_{b,stove,1}$**
Unit	Percentage
Description	Discount factor to account for the baseline stove use in project scenario p during the year 1
Source of data	Monitoring data. See document *'GS1340_MS_VPA14-17_MP2_VPA 29_MP1_20220809_ANALYSIS'.*
Value(s) applied	0.00%
Measurement methods and procedure	The measurement of the discount factor to account for the baseline stove use is based on qualitative information collected in the usage/monitoring survey. A question concerning the current use of the baseline technology is asked to each end user of the sample and is validated by the observation of the surveyor in order to determine the discount factor to account for the baseline stove use in project scenario p of each technology age category.
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Calculation of emission reductions
Additional comment	The discount factor for the baseline-stove is determined based on the number of meals cooked using the baseline stove. The required information is captured through sample surveys carried out following a random sampling approach for age-group 0-1 of the project stove. The impact of seasonal variation on use of baseline stove is considered as part of the monitoring survey. The survey format for sample question to capture this information is described in the Monitoring Plan. In case of polygamous households the discount factor is determined for each cookstove set and the highest value of all cookstove sets within the household is used as representative discount factor for the household. See document *'GS1340_MS_VPA14-17_MP2_VPA 29_MP1_20220809_ANALYSIS'.*

Relevant SDG Indicator	SDG 13, Climate action
Data/ Parameter	**$DF_{b,stove,2}$**
Unit	Percentage
Description	Discount factor to account for the baseline stove use in project scenario p during the year 2
Source of data	Monitoring data. See document *'GS1340_MS_VPA14-17_MP2_VPA 29_MP1_20220809_ANALYSIS'*.
Value(s) applied	0.14%

Measurement methods and procedure	The measurement of the discount factor to account for the baseline stove use is based on qualitative information collected in the usage/monitoring survey. A question concerning the current use of the baseline technology is asked to each end user of the sample and is validated by the observation of the surveyor in order to determine the discount factor to account for the baseline stove use in project scenario p of each technology age category.
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Calculation of emission reductions
Additional comment	The discount factor for the baseline-stove is determined based on the number of meals cooked using the baseline stove. The required information is captured through sample surveys carried out following a random sampling approach for age-group 1-2 of the project stove. The impact of seasonal variation on use of baseline stove is considered as part of the monitoring survey. The survey format for sample question to capture this information is described in the Monitoring Plan. In case of polygamous households the discount factor is determined for each cookstove set and the highest value of all cookstove sets within the household is used as representative discount factor for the household. See document *'GS1340_MS_VPA14-17_MP2_VPA 29_MP1_20220809_ANALYSIS'*.

Relevant SDG Indicator	**SDG 13, Climate Action**
Data/ Parameter	**Number of tCO2e reduced by the project**
Unit	Ton of CO2e
Description	Number of tCO2e reduced thanks to the implementation of the project during the corresponding monitoring period.
Measured/calculated/default	Measured
Source of data	ER calculations: see document *'GS 1340 - VPA 14-15-16-17_MP2-VPA 29_MP1-ER'*
Value(s) of monitored parameter	VPA 14: 10,000 tCO2e (12,193 tCO2e) VPA 15: 10,000 tCO2e (12,293 tCO2e) VPA 16: 10,000 tCO2e (12,200 tCO2e) VPA 17: 9,895 VPA 29: 2,599 Total : 42,494
Monitoring equipment	N/A
Measuring/reading/recording frequency	Annual

Calculation method (if applicable)	See section E.4
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Calculation of emission reductions
Additional comments	N.A.

D.3. Comparison of monitored parameters with last monitoring period

Data/Parameter	Value obtained in this monitoring period	Value obtained last monitoring period
SDG 1 **Parameter #1:** Number of leader women (Monitrice endogène) who benefit from microcredit **Parameter #2:** Total amount in FCFA or € of benefit generated by Income Generating Activities which are managed by the leader women (Monitrice endogène) and funded by the microcredit scheme **Parameter #3:** Total estimated amount saved by stove users on wood fuel purchase for the group of VPA's	Parameter #1: 553 Parameter #2: 10,620€ or 6,898,450 FCFA Parameter #3: 6,418 €	Parameter #1: 0 Parameter #2: 0€ Parameter #3: 39,496€
Comment SDG1: **Paramters #1 & #2:** those parameters were not available during last monitoring period because the granted amount was provided to the leader women end of 2020. Hence, the income generating activities financed thanks to the microcredit were only initiated during this MP (2021). **Parameter #3:** The estimated amount saved by stove users (parameter #3) has diminished because the calculation method changed. In the MP2 survey (MS2), the baseline annual expenditure on wood was determined to be 63,000 FCFA (compared to 40,125 in MS1). Both these numbers are however a lot higher than the baseline expenditure as determined in the PDD (23,412 FCFA). Therefore, in order to be conservative, it was decided to use this last value to calculate the difference between the baseline and project expenditure.		
SDG 3 Proportion of households perceiving: - less often smoke levels - incidence of coughing - incidence of respiratory illness - incidence of itchy eyes	Smoke level reduction: 100% Incidence of coughing reduction: 100% Incidence of respiratory illness reduction: 100% Incidence of itchy eyes reduction: 100%	Smoke level reduction: 100% Incidence of coughing reduction: 100% Incidence of respiratory illness reduction: 100% Incidence of itchy eyes reduction: 100%

Comment SDG 3: N.A		
SDG 4 **Parameter #1:** Number of training initiatives for staff involved in the programme **Parameter #2:** Number of workshops carried out for women for the group of VPA's	Parameter #1: 1 Parameter #2: 124	Parameter #1: 1 Parameter #2: 142
Comment SDG 4: N.A.		
SDG 5 **Parameter #1:** Average time saving (in hours) per woman per week **Parameter #2:** Number of person receive training for the construction of improved cook stoves and enhanced their skill **Parameter #3:** Number of women benefits from micro credit scheme **Parameter #4:** Total benefit of income generation activities finances from micro credit scheme **Parameter #5:** Amount of saving on fuel cost by women	Parameter #1: 2.3 h Parameter #2: 11,790 (89% of women) Parameter #3: 553 Parameter #4: 10,620€ or 6,898,450 FCFA Parameter #5: 6,418	Parameter #1: 1.7 h Parameter #2: 14,448 (92% of women) Parameter #3: 0 Parameter #4: 0€ Parameter #5: 39,496 €
Comment SDG 5: **Parameter #1**: The previous average time saving was calculated to be 4.2h per week. Since this was larger than the estimated 1.7h in the PDD, it was decided in order to be conservative to report 1.7h. However, since this number is based on assumptions, this number is now seen as less reliable than the numbers calculated using the survey data. Therefore, the result of the survey of MP2 is reported in this monitoring report. Parameter #5: See comment SDG 1.		
SDG 7 Number of F3PA efficient cookstoves disseminated for the group of VPA's	28,749	22,395
Comment SDG 7: N.A.		
SDG 13 VER	VPA 14: 10,000 VPA 15: 10,000 VPA 16: 10,000 VPA 17: 9,895 VPA 29: 2,599 Total : 42,494	VPA 14: 9,324 VPA 15: 9,156 VPA 16: 9,262 VPA 17: 2,344 Total : 30,086
Comment SDG 13: Since all households of VPA 14-17 were able to use their stoves during the full monitoring period, these VPAs achieved (close to) the maximum amount of credits. VPA 29 is a new VPA and stoves were only distributed during this monitoring period, which is why there were no credits in the previous MP and only relatively few in this one.		

D.4. Implementation of sampling plan

In parallel with the distribution of the F3PA efficient cookstoves, and as per monitoring plan in the respective registered VPA-DD's (VPA-14 to 17 and VPA 29), tiipaalga conducted the following monitoring activities:

Date	Activity	Purpose
Ongoing	Project database	Establish total distribution record to track number of households for which all baseline cookstove set(s) (comprising of several traditional three stone cookstoves for domestic use) have been replaced by project cookstove set(s)
From 15/04/2022 To 30/05/2022	Monitoring survey	(i) To establish single usage rate factor of age group 0-1 and 1-2 based on if the project cookstoves can be considered as 'in use' or 'not in use' and if the project cookstoves are in 'good condition' or 'not in good condition'; (ii) To establish single discount factor age group 0-1 and 1-2 to account for the baseline stove use. (iii) To measure parameters regarding SDG 1, SDG 3 and SDG 5.

The parameters which need to be monitored through surveys for the VPA are (i) $U_{p,y}$ Usage rate in project scenario p during year y; and (ii) $DF_{b,stove,y}$ Discount factor to account for the baseline stove use in project scenario p during the year y. A single survey with cross sampling of households has been undertaken using a single random sampling plan. The sample size is calculated for the population of VPA-14 to 17 and VPA 29 using the sampling guidelines described below.

The number of households of which each wife of the household (when polygamous) has replaced all traditional three stones cookstoves for domestic use with project cookstoves, is recorded in the project database (see data base records file). Only the households recorded in the database are part of the project activity.

Since the project activities started in February 2020, there are three age groups, i.e. age group 0-1, 1-2 and 2-3. The start of the crediting period of each household is considered as the latest installation date of all stoves within the cooking sets of the different wives within the household (see document: '*GS1340_VPA14-17_MP2_VPA 29_MP1_DR_Recent date_20220330*'). For each household the number of technology-days during MP1 are calculated per age group: age group 0-1 (i.e. installation date + 365 days), (ii) age group 1-2 (iii) age group 2-3. The number of households per age-group are determined after cumulation of the technology-days per age group of the households in the project database divided by the number of days in a year, i.e. 365 days. Since there were no households in AG 2-3 during the monitoring period, no credits will be claimed for households in AG 2-3 and therefore no sampling of this AG will be done.

The minimum household sample size of each age group is determined according to the following guidelines (according the Gold Standard Simplified Methodology for Efficient Cookstoves v1.0):

- Project target population < 300: Minimum sample size 30;
- Project target population 300 to 1,000: Minimum sample size 10 % of group size;
- Project target population > 1,000: Minimum sample size 100.

As the number of recorded households for VPA-14 to VPA-17 and VPA 29 per age-group is more than 1,000, the minimum sample size per age-group is 100. For this monitoring survey the household sampling size was set at 220 households, 110 per age group (AG 0-1 and AG 1-2) (see file '*GS1340_VPA14-17_MP2_VPA 29_MP1_Sampling_20220330*'). As described in the PDD, the method of selecting households for the sample list for the monitoring survey is single sampling with random approach. All households will according to the installation date of the project cookstoves be assigned to a specific age-group. Per age-group households are selected using a random sequence generator (https://www.randomdraws.com/random-sequence-generator/). All random selections will be stored for the crediting period and an additional two years, which allow traceability of the selection. For all parameters that are monitored via sampling it is understood that only the age of the project cookstove has an influence. Therefore, no geographic representativeness is deemed necessary for the selection of users participating in the sample groups. The monitoring surveys are performed by user interviews. Only people older than 18 years are interviewed. The results of the survey are found in document: *'GS1340_MS_VPA14-17_MP2_VPA 29_MP1_20220809_ANALYSIS'*.

This file contains the following data in worksheet "Group 2":

- Identifier (Unique internal ID number) which is the unique key of household info;
- Identification data per wife: name, picture of wife with her stoves;
- Data on stoves used per wife: size of stoves, installation dates of each stove, location of stoves, frequency of usage, condition of stove …;
- Data on cooking habits during dry and wet season;
- Data related to sustainable indicators.

Based on this information the usage rate $U_{p,y}$ is calculated per household in column S and the discount factor to account for the baseline stove use $DF_{b,stove,y}$ per households in column AT. The worksheet "Analysis" contains the evaluated parameters usage rate $U_{p,y}$ and discount factor to account for the baseline stove use $DF_{b,stove,y}$ per age group.

Out of the 220 at random selected households, two (2) households have not been surveyed for the following reasons:

- VPA 15 - Sandrine - 182 - Kirapam Tounyiga: The household moved to Ghana.
- VPA 15 - Azra - 2773 - ABALE Tangahiri: The stoves were destroyed and not rebuild

For these 2 households, the usage rate Up,y of 0% has been considered.

The surveyed households are presented with pictures of stove users and stoves in the document: *'GS1340_VPA14-15-16-17_ MP2_VPA 19_MP1_list of surveyed households'*.

The following points were considered when evaluating the usage rate Up,y:

- All project cookstoves within the sample are assessed if they are still operational. If one stove user doesn't use any of its project cookstoves, the corresponding household is considered as drop-off;
- The working conditions of project cookstoves are evaluated on the status (i) Green: the stove is in good working conditions, (ii) Orange: the stove is in acceptable working conditions, but needs some maintenance activities; and (iii) Red: the stove is not working well, and needs to be reconstructed (see section C for more details). A household with at least one red project cookstove is considered as a drop-off;
- If a stove-user migrated even for a temporary period, the corresponding household is considered as a drop-off.

Based on the collected data during the survey for monitoring period 1 the usage rate $U_{p,1}$ of age group 0-1 is evaluated at 99.09% and the usage rate $U_{p,2}$ of age group 1-2 is 90.00%. In total 11 households out of the 220 households surveyed had a usage rate of 0% due to the bad condition of at least one F3PA efficient cookstove (status red), no indication of usage, at least one wife not using the stove, migration of the household or broken F3PA efficient cookstoves. All other project cookstoves were used and in operational conditions.

The discount factor to account for the baseline stove use is calculated based on the number of meals that have been cooked with the baseline stove during the monitoring period. The impact of dry and wet season on the baseline stove use has been evaluated. The baseline stove usage has been questioned in the survey in two ways (see document '*GS1340_MS_VPA14-17_MP2_VPA 29_MP1_20220809_ANALYSIS'*) (i) relative based on a week usage during dry and wet season (column AN till column AV); (ii) absolute based on total number of usages during dry and wet season (column BB and BC).The following points were considered when evaluating the discount factor to account for the baseline stove use $DF_{b,stove,y}$:

- The wet season starts on the 1st of June and ends the 31nd of October, which is 152 days;
- Usage of baseline stove during wet and dry season has been surveyed, as well as the number of meals cooked during dry and wet season;
- Based on the number of meals cooked with the baseline cookstove compared to the number of cooked meals, the baseline usage fraction is calculated per stove user. In the case of more than one stove user per household, the highest value will be taken in order to identify the baseline cookstove usage at household level;

- In case the two ways of baseline usage reporting (relative on weekly basis and absolute) didn't match, the highest baseline usage has been calculated for the corresponding household;
- The discount factor for the baseline stove use is based on the average baseline stove use fraction of all the households within the sample;
- If a household has dropped off when evaluating the usage rate, it is not considered when calculating the average baseline stove use fraction;
- A conservative approach has been considered when evaluating the number of meals cooked with the baseline stove.

Based on the collected data during the survey, the baseline stove usage fraction has been evaluated at 0.00% for age group 0-1 and 0.14% for age group 1-2. This means that, on average, approximately 1.4 meals out of 1000 meals are cooked with the baseline stove.

SECTION E. CALCULATION OF SDG IMPACTS

E.1. Calculation of baseline value or estimation of baseline situation of each SDG Impact

a) *SDG 1, No poverty*

Not applicable, the direct outcome is calculated, see section E.4.

b) *SDG 3, Good health and well-being*

Not applicable, the direct outcome is calculated, see section E.4.

c) *SDG 4, Quality Education*

Not applicable, the direct outcome is calculated, see section E.4.

d) *SDG 5, Gender equality*

Not applicable, the direct outcome is calculated, see section E.4.

e) *SDG 7, Affordable and clean energy*

Not applicable, the direct outcome is calculated, see section E.4.

f) *SDG 13, Climate Action*

The methodology directly provides equation for emission reductions (without separate baseline, projector leakage emission reduction equations). See section E.4. for the calculation of the emission reductions.

E.2. Calculation of project value or estimation of project situation of each SDG Impact

a) *SDG 1, No poverty*

Not applicable, the direct outcome is calculated, see section E.4.

b) *SDG 3, Good health and well-being*

Not applicable, the direct outcome is calculated, see section E.4.

c) *SDG 4, Quality Education*

Not applicable, the direct outcome is calculated, see section E.4.

d) *SDG 5, Gender equality*

Not applicable, the direct outcome is calculated, see section E.4.

e) *SDG 7, Affordable and clean energy*

Not applicable, the direct outcome is calculated, see section E.4.

f) *SDG 13, Climate Action*

The methodology directly provides equation for emission reductions (without separate baseline, projector leakage emission reduction equations). See section E.4. for the calculation of the emission reductions.

E.3. Calculation of leakage

a) *SDG 13, Climate Action*

As defined under The Gold Standard Simplified Methodology for Efficient Cookstoves v1.0, the net emission reductions (ERy) for a micro-scale programme of activities (mPOA) need to be discounted by a factor of 0.95 to account for leakages related to non-renewable biomass saved by the project activity.

E.4. Calculation of net benefits or direct calculation for each SDG Impact

a) *SDG 1, No poverty*

Number of leader women (Monitrice endogène) who benefit from microcredit = Number of leader women (Monitrice endogène) who benefit from microcredit during the monitoring period.

See document : '*Rapport d'étape de Mise en place_Micro Crédit_2021_Nahouri_Revu_RESE _FR*' and '*Rapport d'étape de Mise en place_Micro Crédit_2021_Nahouri_Revu_RESE_EN Translation*'

Total benefit from Income Generating activities financed through the microcredit scheme for the group of VPA's = total amount in FCFA or € of benefit generated by Income Generating Activities which are managed by the leader women (Monitrice endogène) and funded by the microcredit scheme.

Not presented yet as the granted money was provided at the end of the monitoring period. Hence, the estimation of the benefits from Income Generating Activities will be available from next monitoring period.

Total estimated amount saved by stove users on wood fuel purchase for the group of VPA's = Total estimated amount in FCFA or € saved by the stove users on wood fuel purchase during the monitoring period.

i. **School fees$_p$:** Proportion of stove users using their saved money to school fees;
ii. **Purchase of medical drugs$_p$:** Proportion of stove users using their saved money to purchase of medical drugs;
iii. **Purchase of food$_p$**: Proportion of stove users using their saved money to
iv. **Investment for field crops$_p$:** Proportion of stove users using their saved money to investments for field crops;
v. **Purchase of equipments$_p$:** Proportion of stove users using their saved money to purchase of equipments;
vi. **Income generating activities$_p$:** Proportion of stove users using their saved money to income generating activities;
vii. **Savings$_p$:** Proportion of stove users using their saved money to savings.

See document: *'GS1340_MS_VPA14-17_MP2_VPA 29_MP1_20220809_ANALYSIS' Tab 'Project SDGs'* and Tab 'Analysis' lines 247 to 253.

b) SDG 3, Good health and well-being

Smoke level reduction = (Number of stove users perceiving less smoke since the implementation of F3PA efficient cookstoves) / (Number of respondents)

Incidence of coughing reduction = (Number of stove users perceiving less incidence of coughing since the implementation of F3PA efficient cookstoves) / (Number of respondents)

Incidence of respiratory illness reduction = (Number of stove users perceiving less incidence of respiratory illnesses since the implementation of F3PA efficient cookstoves) / (Number of respondents)

Incidence of itchy eyes reduction = (Number of stove users perceiving less incidence of itchy eyes since the implementation of F3PA efficient cookstoves) / (Number of respondents)

See document: *'GS1340_MS_VPA14-17_MP2_VPA 29_MP1_20220809_ANALYSIS' Tab 'Project SDGs'*.

c) SDG 4, Quality education

Number of *training* initiatives for staff involved in the programme = Number of trainings initiatives for staff involved in the programme during the monitoring period

See document : *'NAHOURI_FormationRapport_ENGremarks.pdf'*.

Number of workshops carried out for women for the group of VPA's = Number of workshops carried out for women during the monitoring period

See documents: '*Synthèse animations-formations projets carbone_NAHOURI* ' and participants lists.

d) SDG 5, Gender equality

Gender Responsive Indicators under Social Empowerment Goals – Rest and Leisure

Average time saving (in hours) per woman per week= Average time saving (in hours) on wood fuel collection per woman per week during the monitoring period.

Activities carried out by women during saved time:

i) **Domestic tasks$_p$** = (Number of women using their saved time to do domestic tasks) / (Number of women considering they save time thanks to the F3PA efficient cookstoves)
ii) **Income generating activities$_p$** = (Number of women using their saved time to do income generating activities) / (Number of women considering they save time thanks to the F3PA efficient cookstoves)
iii) **Field labour$_p$** = (Number of women using their saved time to do field labour) / (Number of women considering they save time thanks to the F3PA efficient cookstoves)
iv) **Gardening$_p$** = (Number of women using their saved time to do gardening) / (Number of women considering they save time thanks to the F3PA efficient cookstoves)
v) **Participation to a literacy program$_p$** = (Number of women using their saved time to participate to a literacy program) / (Number of women considering they save time thanks to the F3PA efficient cookstoves)
vi) **Community work$_p$** = (Number of women using their saved time to do community work) / (Number of women considering they save time thanks to the F3PA efficient cookstoves)
vii) **Doning nothing$_p$ =** (Number of women using their saved time to participate to do nothing) / (Number of women considering they save time thanks to the F3PA efficient cookstoves)
viii) **Religious activities$_p$** = (Number of women using their saved time to participate to religious activities) / (Number of women considering they save time thanks to the F3PA efficient cookstoves)
ix) **Leisure$_p$** = (Number of women using their saved time to participate to do leisure) / (Number of women considering they save time thanks to the F3PA efficient cookstoves)

See document: '*GS1340_MS_VPA14-17_MP2_VPA 29_MP1_20220809_ANALYSIS*' Tab 'Project SDGs' and Tab 'Analysis' lines 224 to 232.

Gender Responsive Indicators under Social Empowerment Goals – Applied Skills and training
Number of person (% women) receive training for the construction of improved cook stoves and enhanced their skill

See document: '*Synthèse animations-formations projets carbone_NAHOURI '*.

Gender Responsive Indicators under Economic Empowerment Goals – Income & Expenditure

- Indicator 1 - Number of women benefits from micro credit scheme
- Indicator 2 - Total benefit of income generation activities finances from micro credit scheme
- Indicator 3 - % Amount of saving on fuel cost by women

See document: '*Rapport d'étape de Mise en place_Micro Crédit_2021_Nahouri_Revu_RESE _FR'* and '*Rapport d'étape de Mise en place_Micro Crédit_2021_Nahouri_Revu_RESE_EN Translation'*

SDG 7, Affordable and clean energy

Number of F3PA efficient cookstoves disseminated for the group of VPA's
= Number of F3PA efficient cookstoves included in the project database for project scenario p

See document: '*GS1340_VPA14-17_MP2_VPA 29_MP1_DR_ICS_20220330'*.

e) *SDG 13, Climate Action*
The methodology directly provides equation for emission reductions (without separate baseline, projector leakage emission reduction equations). The emission reduction for the VPA are calculated using the following equation.

$$ER_Y = \sum_{0to1}^{xtoy} N_{P,y} * P_y * U_{P,y} * (f_{NRB,y} * EF_{b,fuel,CO2} + EF_{b,fuel,nonCO2}) * (1 - DF_{b,Stove,y})$$

Where

$N_{p,y}$	Number of households with project cookstoves of each age group operational in the year y
P_y	Quantity of firewood that is saved in the year y (tones per household in year y)
$U_{p,y}$	Usage rate for project cookstoves in year y, based on adoption rate and drop off rate revealed by usage surveys (fraction)
$f_{NRB,y}$	Factional non-renewability status of wood fuel during year y

$EF_{b,fuel,CO2}$	CO2 emission factor of firewood that is substituted or reduced
$EF_{b,fuel,nonCO2}$	Non CO2 emission factor of firewood that is substituted or reduced
$DF_{b,stove,y}$	Usage of baseline cookstove during the year y (fraction) in project scenario
X	y-1
Y	Year of the crediting period

Determination of quantity of biomass saved (P_y):

Quantity of firewood that is saved (P_y) is estimated using the following equation:

$$P_y = B_{b,y} * (1 - \frac{\eta_b}{\eta_{p,y}})$$

Where:

P_y	Quantity of firewood that is saved in the year y (tones per household in year y)
$B_{b,y}$	Quantity of firewood consumed in baseline scenario during year y (tones per household per year)
$\eta_{p,y}$	Efficiency of project cookstove in year y (fraction)
η_b	Efficiency of the baseline cookstove being replaced (fraction). A default value of 10% shall be used if the replaced cookstove is a three stone fire, or a conventional device without a grate or a chimney i.e. with no improved combustion air supply or flue gas ventilation
y	Year of the crediting period

Determination of quantity of fire wood consumed in the baseline ($B_{b,y}$):

The firewood consumed is the estimated average annual consumption of firewood per household (tonnes/year), which may be derived using option (d) of the methodology: Field Performance Test. The baseline performance field test (BFT) measures real, observed performance of the baseline cookstove in the field. Consumption is measured with a representative sample of end users under each defined baseline scenario using the baseline cookstove.
The Baseline Field Performance Test[8] has been conducted between 02/02/2020 and 20/02/2020 in 10 randomly selected villages from the 80 villages located in the project boundary, ie the municipalities of Po, Tiébélé and Guiaro. During this

[8] See document: 'GS1340_Tiipaalga_VPA14-17_BFPT_20200515_Analysis_v1.0'

test, the wood consumption of the households for cooking has been measured for three consecutive days. From this survey, it appears that the firewood consumption for cooking in the baseline is 3.94 tonnes per household per year.

Determination of project cookstove efficiency ($\eta_{p,y}$ and η_p):

Efficiency of project cookstove in year y ($\eta_{p,y}$) is estimated as follows:

$$\eta_{p,y} = \eta_p * \left(DF_\eta\right)^{y-1} * 0.94$$

Where

$\eta_{p,y}$	Efficiency of project cookstove in year y (fraction)
η_p	Efficiency of project cookstove (fraction) determined at the start of the project activity
DF_η	Discount factor to account for efficiency loss of project cookstove per year of operation (fraction)
0.94	Adjustment factor to account for uncertainty related to project cookstove efficiency test

See document: '*GS 1340 - VPA 14-15-16-17_MP2- VPA 29_MP1-ER*', tab 'Calculation', line 29 to 34.

SDG	SDG Impact	Baseline estimate	Project estimate	Net benefit
13	Number of tCO2e reduced by the project			VPA 14: 10,000 VPA 15: 10,000 VPA 16: 10,000 VPA 17: 9,895 VPA 29: 2,599 Total : 42,494
1	Parameter #1: Number of leader women (Monitrice endogène) who benefit from microcredit Parameter #2: total amount in FCFA or € of benefit generated by Income Generating Activities which are managed by the leader women (Monitrice endogène) and funded by the microcredit scheme			Parameter #1: 553 Parameter #2: 10,620€ or 6,898,450 FCFA
1	Total estimated amount saved by stove users on wood fuel purchase for the group of VPA's			6,418 €
3	Smoke level reduction Incidence of coughing reduction			100% 100%

	Incidence of respiratory illness reduction Incidence of itchy eyes reduction	100% 100%
4	Number of trainings initiatives for staff involved in the programme	1
4	Number of workshops carried out for women for the group of VPA's	124
5	Average time saving (in hours) per woman per week	2.3
5	Number of person receive training for the construction of improved cook stoves and enhanced their skill	11,790 (89% of women)
5	Number of women benefits from micro credit scheme	553
5	Total benefit of income generation activities finances from micro credit scheme	10,620€ or 6,898,450 FCFA
5	Amount of saving on fuel cost by women	6,418 €
7	Number of F3PA efficient cookstoves disseminated for the group of VPA's	28,749

E.5. Comparison of actual SDG Impacts with estimates in approved PDD

SDG	Values estimated in ex ante calculation of approved PDD for this monitoring period	Actual values[9] achieved during this monitoring period
13	Year 2022: VPA 14: 9,904 tCO2e VPA 15: 9,904 tCO2e VPA 16: 9,904 tCO2e VPA 17: 9,904 tCO2e VPA 29: 5,993 tCO2e **Total : 45,609 tCO2e**	Year 2022: VPA 14: 10,000 tCO2e (12,193 tCO2e) VPA 15: 10,000 tCO2e (12,293 tCO2e) VPA 16: 10,000 tCO2e (12,200 tCO2e) VPA 17: 9,895 tCO2e VPA 29: 2,599 tCO2e **Total : 42,494 tCO2e**
1	Parameter #1: Number of leader women (Monitrice endogène) who benefit from microcredit: **720**	Parameter #1: Number of leader women (Monitrice endogène) who benefit from microcredit: **553**

Commented [NV1]: Mistake in PDD?

[9] Whenever emission reductions are capped, both the original and capped values used for calculations must be transparently reported. Use brackets to denote original values.

	Parameter #2: total amount in FCFA or € of benefit generated by Income Generating Activities which are managed by the leader women (Monitrice endogène) and funded by the microcredit scheme: **3,006 €**	Parameter #2: total amount in FCFA or € of benefit generated by Income Generating Activities which are managed by the leader women (Monitrice endogène) and funded by the microcredit scheme: **10,620€ or 6,898,450 FCFA**
1	Total estimated amount saved by stove users on wood fuel purchase for the group of VPA's: **6,570 €**	Total estimated amount saved by stove users on wood fuel purchase for the group of VPA's: **6,418 €**
3	Smoke level reduction: **>90%** Incidence of coughing reduction: **>90%** Incidence of respiratory illness reduction: **>90%** Incidence of itchy eyes reduction: **>90%**	Smoke level reduction: **100%** Incidence of coughing reduction: **100%** Incidence of respiratory illness reduction: **100%** Incidence of itchy eyes reduction: **100%**
4	Number of trainings initiatives for staff involved in the programme: **1**	Number of trainings initiatives for staff involved in the programme: **1**
4	Number of workshops carried out for women for the group of VPA's: **20**	Number of workshops carried out for women for the group of VPA's: **124**
5	Average time saving (in hours) per woman per week: **1.7 hours**	Average time saving (in hours) per woman per week: **2.3 hours**
7	Number of F3PA efficient cookstoves disseminated for the group of VPA's: **25,000**	Number of F3PA efficient cookstoves disseminated for the group of VPA's: **28,749**

Commented [NV2]: Estimate: 2,400 women every four year, generating 10.019 in total benefit
Real: 553 women in 2021, generating 10,620€

Commented [NV3R2]: 2400 vrouwen voor 80 dorpen, maar rapport spreekt over 20 dorpen

Commented [NV4R2]: it is estimated that 30 leader women per village will benefit from microcredit within 80 villages. For the grouped 4 VPA's it is estimated that 2,400 women will benefit from the microcredit scheme, ie 600 women per VPA or 2,400 women for the group of VPA's.

Commented [NV5R2]: the microcredit scheme foreseen for its first implementation year for the group of VPA's is 20,038 €. Based on previous microcredit experiences managed by Tiipaalga the total benefit from IGA financed though microcredit scheme is 50% of the granted amount37, ie 10,019 €.

E.5.1. Explanation of calculation of value estimated ex ante calculation of approved PDD for this monitoring period

Remarks regarding SDGs indicators calculation:

- SDG 5 Average time saving (in hours) per woman per week: The PD has rephrased the questions regarding the collection of wood and the time saved. The question is now repeated for wet season and dry season to catch differences in wood collection due to changing weather conditions. Additionally, people are asked to give an estimated range of time they spend on the collection of wood both before and after the introduction of the improved stove. Instead of one specific hour, people are asked to give time ranges (eg. 5-6h instead of five hours). The average value (eg. 5.5h) is then used for calculations. Based on these answers, the difference in collection time for an average household for an

average week is calculated. See "*GS1340_MS_VPA14-17_MP2_VPA 29_MP1_20220809_ANALYSIS.xlsx*", Sheet "Group 2" column CL to CS.

E.6. Remarks on increase in achieved SDG Impacts from estimated value in approved PDD

- SDG 13: Emission reductions: the ER estimates of the VPAs 14, 15 & 16 are higher than the expected issuances in the associated VPA-DDs. This is explained by difference in the parameters Up,y and DFb,stoves, i.e. the cookstove usage rate and discount factor to account for the use of baseline stove in project scenario. Compared to ex-ante estimates (respectively 80% and 2%), the parameters for this MP are higher (respectively >90% and <0%). This increase is explained by the fact that the targeted populations welcome the use of the F3PA cookstove positively and dropped the habit of using the traditional three-stones open fires.

- SDG 1: The leader women generated a total benefit of 6,898,450 FCFA or 10,620€. This is in line with the PDD. Regarding the number of leader women receiving microcredits, the 2,400 women receiving credits will only be reached after 4 years, this year, 553 women received a microcredit loan.

- SDG 4: There were 33 training sessions and 91 sensitisation sessions, adding up to 124 sessions total.

- SDG 5: Both for the baseline and project scenario, the average time spent per week per woman on fuelwood collection is higher in the ex-ante estimations than in the monitoring survey. It was estimated that women would reduce their time collecting wood with 30% to be conservative, but the monitoring report shows that it's closer to 50% time saved. Since the efficiency of the improved cookstoves is 2x higher, this is a reasonable result.

- SDG 7: due to the success of the project, more cookstoves were distributed than originally planned.

SECTION F. SAFEGUARDS REPORTING

Not applicable.
No safeguarding principles were added to the monitoring plan.

SECTION G. STAKEHOLDER INPUTS AND LEGAL DISPUTES

G.1. List all Inputs and Grievances which have been received via the Continuous Input and Grievance Mechanism together with their respective responses/mitigations.

The input/grievances from the project stakeholders are collected in the grievance book available at tiipaalga office. A scanned copy is available in document 'GS1340-VPA 14-17_29- Grievance book 20230324_with comments'. The comments are summarized in the following table.

Name and surname	Position	Location	Comment/input	Answer
R. Azaratoa	Leader woman	Nacoum	Need for installation of boreholes for drinking and production purposes.	Outside the scope of the project but being examined
Ouena Kampoaka	Leader woman	Idema Maia	Facilitate the application for a loan from the credit union for the benefit of Leader women.	The microcredit allocation procedure is examined for the specific locality.
Kozari Dompala	Leader woman	Badabié	Provision of more working materials to cover needs	Outside the scope of the project but being examined
Nion Kampani	Leader woman	Gariabié	Contacting the credit union for a group loan for the benefit of Leader women.	Outside the scope of the project but being examined
Kora Sushine	Leader woman	Idema Kera	Need for a tractor	Outside the scope of the project
Ouera Gampouka Martine	Leader woman	Avivi	Contacting the credit union for a group loan for the benefit of Leader women.	Outside the scope of the project but being examined
Zibaré Kavira	Leader woman	Guiaro	Request for a waiver of the repayment date of the micro-credit	Accepted.

G.2. Report on any stakeholder mitigations that were agreed to be monitored.

Not applicable. No stakeholder mitigations were agreed to be monitored.

G.3. Provide details of any legal contest that has arisen with the project during the monitoring period

No legal contest or dispute has arisen.

Revision History

Version	Date	Remarks
1.1	14 October 2020	Hyperlinked section summary to enable quick access to key sections Improved clarity on Key Project Information Section for POA monitoring Forward action request section Improved Clarity on SDG contribution/SDG Impact term used throughout Clarity on safeguard reporting Clarity on design changes Leakage section added for VER/CER projects Addition of Comparison of monitored parameters with last monitoring period Provision of an accompanying Guide to help the user understand detailed rules and requirements
1.0	10 July 2017	Initial adoption