2018 - 2020 Plan Vivo Annual Report

Rehabilitation and sustainable management by REACH Italia of degraded pastures in the Sahel region of Burkina Faso

Submitted by REACH Italia

Prepared by Herman Noppen, CO2logic

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Content

Summary

Project overview	
Reporting period	November 2018 – October 2020
Geographical areas	Villages Bossey Etage, Peteldaye, Tadabat, Gagara I, Touro, Beiga, Gagara II, Ounare, Léré Ibaye, Bouloye, Peokoye, Soffokel and Seytenga
Technical specifications in use	Rehabilitation and sustainable management by REACH Italia of degraded pastures in the Sahel region of Burkina Faso

Project indicators[1]	Historical	Added/ Issued this period (2018-2020)	Total
No. smallholder households with PES agreements	0	0	0
No. community groups with PES agreements (where applicable)	8	5	13
Approximate number of households in these community groups	1,808	3,175	4,983
Area under management (ha) where PES agreements are in place	1,067	653	1,720
Total PES payments made to participants (USD)[2]	4,123 US$	0 US$	4,123 US$
Total sum held in trust for future PES payments (USD)	0	0	0
Allocation to Plan Vivo buffer (tCO_2)	153	264	417
Saleable emissions reductions achieved (tCO_2)	612	1,055	1,667
Unsold Stock at time of Submission (PVC)			0
Total Unsold Stock (PVCs including this vintage)			1,089
Plan Vivo Certificates (PVCs) issued to date			**612**
Plan Vivo Certificates requested for issuance (01/11/2018 – 31/10/2020)			**1,055**
Plan Vivo Certificates available for future issuance (REDD only)			**0**
Total PVCs issued (including this report)			**1,667**

[1] See also Document 'Plan Vivo Project record keeping_REACH Italia_AR4-5'

[2] Currency conversion: 1 € = 1,1 US$

Part A: Project updates

A1 Key events

The REACH Italia Plan Vivo project has been marked by the security situation due to terrorism as well as the health situation related to the COVID-19 pandemic. Since 2018, Burkina Faso faces increasingly frequent and lethal attacks in the northern area. In 2019, more than 600 security incidents have been reported by ACLED[3], causing around 2,200 fatalities of which more than half occurred in the Sahel region, more specifically mainly in the provinces of Soum and Oudalan. The insecurity situation continued also in the year 2020 but is slowing down since the presidential election in November 2020. This insecurity has slowed down or even prevented the realization of certain activities (local inventories and community meetings) in the former project sites as they are not accessible, located in the municipalities of Gorom Gorom and Markoye (Province of Oudalan). Also, the measures taken by the Burkinabe authorities due to COVID-19, which prohibited the gathering of more than 50 people, slowed down the holding of awareness sessions in the villages.

In summary, the security situation has considerably reduced the project's field activities. The inventories could not be carried out on the sites of Bossey-Etage, Pételdaye, Tadabat Gagara 1 which have already benefited from the first transfers of funds and Touro, Gagara 2, Beiga, Ounaré and Gagara 1 which have not yet received Plan Vivo funds. This situation is blocking the delivery of carbon credits. Nevertheless, initiatives are being explored and developed for the ongoing collection of information on the sites. For this monitoring period, a meeting was held with the leaders of the inaccessible villages in Gorom Gorom and information has been collected through telephone calls with people who remained in the villages (see Annex 8).

From the information collected through the telephone calls, it appears, especially for the sites that have received funding, that monitoring is in place at the level of ensuring land charters are adhered to. For example in Gagara I, the Village Development Council (CVD) has set up borehole management committees to ensure a better organization of the management.
Despite the insecurity, the sites are still accessible for livestock from the various villages. With the agreement of the CVD, certain populations were authorized mowing fodder to provide feed for their livestock in more secure circumstances.

The Seno province was less impacted by insecurity and REACH Italia was able to conduct the necessary process that led to the integration of 5 additional villages into the Plan Vivo project (Léré Ibaye, Bouloye, Peokoye, Soffokel and Seytenga). Forest inventories were carried out, household surveys were conducted with AKVO FLOW, Plan Vivo accounts were opened and PES contracts were signed. An overview of the different activities timewise:

- *December 2019*: REACH Italia was able to meet up with the leaders of inaccessible villages in Gorom Gorom to discuss the new strategy regarding the continuation and monitoring of the project.
- *January 2020*: information sessions where the framework of the Plan Vivo process has been explained, planning of activities, elaboration of Plan Vivos in accordance with the local land charters for the five new villages
- *March 2020*: Setting up and signing of the PES agreements with the five new villages and opening of the account.
- *Feb-March-Nov 2020*: Baseline household surveys was conducted for the five newly integrated villages into the Plan Vivo.
- *October-November 2020*: Carrying out of the forest inventories for the new villages, located in the province of Seno.

[3] See: https://acleddata.com/dashboard/#/dashboard

A2 Successes and challenges

Despite the challenges associated with the insecurity, the old villages were maintained in line with the Plan Vivo process. REACH Italia has organized a meeting with the leaders and officials of the villages and telephonic follow up with the community members was performed in order to obtain information on the state of the sites and to insist on the need to continue the actions that continue to preserve them in the Gorom Gorom area.

In addition, five new villages have been integrated into the REACH Italia Plan Vivo project and the realized forest inventories show that the rehabilitated sites are performing well. The average tree densities in all sites are much higher than the defined threshold of 260 trees/ha.

Figure 1: Image of the rehabilitated sites of Soffokel (PV-REACH Italia-009)

However, the insecurity in the Sahel region remains the biggest challenge to overcome. This affects the carrying out of the project activities such as the forest inventories which are needed for the issuance of carbon credits. To overcome this challenge, a study has been conducted and consisted of carrying out an inventory using satellite images. Unfortunately, the study was not able to achieve the expected results (see section F for summary of results)[4]. Hence, it is not possible yet to propose a methodology for the monitoring of the inaccessible sites. However, another initiative, PRISMA project (research and innovation project for productive, resilient and healthy agro-pastoral systems in West Africa)[5] (development of Smart innovation through research in agriculture), in which Lux Dev collaborates is in sight and should allow us to make progress on this issue.

A3 Project developments

No updates or changes to the PDD have been performed during this monitoring period.

Table A1: Document updates

PDD (including technical specifications) document version:		
PDD section	**Date change**	**Short description of update**
N/A	*N/A*	*N/A*

[4] Full report see document: "20200727_Rapport_Réalisation du comptage des ligneux à partir d'images satellite haute resolution"

[5] For more information on the project, see document: "PRISMA Présentation_docdetravail_UE_201021_vf"

There is one corrective action, detailed below. It will be resolved once carbon payments can be made for the first villages to take part in the project.

Table A2: Progress against corrective actions

Document	Corrective action	Activity against this
N/A	*Misbalance of payments between communities after the first issuance has occurred.*	*This will be corrected during the next payment.*

A4 Future Developments

During the year 2019, 2000 ha of land has been recovered in the provinces of Yagha and Seno on behalf of the Action Against Desertification project implemented by the FAO. Also, another 2000 ha were recovered in the Yagha province within the framework of the implementation of the Regional Project for Support to Pastoralism in the Sahel (PRAPS). Within the framework of the collaboration with Lux Dev, 5000 ha were recovered in 2020 including 920 ha outside the pastoral zone of Kougari where the NGO A2N is developing its Plan Vivo project.

All these areas (4,920 ha) would be applicable for a Plan vivo development for the benefit of the communities, and REACH Italia aims to develop these projects. Given the growing insecurity in the project areas, particularly in the province of Oudalan, there is an urgent need to focus on areas where one can still work without too much risk, which is why we are considering integrating the sites in the villages of Fetoumbaga, Peokoye (new site), Bouloye, Kryollo and Taaka which were rehabilitated in 2019 and 2020.

Village	Number of sites	Number of ha	Year of rehabilitation
Fetoumbaga	1	100	2020
Peokoye	1	50	2020
Bouloye	2	100	2020
Kryollo	2	470	2020
Taaka	2	200	2020
Total	**8**	**920**	

Part B: Project activities

B1 Project activities generating Plan Vivo Certificates

The Plan Vivo technical specification is applicable to degraded pastures in the Sahelian zone of Burkina Faso. The sites are former degraded pastures whose topsoil is characterized by a clogged, hardened and impenetrable surface. The intervention of the project is the natural regeneration of the vegetation through the generation of "half-moon" shaped micro-watersheds with the Delfino plough of the Vallerani System and direct sowing of grass and tree species organized with and by the local communities. The responsibilities and benefits of these activities are shared jointly by each village.

Table B1: Project activity summary

Name of technical specification	Area (Ha)	No smallholder households	No Community Groups
Rehabilitation of degraded pastures in the Sahelian zone of Burkina Faso	*1,720*	*4,983*	*13*

During the period under review, the project has expanded to five new villages in the Seno province, which are : Léré Ibaye, Bouloye, Peokoye, Soffokel and Seytenga[6]. Forest inventories, household surveys with AKVO FLOW, the opening of plan vivo bank accounts and the signing of PES contracts were carried out at these village sites.

Table B2: New Plan Vivos included in the project during monitoring period

Area ID	Name of village / Municipality / Province	No smallholder households	Year of rehabillitation	Total area (ha)
PV-REACH Italia- 009	Soffokel /Seytenga/Séno	859	2018	253
PV-REACH Italia-010	Seytenga/Seytenga/Séno	851		47
PV-REACH Italia-011	Lere Ibaye/Dori/Séno	154		140
PV-REACH Italia-012	Peoukoye/Dori/Séno	766		116
PV-REACH Italia- 013	Bouloye/Dori/Séno	545		97
Total		**3175**		**653**

The technical specification "Rehabilitation of degraded pastures in the Sahelian zone of Burkina Faso" are applicable to the new Plan Vivos mentioned in Table B2, as:

- All new areas are located in the Sahelian zone of Burkina Faso;
- The baseline scenarios are old degraded grazing lands of which the topsoil is characterized by a clogged, hardened and impenetrable surface;
- The project intervention is the natural regeneration of vegetation through the generation of "half-moon" shaped micro-catchments with the Delfino plough of the Vallerani system and direct seeding of grass and tree species organized with and by the local communities;
- The long-term effect of the project intervention is established with the implementation of the local land charters which includes the land managed rules for the rehabilitated pasture sites and are integrated in the Plan Vivo of each participating CVD.

B2 Project activities in addition to those generating Plan Vivo Certificates

The herbaceous stratum is quite dense and allows livestock to feed on the site. However, nowadays, for the sites in Oudalan, the emphasis is mainly on exploitation through grass cutting due to insecurity. The sale of some grass species that was practiced in Gorom Gorom has decreased due to the difficulties in moving around in view of the deteriorating security situation.

Part C: Plan Vivo Certificate issuance submission

C1 Contractual statement

This issuance is based on PES agreements signed with participants for the Plan Vivos PV-Reach Italia-009 till 013, meeting all the minimum requirements set out in these agreements.

C2 Issuance request for projects where issuance is made on the basis of ongoing activities on land already managed by the project (e.g. avoided deforestation, calculated *ex-post*)

No issuance request of the already existing Plan Vivos sites (001-008) is made due to

[6] Rapport on recovery of the new sites: "RAPPORT FINAL LABOURS ACD_2018"

insecurity in the Province of Oudalan. Only for the newly added Plan Vivo sites, located in the province of Seno, an issuance request is made (see table below).

Table C1: Statement of tCO2 reductions available for issuance as Plan Vivo Certificates based on activity for reporting period 11/2018 – 10/2020[7]

Area ID	Total area (ha)	Tech. Spec	tCO_2 available from previous periods*	Total tCO_2 achieved this period **	% Buffer	No. of PVCs allocated to the buffer account	No. PVCs requested for issuance from saleable carbon	tCO_2 available for future issuances
PV-REACH Italia-001	161	REACH Italia	0	N/A	20	N/A	N/A	0
PV-REACH Italia-002	79	REACH Italia	0	N/A	20	N/A	N/A	0
PV-REACH Italia-003	42	REACH Italia	0	N/A	20	N/A	N/A	0
PV-REACH Italia-004	244	REACH Italia	0	N/A	20	N/A	N/A	0
PV-REACH Italia-005	75	REACH Italia	0	N/A	20	N/A	N/A	0
PV-REACH Italia-006	146	REACH Italia	0	N/A	20	N/A	N/A	0
PV-REACH Italia-007	231	REACH Italia	0	N/A	20	N/A	N/A	0
PV-REACH Italia-008	89	REACH Italia	0	N/A	20	N/A	N/A	0
PV-REACH Italia-009	253	REACH Italia	N/A	511	20	102	409	0
PV-REACH Italia-010	47	REACH Italia	N/A	95	20	19	76	0
PV-REACH Italia-011	140	REACH Italia	N/A	283	20	57	226	0
PV-REACH Italia-012	116	REACH Italia	N/A	234	20	47	187	0
PV-REACH Italia-013	97	REACH Italia	N/A	196	20	39	157	0
TOTAL	**1720**		**N/A**	**1,319**		**264**	**1,055**	0

*Number of tCO2 sequestered or avoided emission through participants' activities in previous reporting periods which have not yet been issued as PVCs

** Number of tCO2 sequestered or avoided emission through participants' activities this reporting period.

Table C2: Allocation of issuance request

Buyer name/ Unsold Stock	No. PVCs transacted	Registry ID (if available)	Tech spec
CO2logic	555	103000000001419	Rehabilitation of degraded pastures in the Sahelian zone of Burkina Faso
Lux Dev	500		
TOTAL	**1,055**		

C3 Data to support issuance request

Please refer to Annex 1

Part D: Sales of Plan Vivo Certificates

D1: Sales of Plan Vivo Certificates

[7] See also document 'Plan Vivo Project record keeping_REACH Italia_AR4-5'

Table D1: Sales of Plan Vivo Certificates

Vintage	Buyer	No of PVCs	Price per PVC ($)*	Total sale amount ($)*	Price to participants per PVC ($)*	% Sale price received by participants
NA	NA	NA	NA	NA	NA	NA

*Pricing reported for internal monitoring purposes only. Pricing information will be removed from the final published document.

No Plan Vivo Certificates have been issued in previous annual report. Hence, no Plan Vivo Certificates have been sold during the monitoring period.

D2: Unsold stock available for sale

Table D2: Unsold stock of Plan Vivo Certificates

Vintage	No of PVCs	Price to participants (please indicate if this can be included in public version)
2016	0	

Part E: Monitoring results

E1: Ecosystem services monitoring

Monitoring of ecosystem services (i.e. species density and species diversity) has not been carried out in the former plan vivo sites due to insecurity. A proof of concept study was carried out in order to evaluate the density through the usage of satellite images, but it did not have the expected results and it also remains a challenge to integrate the monitoring of the biodiversity indicators.

From the phone calls that REACH Italia was able to have with residents of the different villages, some information could be collected. In Petelday, a resident (Haman Hamidou dit Biga) mentioned noticing an increase in natural regrowth and a return of small fauna. The leader of the village of Touro (Guira Ag Agali, vice-president of the CVD), mentioned that this year there is particularly a lot of grass and natural regrowth and that wild animals such as hares, partridges and even jackals have been observed on the sites. The leader of the village of Gagara II declared that the sites look good, the shrubs have grown well and that there is a lot of grass. He also noted the presence of many species such as Acacia radiana, Accacia nilotica, Balanites aegyptiaca, Zizuphus mauritiana and Leptadenia.

In the newly added Plan Vivo sites, rehabilitated in 2018 and located in another province, the forest inventory could be carried out with the following results:

Table E1: Overview of performance indicators

Performance indicator	Density (#tree plants/ha) Min 260	Specific species diversity (not applicable in year 1)	TARGET MET
PV-REACH Italia-001 Bossey Etage	Not reported	Not reported	N/A
PV-REACH Italia-002 Peteldaye	Not reported	Not reported	N/A
PV-REACH Italia-003 Tadabat	Not reported	Not reported	N/A
PV-REACH Italia-004 Gagara I	Not reported	Not reported	N/A
PV-REACH Italia-005 Touro	Not reported	Not reported	N/A
PV-REACH Italia-006 Beiga	Not reported	Not reported	N/A

PV-REACH Italia-007 Gagara II	Not reported	Not reported	N/A
PV-REACH Italia-008 Ounare	Not reported	Not reported	N/A
PV-REACH Italia-009 Soffokel	561	11	100%
PV-REACH Italia-010 Seytenga	706	8	100%
PV-REACH Italia-011 Lere Ibaye	473	7	100%
PV-REACH Italia-012 Peoukoye	914	9	100%
PV-REACH Italia-013 Bouloye	1,401	7	100%

E2: Maintaining commitments

During the monitoring period, which was marked by the security situation due to terrorism, all actors remained committed to the project.

E3: Socioeconomic monitoring

Formal meetings[8] but also occasional meetings took place in the city of Gorom Gorom which is the main city for the first villages benefiting from the Plan Vivo project. These meetings made it possible to decide on the strategy to maintain the sites, such as on the herding of animals to the sites for grazing and the mowing of fodder to avoid fires. During these meetings, the need for the maintenance of the sites was stressed. As a result, all the sites in these villages were reseeded. In order to do this, each household was responsible for collecting organic manure, and in view of the security situation and to avoid crowding, reseeding was done in small groups. Each household reseeded the sites that were closest to them in order to attract as little attention as possible.

In the village of Bossey Etage, a replacement of the signatory of the account is being carried out. Bossey Etage had planned to drill a well but since the money is not sufficient, the population is considering financing income-generating activities (IGAs) for women. The change of the signatories of the account is envisaged as soon as possible in order to make funds available for the financing of IGAs for the benefit of women. In the village of Pételdaye, the CVD now resides in Gorom Gorom because of insecurity. Here again, the funds received were not used because they were insufficient for the project that was envisaged. Here too, it is planned to see the possibility of changing the initial project in order to prioritize less costly activities but due to the insecurity situation, this process has been slowed down.

Overall, socioeconomic monitoring activities have been carried out to the extent possible for Plan Vivos REACH Italia-001 to 008. The results of the parameter "Number of CVD meetings" are rather indicative because with the security situation, some were forced to leave the village and for those who remained to have rather restricted meetings. It can be concluded that despite the insecurity, all the CVDs are functional. The socio-economic and other monitoring requirements (sections K2 to K4) were updated in the PDD during the previous monitoring period and implemented accordingly. Data has been collected by the CVD. An overview of the results of the monitored parameters can be found in the table below and more details can be found in Annex 4.

[8] See document 'Compte rendu de rencontre_Plan Vivo Gorom_v1.0'

Table E3: Overview of socioeconomic and other parameters

Parameter	PV-REACH Italia-001 Bossey Etage	PV-REACH Italia-002 Peteldaye	PV-REACH Italia-003 Tadabat	PV-REACH Italia-004 Gagara I	PV-REACH Italia-005 Touro	PV-REACH Italia-006 Beiga	PV-REACH Italia-007 Gagara II	PV-REACH Italia-008 Ounare
Community pay-outs	US$0	US$0	US$0	US$0	US$0	US$0	US$0	US$0
Amount spent	US$0	US$0	US$0	US$0	US$0	US$0	US$0	US$0
Number of direct beneficiaries	0	0	0	0	0	0	0	0
Number of conflicts related to natural resource management	0	0	0	0	0	0	0	0
Monitoring committee in place	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of CVD meetings	2	3	2	<4	<4	<4	<4	<4

As in previous report, some communities have not yet spent their amount available in their Plan Vivo village fund after receipt of the PES pay-outs, as the required budget for the chosen community activity exceeds the available funds. Nevertheless, the villages Tadabat and Gagara I were able to use the community pay-outs for the rehabilitation of broken boreholes during the last monitoring report. In the last monitoring period, no inventories could be carried out due to insecurity, hence no extra community pay-outs took place. Hence, in this period no money was spent and as a result no direct beneficiaries are reported.

Based on the monitoring of the parameter "Number of conflicts related to natural resource management", the definition of conflict was better defined and monitored. In the view of lack of pastoral resources, tensions regarding access to pasture should not be considered as conflicts. Conflicts should rather be considered as violations of the rules determined in the local land charters which are part of the Plan Vivo. While conducting the survey, it is emphasised that the question concerns conflicts related to the implementation of the local land charter. During this monitoring period, no conflicts were reported. This has been confirmed during telephone calls with community members (see Annex 8).

A committee for the monitoring of the rehabilitated sites is in place for all Plan Vivos as it is also put in place through the local land charter, which is a fundamental instrument for organizing the management of the pastures in the Sahel zone.

The CVD is an important feature for fostering local development and as specified in the PDD is a governance structure that has been put in place since 2007 within the process of decentralization of state services in Burkina Faso. The CVD gives villages a unique and official structure to organize and develop local initiatives. Because of the security situation, the CVD members were not able to organize large gatherings during this period. In December 2019, REACH Italia organised a meeting with all the heads of the CVDs of the different villages. From smaller meetings, organised by the CVD themselves, no meeting minutes are available. Hence, the result of the parameter 'Number of CVD meetings' is rather indicative. Based on the collected information[9], it can be concluded that all CVD's are functional, as it was also one of the selection criteria to include the village in the Plan Vivo project. Also, during the calls, it was confirmed that people in charge of surveillance committee are still carrying out their work, but in a more discrete manner.

For the five new villages that were integrated into the project (PV-REACH Italia- 009 to 013), the baseline survey was conducted on a sample of 30 households per village using the AKVO FLOW tool. The indicators focus on livelihood, natural resources management, economic

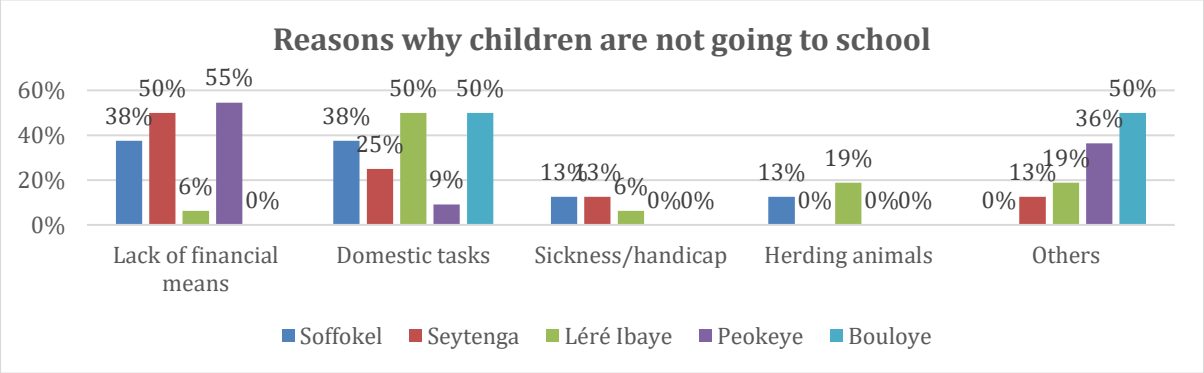
[9] See document: PV-REACH Italia-001-004_Fiche collecte de données _CVD 2020

situation, family and governance. The results of the survey can be found in table E4.

Table E4: Overview of baseline indicators

Indicators	PV-REACH Italia- 009 Soffokel	PV-REACH Italia-010 Seytenga	PV-REACH Italia-011 Léré Ibaye	PV-REACH Italia-012 Peokeye	PV-REACH Italia- 013 Bouloye
% of girls go to school	89%	78%	59%	69%	84%
Fraction of households had revenue from livestock selling	100%	90%	100%	60%	83%
Average annual revenue from livestock sales	440 227 FCFA 797 US$	505 017 FCFA 915 US$	434 476 FCFA 787 US$	202 417 FCFA 367 US$	250 867 FCFA 454 US$
Fraction of households selling milk	55%	24%	55%	17%	27%
Average annual revenue from the sale of Milk	111 091 FCFA 201 US$	105 276 FCFA 190 US$	35 194 FCFA 63.7 US$	2 400 FCFA 4.35 US$	49 400 FCFA 89.5 US$
Fraction of households buying agro-industrial by-products	95%	100%	97%	70%	83%
Average number of purchased bags of agro-industrial by-products	25	29	19	11	18
Fraction of households practicing transhumance	36%	21%	29%	3%	20%
Average number of months that transhumance is practiced	4.7	3	5	5	2.6
Fraction of households aware of conflicts related to the management of rehabilitated pasture sites during last year	0%	7%	0%	3%	13%
Fraction of households perceiving that NOT all community members have access to the natural resources of the village	0%	3%	0%	0%	0%
Fraction of households perceiving that tenure security is NOT guaranteed for all community members	0%	3%	3%	0%	0%

The percentage of girls going to school varies between 59% and 89% among the different villages. The most important reason is the lack of financial means, followed by realizing domestic tasks in the household and others.



The average revenue from the sale of livestock ranges from 202 417 FCFA to 505 017 FCFA,

depending on the village. It appears that the villages having more revenue from sales of livestock also generate the more revenues from the sale of milk and purchase on average the most bags of agro-industrial by products. In all villages, most of the households purchase agro-industrial by-products. Reasons for its usage are (i) the increase of milk production; (ii) the lack of access to fodder during the lean season; and (iii) the magnitude of the livestock in relation to the available pastureland.

Transhumance is practiced in all villages, with an average duration of around 2.5-5 months. Except for the village of Peokeye, where only 3% households indicates that they practice transhumance. Note that in Peokeye, the annual revenue for the sale of livestock and milk is also the lowest. The reasons for practicing transhumance that were indicated are the lack of pasture and water for the animals.

In the villages of Soffokel and Léré Ibaye no conflicts related to the management of rehabilitated pasture sites were reported. In Bouloye the most conflicts were reported, followed by Seytenga and Peokeye. The nature of the conflicts were about the use of boreholes, practices of agriculture inside the pastoral zone and the harvest of wood.

The survey shows that all community members have access to natural resources of the village, except one household in Seytenga mentioned that there is not enough space for grazing which leads some to transhumance practices. The same could be concluded concerning the perception of households that tenure security is guaranteed for all community members. Several households indicated that they use rented land (and hence are not the owner of the land) for their own purposes (which is common), but the project activities (rehabilitation of land) is implemented on communal land, accessible for all villagers. Hence, these reasons were not considered as it does not concern the pastoral areas. The objective is to monitor the land tenure security of the pastoral areas along the project lifetime.

More details (with raw data) can be found in Annex 4.

E4: Environmental and biodiversity monitoring

The environmental and biodiversity indicators identified are the number of tree species and the number of herbaceous species. Monitoring could not be carried out due to security problems in the Province of Oudalan, which is home to the first Plan vivo villages of this project. However, for the new sites that were incorporated into the project during the reporting period, the results are in the table below.

The baseline has been determined based on a study of INERA[10] within the framework of the BKF/017 programme.

Table E5: Overview of environmental and biodiversity indicators

Environmental/biodiversity indicators	Number of tree species	Number of herbaceous species
PV-REACH Italia-001 Bossey Etage	Not available	Not available
PV-REACH Italia-003 Peteldaye	Not available	Not available
PV-REACH Italia-003 Tadabat	Not available	Not available
PV-REACH Italia-004 Gagara I	Not available	Not available
PV-REACH Italia-005 Touro	Not available	Not available
PV-REACH Italia-006 Beiga	Not available	Not available

[10] Baseline based on external study from other sites which are situated in other villages than the Plan Vivos included in the project. These figures are rather indicative figures. Source: INERA (2014): Rapports techniques d'état d'avancement du Protocole d'accord entre l'INERA et le projet Azawak: Suivi scientifique des sites de recuperation de terres dégradées réalisées par le projet BKF/017 "Azawak Ressources Pastorales" notament dans les communes de Gorom Grom, Markoye, Dori et Bani.

PV-REACH Italia-007 Gagara II	Not available	Not available
PV-REACH Italia-008 Ounare	Not available	Not available
PV-REACH Italia-009 Soffokel	11	10
PV-REACH Italia-010 Seytenga	9	6
PV-REACH Italia-011 Lere Ibaye	10	4
PV-REACH Italia-012 Peoukoye	10	7
PV-REACH Italia-013 Bouloye	8	6
Baseline	2	4.5

More detailed information can be found in Annex 5.

Part F: Impacts

F1: Evidence of outcomes

A proof of concept study was carried out in 2019-2020 in order to be able to evaluate the evolution of the rehabilitated pasture sites where the insecurity situation does not allow anyone to go on site. The inaccessibility of these sites results in the delay or non-issuance of Plan Vivo certificates and hence no revenues are generated for the population despite the good management of their resources.

The study[11] analysed whether via remote sensing, using satellite images (high-resolution images of Google Earth) and ground truthing data of still accessible sites, it was possible to establish a relationship that could be used to estimate the number of trees at inaccessible sites in the same agro-ecological zone. They focused on two methods for counting plants from existing high-resolution satellite images: direct on-screen scanning by visual interpretation and semi-automatic counting by segmentation of high-resolution images extracted from Google Earth. A field inventory in the pastoral area of Sambonaye in the Sahel was carried out for ground truthing.

Analysis of the data by linear regression showed a strong positive linear correlation for both methods. The very high resolution images from Google Earth are a source of information for estimating the density of woody plants on restored land in the Sahel. However, for accuracy in processing, it is desirable to acquire raw images as those offered by Google Earth and these are not always available for the entire territory at the desired temporal resolution. The first method (direct scanning by visual interpretation) is an accessible method, but requires still a lot of manual interpretation work. The technique of counting by segmentation and classification of very high resolution satellite imagery allows for faster counting of woody species from satellite images. However, this technique requires a fairly high level of knowledge in satellite image processing. This method allows counting over larger areas using raw images. Depending on the period of the inventory, raw satellite images should be available and the samples on the images should be selected appropriately.

In terms of limitations, it should be noted that the present study did not take into account the monitoring of the biodiversity indicators, such as the diversity of trees and herbaceous species, neither did it account for the size of the trees. An evaluation of the quantity of biomass and carbon sequestered from vegetation indices could therefore be considered. The estimation of the specific diversity poses the challenge of knowing the spectral signature of the species that were put on the project sites. This would require a more in depth characterisation study of plots planted with these species and set up for the purposes of research.

[11] See document: "20200727_Rapport_Réalisation du comptage des ligneux à partir d'images satellite haute résolution"

A technical issue that has emerged from this work, is the need to understand the possibility of detecting small trees and to determine the smallest tree size that can be detected on a high-resolution image and the differentiation of trees from herbaceous species and grassland. This issue is very important for monitoring and predicting the natural regeneration of trees on project sites. It is also important in the Sahel because for the highly foraged species chosen for the pastoral areas, the presence of animals does not always allow for optimal growth of tree species, thus affecting their size. It is therefore necessary to consider the size that can be detected by remote sensing, bearing in mind that small trees will not often be found.

In the same context of technical challenges for remote sensing applied to the problem of monitoring trees in the Sahel, thoughts can be given to the question of using the shape of tree crowns rather than using the centroid of the plants detected on images. Normally the shape of the crown is a characteristic of trees, but this characteristic is not clear enough in the context of tree associations. This is therefore a field of research to be explored: the possibility of characterising crowns and identifying the corresponding species or the possibility of defining characteristic crowns in the context of tree associations.

In general, it can be concluded that further research should be done in order to be able to identify the small trees and to be able to estimate the species diversity and average density per hectare in the project area. A recent study (Brandt et al. 2020)[12] has demonstrated the possibility of counting trees with minimum crown cover of 3m² in the Sahel region using deep-learning techniques. In the context of another initiative (2021), financed by the European Union (PRISMA), and in which Lux Dev collaborates, it will be possible to make further progress on this issue.

Part G: Payments for Ecosystem Services

G1: Summary of PES by year

Overview of the payments can be found in the table below or in the tab “Actual payments” of the file “Plan Vivo Project record keeping_REACH Italia_AR4”.

Table G1: Summary of payments made and held in trust

1. Reporting year (mm/yy – mm/yy)	2. Total first year payment	3. Total ongoing payments	4. Total payments made (2+3)	5. Total payments held in trust	6. Total payments withheld
11/2015 – 10/2016	0 US$	0 US$	0 US$	0 US$	0 US$
11/2016 – 10/2018	4,123 US$[13]	0 US$	4,123 US$	0 US$	0 US$
11/2018 – 10/2020	0 US$	0 US$	0 US$	0 US$	0 US$
TOTAL	**4,123 US$**	**0 US$**	**4,123 US$**	**0 US$**	**0 US$**

No payments are held by REACH Italia at the end of the reporting period November 2018 - October 2020.

Contractual commitments (i.e. third year payments for PV-REACH Italia of Plan Vivo) 001 Bossey Etage, PV-REACH Italia-002 Peteldaye, PV-REACH Italia-003 Tadabat, PV-REACH Italia-004 Gagara I, PV-REACH Italia-005 Touro, PV-REACH Italia-006 Beiga, PV-REACH Italia-007 Gagara II, PV-REACH Italia-008 Ounare) cannot be met at this time as the inventory has not been completed due to security issues in the province of Oudalan. As such, no issuance of

[12] Brandt, M., Tucker, C.J., Kariryaa, A. et al. An unexpectedly large count of trees in the West African Sahara and Sahel. Nature 587, 78–82 (2020). https://doi.org/10.1038/s41586-020-2824-5

[13] Currency conversion: 1 € = 1.18 US$

Plan Vivo certificates has been requested for these sites.

Part H: Ongoing participation

H1: Recruitment

Five new villages have been integrated into Plan vivo in the REACH Italia project:

Table H1: Details of new Plan Vivos

Area ID	Villages	Number of sites	Total area (ha)
PV-REACH Italia- No.009	Soffokel	2	253
PV-REACH Italia-No.010	Seytenga	1	47
PV-REACH Italia- No.011	Léré Ibaye	1	140
PV-REACH Italia- No.012	Peoukoye	2	116
PV-REACH Italia- No.013	Bouloye	2	97
Total		**8**	**653**

The technical specifications of the PDD also applies to the new villages as:

- All five villages are located in the Sahelian zone of Burkina Faso (see map in Annex 9);
- The sites[14] before project intervention were old degraded grazing land of which the topsoil is characterized by a clogged, hardened and impenetrable surface;
- The technology used for the rehabilitation of the degraded sites is the Vallerani system with the Delfino plough;
- Communities are involved in the selection of the sites and the herbaceous and trees species, and in direct seeding activities;
- Local land charters have been put in place and CVDs are functioning in each corresponding village.

The contracts[15] were signed with the communities in each village after being well informed about the Plan Vivo process, the PES scheme and necessary monitoring targets to achieve in order to receive the payments[16]. During these awareness sessions, around 747 people in total took part, including 235 women (see table below). The column on the right refers to the total number of households within each village, to show what proportion of villagers took part in community meetings.

Table H2: Number of participants during community meetings

Village	Number of women	Number of men	Participants/village	Total N° of smallholders households
LERE IBAYE	43	88	131	859
BOULOYE	53	134	187	851
PEOUKOYE	48	90	138	154
SEYTENGA	55	105	160	766

[14] See shapefiles in folder "NEW PVs – REACH Italia"

[15] See documents: (i) "Contrat PES PV – REACH Italia – 009 - Soffokel", (ii) "Contrat PES PV – REACH Italia – 010 – Seytenga", (iii) "Contrat PES PV – REACH Italia – 011 – Lere Ibaye", (iv) "Contrat PES PV – REACH Italia – 012 - Peoukoye", (v) "Contrat PES PV – REACH Italia – 013 - Bouloye"

[16] See meeting minutes of community meetings (Annex 7)

SOFOKEL	36	95	131	575

Figure 2: Community meeting in Lere Ibaye (PV-REACH Italia–011)

Figure 3: Community meeting in Bouloye (PV-REACH Italia-013)

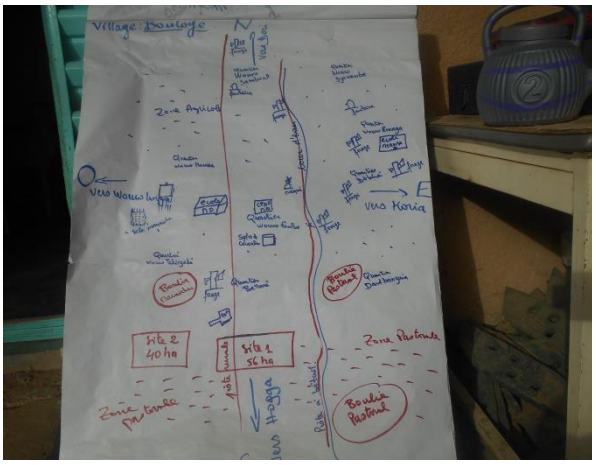


Figure 4: Plan Vivo of Bouloye (PV -REACH Italia-013)

Figure 5: Community meeting Peokoye (PV-REACH Italia-012)

Figure 6: Community meeting in Soffokel (PV-REACH Italia-009)

Figure 7: On the sites of Lere Ibaye (PV-REACH Italia-011)

H2: Project Potential

In 2018, Lux Dev has initiated a new program BKF/024 "Project for land reclamation efforts towards pastoral usage and in conservation areas" [17] in the same dynamic, which is the restoration and recovery of degraded grasslands. The program will last till 2022. The program focuses on rehabilitation of pastureland in the commune of Dori. The objective is to include part of the pastureland rehabilitated in 2019 and 2020 through this program under PES management.

Table H3: Details of potential project participants

Wider engagement	Province of Seno
No community groups with plan vivos	5
Approximate number of households (or individuals) in these community groups (if known)	/

The identified villages that REACH Italia envisages to include in the Plan vivo project can be found in the table below.

Table H4: Details of potential new Plan vivo projects

Village	**Number of sites**	**Number of ha**	**Year of completion**
Fetoumbaga	1	100	2020
Peokoye	1	50	2020
Bouloye	2	100	2020
Kryollo	2	470	2020
Taaka	2	200	2020
Total		**920**	

H3: Community participation

The communities represented by the Village Development Councils (CVDs) are the main beneficiaries of this project. Despite the deteriorating security situation, they have remained mobilized for the sustainable management of the sites. To the extent possible, small community meetings have been organized to manage the collection of seeds and reseeding activities of sites. REACH Italia also organized meetings with some village leaders in Gorom Gorom to review the implementation of the project in villages that were no longer accessible[18].

[17] https://luxdev.lu/en/activities/project/BKF/024

[18] Meeting minutes see document: "Comte Rendu de recontre_plan vivo gorom_v1.0"


Figure 8: Pictures of the meeting with the village leaders in Gorom Gorom

As new villages have been included in the Plan Vivo project, several meetings were organized on the Plan Vivo recruitment process. Through local meetings, all members of the community have been involved in the decision-making process regarding determination of the performance indicators, benefit sharing mechanism and land use management. The communities decided how the sites should be managed based on the local land charters. The sharing and awareness sessions helped local communities to understand the objectives of the rehabilitation of degraded pastures and to get involved in making decisions and to be responsible for the selection of species and management of these sites.

Through data collection of the CVDs (see Annex 4, document 3), there is mentioned that some meetings in the villages were organized but no meeting minutes are available. In the village of Bossey Etage, a meeting of the CVD members and the supervisors of the sites was held on September 5, 2020 for the programming of the activities to be carried out on the recovered sites. This meeting was attended by thirteen (13) people including two (2) women. It should be noted that in this village there were many problems related to insecurity and that a change of CVD members had to take place. The following activities were decided during this meeting (i) the renewal of the signatories of the village savings account, (ii) suggestion of the use of the funds available for the realization of IGAs for 30 women of the village. Another meeting focused on the organization and strengthening of site monitoring by a committee that visits the sites to see if everything is going well, especially the respect of the charter (prohibition of wood cutting, bush fires, taking grass for sale, installation of transhumant animals in the site, etc.).

In the village of Peteldaye, a meeting was held and decided to decide on the reallocation of the fund. Several meetings were also organized in the villages of Tadabat and Gagara 1 and helped prevent internally displaced persons due to terrorism from cutting wood in Plan vivo sites.

Table H5: Topics discussed during the community meetings

Village	N° of meetings	Topics
Bossey - Etage	2	• The renewal of the signatories of the village savings account, • Monitoring of the sites. During this meeting the mowing for animal feed was authorised
Peteldaye	3	• Strengthening of the surveillance of the site in order to fight against bush fires and the cutting of wood. The supervisor and all the people of the village were asked to give the alert when there is a fire on the sites. The herdsmen contribute by watching the animals. • Meeting of CVD members to decide on the reallocation of the fund for social purposes. In the context of the difficult food situation due to the poor winter season and the insecurity which has not allowed some households to harvest crops, it was

		decided to use the funds to buy food and distribute it to those most in need.
Tadabat	2	• Surveillance of the sites and discussion to clarify certain situations where displaced people from surrounding villages cut wood and whether they were informed about the ban on this practice. • Meeting with town hall and the environmental service to discuss the prevention of fire destruction of the sites
Gagara I	<3	• Increase of monitoring of sites by the monitoring committee • Improve the management of borehole committees (of boreholes repaired by Plan Vivo funds) • Organisation of periodical meetings for a better management of the funds coming from the contributions for the water use of owners with large herds who water their animals at these boreholes • Organisation of meeting to define the rules for the use of boreholes by the COGES (school management committee) accompanied by the village CVD • Setting up of a notebook to record the achievements

Examples of meeting minutes (in French) can be found in Annex 7.

Part I: Project operating costs

I1: Allocation of costs

All expenses were met through PVC sales.

Table I1: Allocation of costs[19]

Expenses	Narrative	Amount	Contribution from the sale of PVC	Contribution from other sources
Support for the opening of bank accounts plan vivo of new villages	Fuel cost	50,000 FCFA 91 US$	50,000 FCFA 91 US$	
Conduction of forest inventories and activities in villages (surveys for new Plan Vivos and awareness session) Participation to capacity building session in Ougadougou	Fuel cost Per diem and fuel cost	400,000 FCFA 728 US$ 225,000 FCFA 404 US$	400,000 FCFA 728 US$ 225,000 FCFA 404 US$	

[19] The table contains estimation of the costs

Annexes

Annex 1. Monitoring results for issuance request

The chosen performance indicators to evaluate the state of the project intervention are tree density and specific species diversity. As shown in the technical specifications these indicators are directly linked to the delivery of climate services, i.e. CO_2 sequestration. The *Acacia Tortilis Subsp. Radianna* is a pioneer species in rehabilitated pasture sites, but has a lower biomass production than other species planted by direct seeding by the local communities, like *Balanites Aegyptiaca, Ziziphus Mauritiana, Acacia Nilotica, Acacia Sénégal and Acacia Seyal*. The indicator "specific species diversity (min. 5 tree plants per specie / ha)" will foster tree species other than the invasive pioneer specie *Acacia Tortilis*, and contribute to the CO_2 sequestration. According the technical specifications a minimum tree density of 260 tree plants/ha and specific species diversity of 3 (min. 5 tree-plants per specie / ha) will deliver after 30 years at least 61 tCO2e (before the deduction of 20% risk buffer).

The indicators density and specific species diversity are monitored annually by REACH Italia in close collaboration with the local communities. In order to cover the diversity of the rehabilitated site, the number of tree plants according to species and the number of half-moon shaped micro-basins will be counted along two diagonal transects on each site. As the reference number of half-moon shaped micro-basins per hectare is on average 260 per hectare, the tree density is calculated accordingly. This approach allows to take into account the variation across the different sites. The intention is to inventory at least 1% of the half-moon shaped micro-basins. In addition the number of half-moon shaped micro-basins without tree plants will be counted in order to evaluate the necessity of reseeding activities. The average of the different monitoring plots of all rehabilitated sites managed by the CVD are considered as the result of the performance indicators of the corresponding Plan Vivo for a specific monitoring year.

The monitoring activities have been realized in October-November 2020 at the end of the rainy season. The table below presents the monitoring results for the 5 new Plan Vivos included in the project. No monitoring was carried out for the other Plan Vivos due to insecurity. One can see that all 5 Plan Vivos reach the minimum requirements specified in the PES contracts of 260 tree plants per hectare and of 3 species per hectare.

See also document 'Inventaire_REACH Italia_AR 4_20201223_v1.0'

Examples of data collection files can be found in following document:

- 'Inventaires_AR4_PV-REACH Italia 009-013'

Nom du village Plan Vivo		PV-REACH ITALIA-009: SOFFOKEL	PV-REACH ITALIA-010: SEYTENGA	PV-REACH ITALIA-011: LERE IBAYE	PV-REACH ITALIA -012: PEOUKOYE	PV-REACH ITALIA-013: BOULOYE
Monitoring year		Year 2 (planting: 2018)	Year 2 (planting: 2018)	Year 2 (planting: 2018)	Year 2 (planting: 2018)	Year 2 (planting: 2018)
Numéro des sites		Total	Total	Total	Total	Total
Transecte						
Number of hectares		250 ha	47 ha	140 ha	115 ha	95 ha
Number of half-moons with tree plants		1894	435	528	329	224
Number of half-moons without tree plants		54	273	146	92	140
Number of inventoried half-moons		1948	708	674	421	364
% inventoried half-moons compared to total		5%	5%	2%	2%	3%
Fraction of half-moons without tree plants		3%	39%	22%	22%	38%
Total number of inventoried tree plants		3082	1665	1062	1282	1700
Density of tree plants	Number of tree plants per hectare	475 #/ha	706 #/ha	473 #/ha	914 #/ha	1401 #/ha
Specific diversity of tree plants	Acacia raddiana	126 #/ha	31 #/ha	194 #/ha	378 #/ha	946 #/ha
	Zizyphus mauritiana	32 #/ha	11 #/ha	20 #/ha	21 #/ha	42 #/ha
	Acacia nilotica	94 #/ha	497 #/ha	53 #/ha	170 #/ha	50 #/ha
	Balanites aegyptiaca	75 #/ha	59 #/ha	64 #/ha	115 #/ha	99 #/ha
	Acacia seyel	24 #/ha	49 #/ha	25 #/ha	82 #/ha	44 #/ha
	Acacia senegal	37 #/ha	23 #/ha	99 #/ha	104 #/ha	192 #/ha
	Faidherbia albida	10 #/ha	1 #/ha	12 #/ha	14 #/ha	2 #/ha
	Acacia sieberiana	0 #/ha	0 #/ha	0 #/ha	0 #/ha	0 #/ha
	Acacia laeta	31 #/ha	0 #/ha	0 #/ha	0 #/ha	0 #/ha
	Bauhinia rufescens	9 #/ha	0 #/ha	1 #/ha	1 #/ha	0 #/ha
	Piliostigma reticulatum	28 #/ha	26 #/ha	2 #/ha	21 #/ha	0 #/ha
	Autres	9 #/ha	8 #/ha	4 #/ha	8 #/ha	26 #/ha
	Number of species (>5 #/ha)	11	8	7	9	7

Annex 2. Ongoing monitoring results for all participants

Not applicable.

Annex 3. Reallocation of commitments

Not applicable

Annex 4. Socioeconomic monitoring results

See documents:

- Analyse_Situation de reference_PV-REACH Italia 009-013_v1.0
- Compte rendu des appels pour collecte de donnees niveau village_20210217
- PV-REACH Italia -001-004_Fiche collecte de données_CVD 2020

Annex 5. Conservation and monitoring results

Overview of the environmental and biodiversity monitoring results[20]

Nom du village Plan Vivo		PV-REACH ITALIA-009: SOFFOKEL	PV-REACH ITALIA-010: SEYTENGA	PV-REACH ITALIA-011: LERE IBAYE	PV-REACH ITALIA -012: PEOUKOYE	PV-REACH ITALIA-013: BOULOYE
Monitoring year		Year 2 (planting: 2018)	Year 2 (planting: 2018)	Year 2 (planting: 2018)	Year 2 (planting: 2018)	Year 2 (planting: 2018)
Numéro des sites		Total	Total	Total	Total	Total
Tree diversity	Acacia raddiana	x	x	x	x	x
	Zizyphus mauritiana	x	x	x	x	x
	Acacia nilotica	x	x	x	x	x
	Balanites aegyptiaca	x	x	x	x	x
	Acacia seyel	x	x	x	x	x
	Acacia senegal	x	x	x	x	x
	Faidherbia albida	x	x	x	x	x
	Acacia sieberiana					
	Acacia laeta	x				
	Bauhinia rufescens	x		x	x	
	Piliostigma reticulatum	x	x	x	x	
	Autres	x	x	x	x	x
	Number of species	**11**	**9**	**10**	**10**	**8**
Herbaceous diversity	Alysicarpus ovalifolius					
	Boreria diffusa					
	Boreria radiata					
	Cassia occidentalis					
	Cassia tora	x	x	x	x	x
	Corchorus olitorius	x	x		x	x
	Cenchrus biflorus	x	x		x	x
	Chloris pilosa					
	Corchorus tridens	x			x	
	Dactyloctenium aegyptium					
	Eragrostis tenella					
	Eragrostis aspera					
	Euphorbia hirta					
	Indigofera tinctoria					
	Leptadenia	x	x	x	x	x
	Mollugo nudicaulis					
	Panicum laetum	x	x	x	x	x
	Perriatum					
	Schoenefeldia gracillis	x	x	x	x	x
	Setaria pallide fusca	x				
	Tribulis terrestris					
	Zornia glochidiata	x				
	Eragrostis tremula	x				
	Sesbania sesban					
	Nombre d'espèce (#)	**10**	**6**	**4**	**7**	**6**

[20] See also document 'Inventaire_REACH Italia_AR 4_20201223_v1.0'

Overview of herbaceous species present in the rehabilitated sites

Herbaceous specie	Picture	Main characteristics
Cassia tora		- The plant and seeds are edible; - Leaves can be cooked as a vegetable; - The roasted seeds are a substitute for coffee; - Used to make tea; - Natural pesticide; - The seeds and leaves are also used to treat skin disease; - The seeds can be utilized as a laxative; - Whereas the rods are used for the construction of roofs, doors and fences and are also used as fuel.
Cenchrus biflorus		- Food consumption: good help for food security; - Used to foster rural development; - Used to support sustainable land management.
Corchorus tridens		- Food consumption: vegetable, soup and sauce; - Used for medicine.

Leptadenia		- Used for medicine for men and livestock to treat: (i) diarrhoea; (ii) vermifuge; and (iii) fever.
Panicum laetum		- Also called “wild fonio”; - Used in the rehabilitation of degraded pastures green pastures; - Food consumption; - Livestock fodder.
Schoenefeldia gracilis		- Livestock fodder; - Medicine; - Construction.

Setaria pallide fusca		- Common weed; - Food for men and livestock; - Important role in stabilising bare soil to protect it from erosion.
Zornia glochidiata		- Annual plant; - Food consumption: vegetable, sauce; - Soil fixation, soil binder; - Livestock forage; - Medicine: Laxative.
Eragrostis tremula		- Annual grass - Food for livestock (and men)

Annex 6. Impacts

These are described in the main report and focus on the advantages of the diversity of tree and herbaceous species for the local communities

Annex 7. Community meeting records (summary)

See meeting minutes of community meetings in French:

- PV REACH Italia – Compte Rendu de rencontre_Gorom_v1.0
- PV REACH Italia 009_Rapport des animations_Soffokel
- PV REACH Italia 010_Rapport des animations_Seytenga
- PV REACH Italia 011_Rapport des animations_Lere Ibaye
- PV REACH Italia 012_Rapport des animations_Peoukoye
- PV REACH Italia 013_Rapport des animations_Bouloye

Annex 8. Summary telephone calls

- See document for summary in French: "Compte rendu des appels pour collecte de donnees niveau village_20210217"

Village name	Bossey-Etage
Name of person	Abdou L. Warlid
Date	5/12/20 – 15/12/20 – 15/02/21
Name of the caller (NGO)	Amé Abdul Aziz
Synthese of exchanges	
- There was a meeting on the use of funds available for the realization of I.G.A. for the benefit of the 30 women in the villages (but not yet realized) - Strengthening of the surveillance committee for site monitoring - Funds are available at the UCEC account - No conflicts related to the management or exploration of natural resources at village level	

Village name	Gagara I
Name of person	Sanibo ag. Ibegar.
Date	12/12/20 - 15/12/20 - 15/02/21
Name of the caller (NGO)	Cissé Abdoul Aziz
Synthese of exchanges	
- Enhanced monitoring of sites by the surveillance committee - Good management of drilling repaired by Plan Vivo funds - Better fund management by the Borehole Management Committee - Repaired borehole is functional - No conflict in the village - But insecurity is present, linked to the HANI (Unidentified Armed men)	

Village name	Tadabat
Name of person	Mahamoud ag. Herouna
Date	4/01/2021 - 12/01/2021 - 16/01/2021
Name of the caller (NGO)	Cissé Abdoul Aziz
Synthese of exchanges	
- Meeting of CVD members to monitor sites to prevent sites from being set on fire, as they have become the refuge of unidentified armed men - This year no investment was made but last year the repair of the borehole in the village cost the sum of 200,000 FCFA. The whole village benefited from this. - No conflict has been raised over the exploration of natural resources	

Village name	Peteldaye
Name of person	Haman Hamidou dit Biga
Date	5/01/2021 - 10/01/2021 - 16/02/2021
Name of the caller (NGO)	Cissé Abdoul Aziz

Synthese of exchanges

- Increased natural regrowth
- Monitoring of the sites by the monitoring committee; surveillants are chosen according to the position of their house in relation to the site.
- The funds are available in the account and will be used to support the repair of the borehole and also to support the population in acquiring cereals during lean period or to carry out income generative activities for women
- Meeting for the organisation and reinforcement of the surveillance of the area
- Return of wildlife
- No conflicts observed

Village name	Beiga
Name of person	Abori Abisinay Zeïnal - advisor
Date	10/01/2021 - 22/01/2021 - 16/02/2021
Name of the caller (NGO)	Cissé Abdoul Aziz

Synthese of exchanges

- The sites are located very far from the concessions in the insecure zone
- Nevertheless, the members of the monitoring committee visit regularly the sites in small groups of two people.
- The observation is that the sites are becoming more and more dense. There are natural sprouts and a lot of grass; the forest is coming back. The presence of wildlife is also noted
- No conflicts reported related to the management or exploitation of natural resources

Village name	Touro
Name of person	Guirra ag. Mr. Agali.
Date	15/01/2021 - 16/02/2021
Name of the caller (NGO)	Cissé Abdoul Aziz

Synthese of exchanges

- There has been a lot of grass this year and a lot of natural regrowth on the rehabilitated sites
- The security situation is also a concern
- The people in charge of surveillance do it from time to time, but the people do not linger on the sites because of the insecurity.
- The good rainfall of the past year has had a positive impact on the sites
- Wild animals such as hare and even jackals have been seen in the sites
- No conflicts related to the exploitation of natural resources were reported in the village

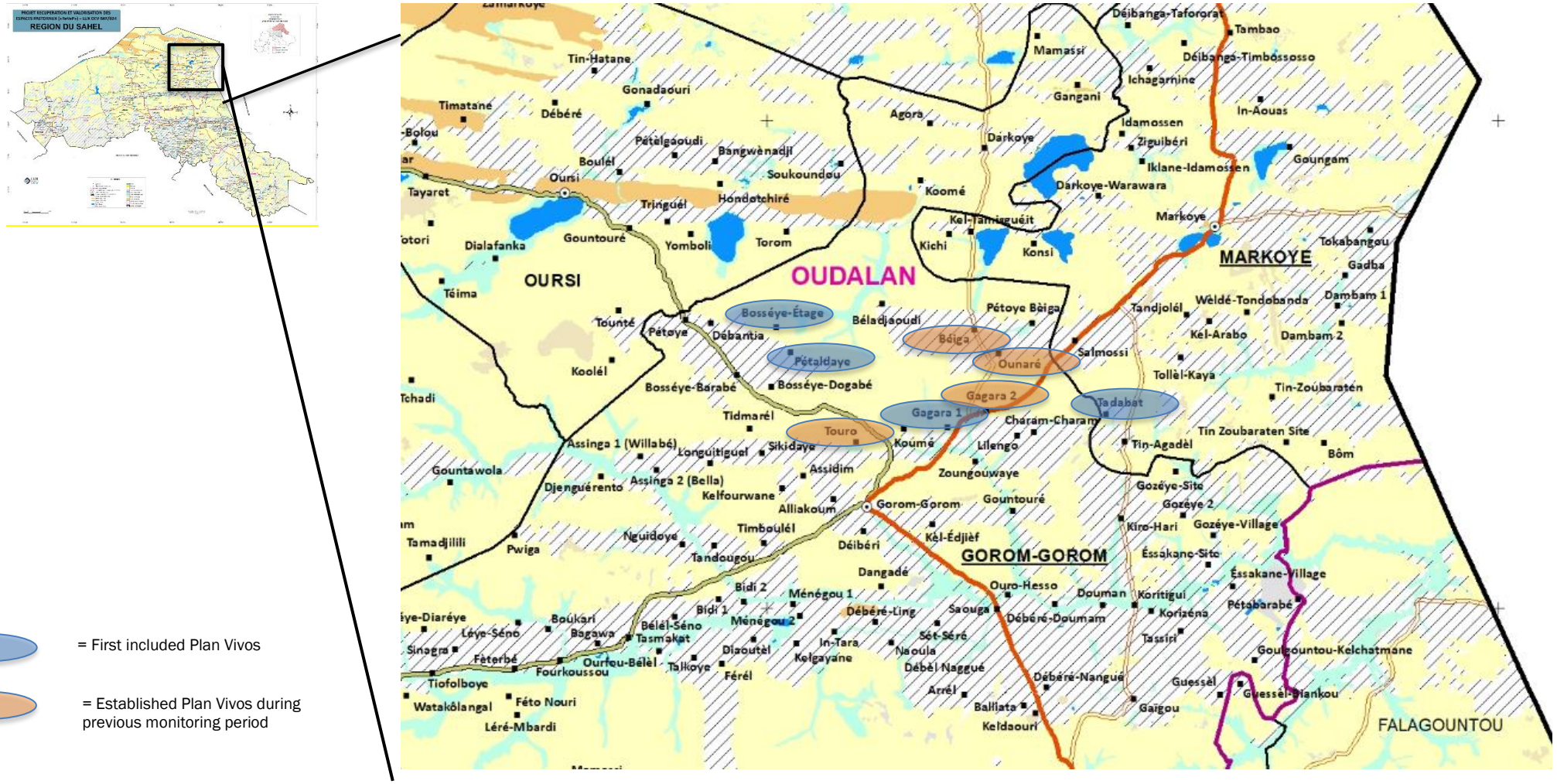
Village name	Gagara II
Name of person	
Date	16/01/2021 - 16/02/2021
Name of the caller (NGO)	Cissé Abdoul Aziz

Synthese of exchanges

- Due to the security situation, the CVD members are not able to group together, but the people in charge of surveillance are doing their job in a discrete manner
- The sites are looking good. The shrubs have grown well. There are also natural regrowths and a lot of grass; we note the presence of many tree species such as *acacia radiana, acacia nilotica, balamites, zizyphus mauritania, laptadenia* etc
- The presence of wildlife species such as the savannah monitor, the hares, the jackal etc. can also be noted.
- No conflicts at village level regarding the management of natural resources

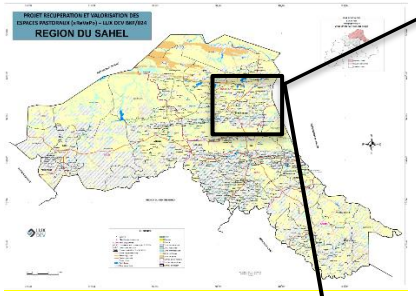
Village name	Ounaré
Name of person	Amel
Date	20/01/2021 - 15/02/2021
Name of the caller (NGO)	Cissé Abdoul Aziz
Synthese of exchanges	
- The sites are supervised by people chosen for this purpose - The sites are very well presented. A lot of natural grassland and a lot of grass - Presence of wildlife (hares, squirrels, jackals etc.) - No conflicts related to the management or exploitation of natural resources have been reported	

Annex 9. Detailed map of the villages included in the Plan Vivo project



= First included Plan Vivos

= Established Plan Vivos during previous monitoring period



= Plan Vivos from AGED project

= New established Plan Vivos during this monitoring period