# Plan Vivo project validation report

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

## Contents

## Abbreviation list

| | | |
|---|---|---|
| A2N | : | Association Nodde-Notto |
| CVD | : | Council Village Development (CVD) |
| GHG | : | Greenhouse gas |
| NRM | : | Natural Resources Management |
| IPCC | : | Intergovernmental Panel on Climate Change (IPCC) |
| NTSC | | National Tree Seed Centre |
| NTFPs | | Non-timber forest products |
| NGO | : | Non Governmental Organisation |
| PDD | : | Project Design Document |
| WSC | | Water and Soil Conservation |

Photo 1 of cover: Millet growing system on sandy soils
Photo 2 of cover: Managed site with a sign in Bossey Etage

# 1. RESULTS OF THE VALIDATION

**Name of Reviewer**: Souleymane GANABA, Environment and Forests Department, INERA, 03 BP 7047 Ouagadougou 03, Burkina Faso, ganabasouley@gmail.com

**Date of Review:** 11 -28 July 2016

**Project Name:** Rehabilitation and sustainable management by REACH Italia of degraded pastures in the Sahel region of Burkina Faso.

**Project Description:**

Burkina Faso is located in the heart of western Africa, between latitudes 9 ° 02 'and 15 ° 05' North and longitudes 02 ° 02' East and 05 °03' West (Figure 1). It is divided into two phyto-geographical areas (the Sahel area and the Sudanese area) and divided into four phyto-geographical sectors on the basis of climate, vegetation and fauna (Fontès et Guiko en 1995).

Burkina Faso belongs to a climate zone characterized by a significant rainfall deficit, harsh nature and a fragile natural environment at risk (FAO, 2007). Specifically, the northern part of Burkina Faso is under a Sahelian climate, characterized by low rainfall and varying temperatures.

Livestock farming and extensive agriculture are practised. These factors inflict on the Sahelian ecosystems an increasingly pronounced degradation of the plant resources and emphasize water and wind erosion (Bénié et al., 2005). The deterioration of plant resources in the Sahel is characterized by the dynamics of herbaceous and woody species in two extreme situations: the first situation results in a selective regression of plant species such as *Pterocarpus lucens, Maerua crassifolia, Andropogon gayanus* etc. and the second by an expansion of other species such as *Acacia tortilis, Cassia obtusifolia, Schoenefeldia gracilis, Zornia glochidiata* etc.

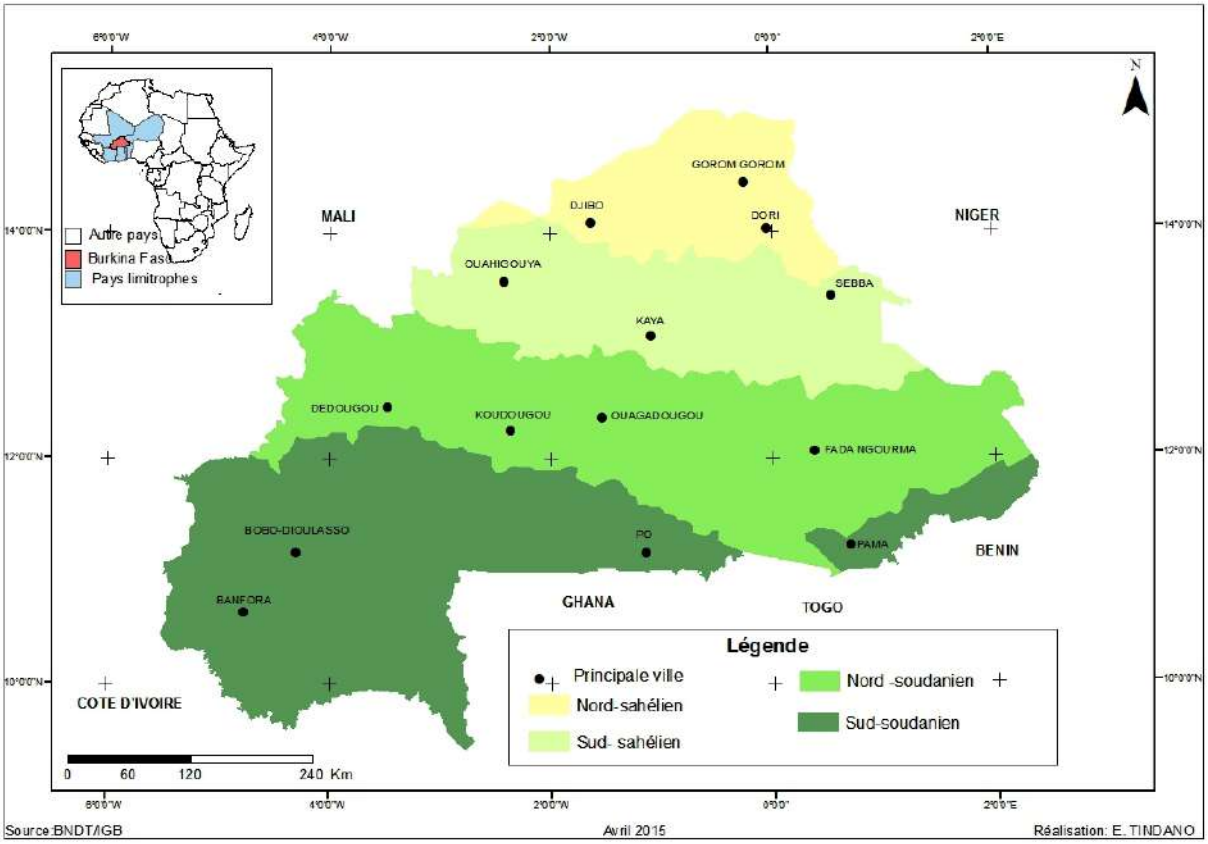


Figure 1: Distribution of phyto-geographical areas of Burkina Faso
Source : BNDT/IGB/ Field data in Tindano 2014 (2016)

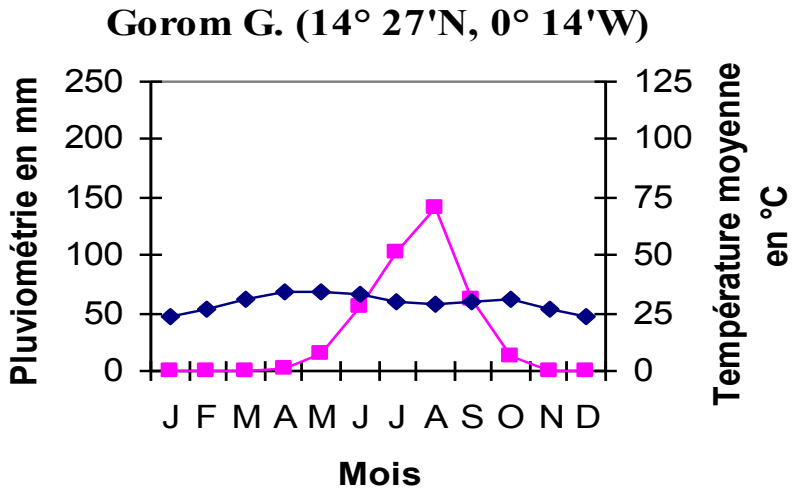


Figure 3: ombrothermic diagram of the average values of 1971-2010 of the watershed of Gorom-Gorom **(Source : Ganaba (2008))**

The main types of soils are:

- Ferralitic soils occupying the dunes. These soils have morphological and analytical characteristics giving them a good water holding capacity and high mineral wealth;

- Hydromorphic soils occupying the lower parts of the terrain and having an average content of organic matter and nitrogen. These soils are suitable for rain fed irrigated rice farming and/ or for gardening.
- Saline soils that occupy the glaze, rocky outcrops and hardpan; these are medium or shallow soils.

The dominant nature of the sandy soils of the Sahel implies that the culture of millet (*Pennisetum glaucum*) and cowpea (*Vigna unguiculata*) is dominant. There are also isohumic soils, raw mineral soils, little developed soils, soils for Mull, sesquioxides soils, vertisols and paravertisols.

The vegetation of the north Sahelian sector is constituted by steppes, striped bush, fur-lined and thin riparian cords. In this sector, the steppe vegetation type is dominant. It occupies the plains, the temporarily flooded depressions, the dunes and the sandbars, the shallows and the inselbergs (Ganaba, 2008). The dominant species in this sector are *Acacia tortilis*, *Balanites aegyptiaca*, *Leptadenia hastata* and *Acacia Senegal*. At inselbergs, there are: *A. tortilis*, *Pterocarpus lucens*, *Commiphora africana*, *L. hastata* and *A. senegal* (Tindano et al., 2011 and 2016).

Burkinabe Sahelian population is composed of ethnic groups that arrived in successive waves: the Foulsé, Gourmantché, Fulani, Tuareg and Sonraï. It is characterized by a high mobility both within and outside of the country. The dominance of ethnic groups will influence the form of management of the natural resources of the considered territory.

In the Sahel, land use is essentially pastoral and traditionally transhumant. The Sahelian farming is totally dependent upon the allocation of pastures and of the water which affects access points of pastures.
However, forage resources in quantity and quality are widely dispersed in space and fluctuating in time. Joint research of fodder and water causes a mobility of pastoralists and their herds of greater or lesser importance or it causes to trim some tree fodder. This mobility is dependent on the distribution in time and space of the rainfall, which affects more or less the safe recovery of pastures. Nature therefore condemns pastoralists "to follow the rains" and to chase announced pastures (Grouzis 1984). The Sahel region is most often shared between livestock and agriculture. Livestock and agricultural activities are intertwined and difficult to separate from each other. The increase in the Sahelian livestock related to health progress of livestock and to population growth results in an increasing pressure on pastures.

The Project Design Document Plan Vivo relates to the carbon credits generated by the activities of recovery and sustainable management of degraded pastures by REACH Italia in Oudalan province in Burkina Faso. REACH Italia coordinates the project. The project is developed under the supervision of program BKF / 017 "Project for Improvement of Livestock Zebu Azawak and sustainable management of pastoral resources" implemented by the Ministry in charge of animal resources.

This project "Recovery and sustainable management of degraded pastures by REACH Italia in the Sahel region of Burkina Faso" aims to reverse the degradation of pastures and promote the sustainable management of grazing lands in the Sahel region of Burkina Faso. It uses the Plan Vivo standard as a framework to link the ecosystem services generated by rural communities to payment mechanisms and markets. CO2logic shares knowledge and supports the development of the Plan Vivo file.
The intervention consists of restoring degraded pastures in the Burkinabe Sahel with the close cooperation of local rural communities by restoring the structure, productivity and diversity of the pastures that have disappeared since the great drought of 1984. It aims to increase the productivity of herbaceous grassland and woody vegetation for the benefit of breeders and farmers. Sustainable pastures management is supported through the development of local land charters that will build the capacity of communities to develop appropriate mechanisms for use control of pastures.

This project is located in the Sahel, in the northern part of Burkina Faso. It concerns three villages in the province of Seno and the urban commune of Dori: Djigo, Tuka Tuka Bayel and Korno. It has a crediting period of thirty years and a 10-year payment period. Funding was granted for the implementation of activities. Certificates will be issued ex ante after an annual report by the Plan Vivo Foundation. After each successful monitoring period, payments will be made to participants. The certified carbon benefits resulting from the activity is 59 t CO2 / ha.

**List of Documents Reviewed:**

The list of documents reviewed consist in the Project Design Document (PDD) submitted by REACH Italia as well as additional documents associated with the project document and the reference scenario, that is the national legislation, guidelines for installation of the RFP, the approved methodology, the clarifications concerning the requirements of the determination and scientific publications.

BERRY (2008): ECCM Protocol: Estimating tree growth, 15 p. http://www.planvivo.org/tools-and-resources/

CILSS (2009) : Récupération des sols fortement dégradés à des fins sylvo-pastorales : Une évaluation quantitative des aménagements mécaniques à partir de la charrue Delfino réalisés par l'ONG REACH au Burkina Faso. CILSS, Ouagadougou, 34 p.

Conedera M., Bomio-Pacciorini N. Bomio-Pacciorini P Sciacca S., Grandi L. Boureima A. Maria Vettraino A. (2010) : Reconstitution des écosystèmes dégradés sahéliens. Bois et Forêts des Tropiques , 2010, 304 (2) 61-71.

Commune de Gorom-Gorom (2015) : Charte foncière locale inter villageoise de la commune de Gorom-Gorom. Délibération 2015/07/CM/GG, 10p.

Commune de Markoye (2015) : Charte foncière locale de la commune de Markoye. Délibération 2015/07/CM/M, 8p.

IFN2 (2015) : Equations allométriques d'estimation des volumes de bois et de la biomasse foliaire des arbres.

INERA, 2014 et 2015. Rapports techniques d'état d'avancement du Protocole d'accord entre l'INERA et le Projet Azawak : Suivi scientifique des sites de récupération de terres dégradées réalisées par le Projet BKF/017 « Azawak Ressources Pastorales » notamment dans les communes de Gorom-Gorom, Markoye, Dori et Bani.

KINOME, 2015. « Mise en place d'un système de quantification des stocks de carbone dans le cadre du Projet Plan Vivo : récupération et gestion durable des pâturages dégradés au Sahel Burkinabé »

**Visited sites**

The project has a single technical specification: "wooded areas and only one land use system" this means that the Ecosystem Restoration is eligible for Pan Vivo accreditation.

This is a project that involves community activities and land managed by these communities.
The project operates in two communes with different status: urban commune (Gorom-Gorom) and a rural municipality (Markoye) in the province of Oudalan.

Located in the town of Gorom-Gorom, the villages of Pételdaye (12km from Gorom-Gorom) and Bossey Etage (15km) are inhabited by Peul, Bella and Sonraï and can receive animals from the city of Gorom-Gorom. The village of Tadabat is located in the municipality of Markoye, 25km away from Gorom-Gorom, it is also inhabited by Peulh, Bella and Sonrai. The village of Gargara 1 is situated 6 km away from Tadabat, 18 km from Peteldaye and 21 km from Bossey Etage. It is inhabited by Bella.

The population of these villages is mainly young (people 0-18 years more than half) with women also exceeding half of the total population in each village (Table 1).

Table 1: Summary of the demographics data in the villages where the project is implemented

| Villages | **Number of households** | **Men** | **Women** | **Total** | **% Women** | **0-14 years** | **15-64 years** | **65 years or more** | **Age N.D.** |
|---|---|---|---|---|---|---|---|---|---|
| Bossey Etage | 153 | 436 | 405 | 841 | 48,16 | 342 | 431 | 37 | 31 |
| Pétaldaye | 87 | 207 | 208 | 415 | 50,12 | 196 | 203 | 14 | 2 |
| Tadabat | 87 | 210 | 222 | 432 | 51,39 | 210 | 206 | 16 | 0 |
| Gagara 1 | 111 | 207 | 210 | 417 | 50,35 | | | | |

The visited sites are recorded on the following Table 2.

*Table 2: Summary of the characteristics of developed sites visited for validation*

| Commune | Village | Number of proposed recovered sites | Number of visited sites for validation | Number of people participating in exchange meetings | |
|---|---|---|---|---|---|
| | | | | H | F |
| Gorom-Gorom | Bossey Etage | 4 | 3 | 17 | 24 |
| | Pételdaye | 2 | 2 | 39 | 34 |
| | Gagara 1 | 3 | 0 | | |
| Markoye | Tadabat | 3 | 3 | 37 | 26 |

**List of people interviewed:**

Different resource people representing the technical services of the state, local authorities and development agencies (NGOs and projects) were interviewed. The list of interviewees is reported in Table 3 below.

Table 3: List of resource people interviewed

| Order Number | Structure | Address/Address | Name and surname | Date |
|---|---|---|---|---|
| 1. | REACH Italia | Coordinator | Ouattara Alamadogo | 11/07/ 2016 |
| 2. | | Secretary / Accounting Assistant | Mme Traoré | |
| 3. | | Antenna supervisor | Amadou Boureima | |
| 4. | | Animator | Ly Amadou | |
| 5. | DPEEVCC/ Oudalan | Provincial Director | Ilboudo Abel | |
| 6. | Project EBA/FEM | Head of antenna | Ouédraogo Kouka | 12/07/2016 |
| 7. | DPRAH/Oudalan | Provincial Director | Boro Sidi | 13 /07/2016 |

| | | | | |
|---|---|---|---|---|
| 8. | Town house/Gorom Gorom | 1st Deputy Mayor | Maiga Y. Abdoulaye | 14/07/ 2016 |
| 9. | | 2nd Deputy Mayor | Iziday Ag Tazoudine | |
| 10. | | Chairman of the Economic and Financial Committee | Yattara Elouen Ibrahim | |

**Description of field visits (including list of sites visited and individuals/groups interviewed):**

The visited sites have been reworked for water and soil conservation (WSC) using the half-moons technique thanks to the Delphino plow to restore degraded lands, to vegetate barren land, to improve pastoral resources and to fix greenhouse gas (GHG).

Structuring cavities complies with technical standards (size of cavities, spacing, ...) and technical skills are available to rework the soil with outcropping rock (Pételdaye) or very rocky (Bossey Etage).

Seeds of woody and herbaceous species are seeded in the half-moons through gathering by the communities themselves, purchasing from the National Center for Forest Seeds or transiting through the digestive tract of animals and contained in animal waste.
These are provided by organic manure (animal waste from small ruminants) and have acquired biological pretreatment and a high adaptability to the dryness of seedlings that have germinated.

Woody and herbaceous seeding and reseeding are made with harvested seeds, purchased seeds by REACH Italia in the National Tree Seed Centre (NTSC) and using organic manure inputs (manure from small ruminants). Seeds acquire a strong adaptability to drought of germinated seedlings.

The visited rehabilitated sites were carried out in the period 2012 to 2016. The sites have a woody and herbaceous regeneration. Herbaceous regeneration is mainly localized in the centre of the half-moon while woody regeneration is located near and inside the half-moon with homogeneous sizes in some sites. The woody and herbaceous density is also variable according to the sites and within each site according to micro topographical and soil variations and also the surface portions of the sites

The main tree species encountered are: *Acacia tortilis*, *Balanites aegyptiaca*, *Ziziphus mauritiana*, *Acacia nilotica*, *Leptadenia hastata*. With regard to herbs there are: *Cassia obtusifolia*, *Schoenefeldia gracilis*, *Alysicarpus ovalifolius*, *Bracharia distichophylla*, *Euphorbia hirta, Cucumus melo*. In the Seno province, the rare species that appeared in the recovered sites are mainly *Acacia nilotica*. The dominant feature of Seno sites is the high prevalence of *Cassia obtusifolia* and the presence of these rods in dry sites (given the recent age of development of the implementation). There is also a relative importance of *Schoenefeldia gracilis* in the recovered sites.

With three weeks of dry period during the evaluation period, the developed sites and shallows are the only areas that still bear vegetation for grazing animals; which resulted in a livestock consolidation and pressure on woody and herbaceous regenerations, in particular on the site of 100 ha of Bossey Etage where regenerations were weak.

**Results of the consultation of stakeholders (comments and criticisms, identified negative impacts, perception of the actors).**

Land tenure is less pronounced in villages in this western part of Oudalan, which reduces the risks associated with land disputes. The successes and failures of local conventions such as the internal rules for the management of natural resources (RIGRN) defined in the 2000s by the PSB / GTZ in

Oudalan (Kishi Beiga) and the PGRN-SY in the Séno and Yagha serve as an example of local management of NRs; Which means that the land charters defined in the framework of Plan Vivo spread in other uninvolved localities.
There is strong consensual acceptance of the management rules of the developed sites defined in the land charters in all 3 villages by all the components of the rural communities (CVD, youth, women, village chief) and involvement of all Ethnic groups present and village leaders. It also has the availability to accompany the technical structures (municipalities, animal resources and environment services). Finally, there is the setting up of a monitoring committee in Pételdaye, whose stakeholders have declared their willingness to work voluntarily during the coming decade.

Discussions have shown a strong control and consensual acceptance of the rules on the management of rehabilitated sites defined in land charters in all three villages by all sectors of rural communities (CVD, youth, women, village chief) and involvement of all the ethnic groups and village leaders. A certain availability for accompanying measures by technical municipal and state structures also appears.

REACH Italia is an international NGO recognized by Convention No. 2003-133 / MATD / SG / DGIFAP / DAOSOC signed with the Government of Burkina Faso and renewed in 2013. It is present in the Central, Eastern, the loop of the Mouhoun and the Sahel. The coordination of Gorom-Gorom manages the projects of RECH Italia in the Sahel. Agents have experience in rehabilitating degraded land with several partners such as FAO, and many soil restoration programs and projects.

**Validation Opinion:**

After this validation, I confirm that the project complies with the Plan Vivo Standard. I conifirm that the rural villages of Bossey Etage, Pételdaye and Tadabat are informed of the Plan Vivo project, they are aware of the sustainable protection of resources generated by the recovery of degraded lands, they have developed a consensual land charter known by all and by the surrounding villages and they know that the land of the reclaimed site cannot be claimed anyone. All groups (men, women, youth, traditional leader, Imam) attended the exchange meeting with the validation mission, affirmed that the rehabilitated sites could not be claimed by any other person and are organized to apply the local land charter with the support of the town hall, technical services of the state and the NGO REACH Italia. I also confirm that the legal, statutory and local customary premises have been respected and that the interests of local socio-cultural and ethnic groups have been taken into account.
Scientific verification reveals a consistency in the documentary sources that are adapted to the environment.
The NGO REACH Italia has extensive experience in the creation and management of recovered land. However, a few corrections are proposed and summarized in Table 4 below.

***Table 1. Summary of major and minor Corrective Actions***

| Theme | Major CARs | Minor CARs | Observations |
|---|---|---|---|
| Governance | Opening of a special bank account for the Plan Vivo project in Dori under the management of the Regional Coordination and appointment of an accountant for its management | Accountability and organization of Gorom-Gorom antenna on project management and monitoring sites of Oudalan | Reduction of costs of banking transactions between the customer of Plan Vivo certificates, the regional representation in Ouaga, the coordination in Dori of the Gorom-Gorom Antenna and the beneficiary |

| | | | |
|---|---|---|---|
| | | | communities.<br>Better coordination between the Direction the Dori and Gorom-Gorom antenna |
| Carbon | | Reseeding of half-moons without tree plants of the rehabilitated sites.<br>Inventory method should be harmonized with the one used by NGOs.<br>Straight plot in the form of 2 diagonal transects<br>Representative location of plots to monitor the evolution of wood resources<br>Recommended period for the annual inventory between October and December with 3 people (one that notes and two for measurements) | Sowing with a pick woody seeds with two people to do 4 ha / day.<br>A plot for 20 ha introduces a bias.<br>Linear transects joining the diagonals and marking this outline for the following years (burying a magnetic iron) |
| Livelihoods | Add relevant socio-economic monitoring indicators | Negative impacts of the project: come back of wild carnivores, injuries to animals in sites | Improvement indicators: number of livestock, calving rate of cattle, number of emigration, number of NRM conflicts ...<br>The return of wild carnivores (jackals, hyenas) can reduce the number of cattle<br>Number of injured animals / year in the new sites rehabilitated in the beginning of rainy season |

*Table 5 – Conformity report* (Delete Yes/No as appropriate)

| Theme | Compliance of draft report | Compliance of final rapport |
|---|---|---|
| Governance | No | Yes |
| Carbon | Yes | Yes |
| Ecosystem | Yes | Yes |
| Means of subsistence | No | Yes |

| Theme | 1. Effective and Transparent Project Governance |
|---|---|
| *Ensuring that the project meets requirements 3.1-3.16 of the Plan Vivo Standard (2013)* | |
| **A. Requirement** | **1.1 Administrative capabilities**<br>Is there a legal and organisational framework in place that has the sufficient capacity and a range of skills to implement all the administrative requirements of the project? Aspects of this framework may include:<br>1.1.1 A legal entity (project coordinator) that is able to enter into sale agreements with multiple producers or producer groups for carbon services<br>1.1.2 Standard sale agreement templates for the provision of carbon services<br>1.1.3 Systems for maintaining transparent and audited financial accounts able to the secure receipt, holding and disbursement of payments to producers<br>1.1.4 All necessary legal permissions to carry out the intended project activities<br>1.1.5 Mechanisms for participants to discuss issues associated with the design and running of the project<br>1.1.6 Procedures for addressing any conflicts that may arise<br>1.1.7 Ability to produce reports required by Plan Vivo on a regular basis and communicate regularly with Plan Vivo |
| **B. Guidance Notes for Validators** | Organisational and administrative capacity may be demonstrated through:<br>• A record of managing other projects - especially those involving the receipt, safeguarding and management of funds and disbursement of these to small-holders/community groups<br>• Project staff who can explain the legal status of the organisation and its management and financial structure i.e. how funds will be held and transferred – backed up by evidence of setting up bank accounts and record-keeping systems etc.<br>• The views of others who have worked with the organisation in the past (such as government, other project partners or other NGOs)<br>• A visibly efficient and functioning office with all necessary staff |
| **C. Findings (describe)** | The national NGO REACH Italia is represented in Burkina Faso since 2003 by Convention No. 2003-133 / MATD / SG / DGIFAP / DAOSOC signed with the government of Burkina Faso and renewed in 2013. The African headquarters are located in Ouagadougou. It oversees the activities carried out in the coordination centers based in the eastern regions of the Boucle du Mouhoun and in the Sahel. The Sahel Coordination based in Dori includes the Coordinator and 2 support staff, a secretary assistant accountant (in formation of Executive Secretary - Accountant) and 3 guardians and cover the provinces of Seno and Yagha. The Antenne based in Gorom-Gorom comprises 5 agents (1 responsible animator, 2 environmental animators, 2 community animators) and 3 guards.<br><br>The animators have a good knowledge of the environment and easy contacts with rural communities and adapted and efficient means of travel.<br><br>The responsible animator and other animators have proven experience in facilitating and conducting work on the rehabilitation of degraded pastures by |

engaging themselves and working with populations on the sites during seeding. These populations are surprised by this active participation and remark that the technicians work in their place and manipulate the animal waste without wearing gloves. The answer is that they also come from these terroirs and share the same concerns. This facilitates the mobilization and strong participation of rural communities in the restoration and securing of land in degraded lands.

During 2014, REACH Italia carried out the following project and development program activities recorded in Table 6 below:

*Table 6: Summary of land reclaimed by the Sahel Coordination in 2014*

| Partners | Nber Communes | Nber of Villages | Nber plowed ha | Nber seeded ha |
|---|---|---|---|---|
| **BKF 017 Azawak-pastoral resources** | **2** | **20** | **1 300** | **1 300** |
| **ONG Help** | **4** | **7** | **90** | **90** |
| **Deserto Verde** | **2** | **6** | **200** | **0** |
| **Belgian contractors** | **2** | **4** | **400** | **0** |
| Projet TICAD V | 3 | 5 | 350 | 350 |
| PS2RSAN(italian ) | 1 | 5 | 240 | 240 |
| Monaco | 1 | 1 | 140 | 140 |
| Table vaudoise | 1 | 1 | 90 | 90 |
| Total | 14 | 47 | 2 810 | 2 210 |

REACH Italia has also produced four quarterly reports and an annual activity report (REACH, 2015a, 2015b, 2015c, 2015d and 2015e) at Regional Coordination level.

The provisions for making carbon funds available to rural communities will go through several intermediaries with transaction costs: first a representation in Ouagadougou, then coordination in Dori and finally the communities and the Antenna in Gorom-Gorom. The financial system seems heavy enough to ensure a smooth flow of transfers. The Gorom-Gorom coordination issues and deposits checks into the credit union accounts for the benefit of rural communities with transaction and account costs at all stages of the process, which could lead to delays and loss of profits caused by the sale of carbon.

Accounting assessments and audits are carried out in Ouagadougou.

Ongoing training of the secretary assistant accountant, who would become accounting secretary, could perform secretarial and accounting duties on behalf of coordination and improve the administrative capacity to manage the REACH coordination of the Sahel.

Conflict resolution mechanisms are provided in the inter village land charter of Dori. It was validated by deliberation (2015/09) by the communal Council of Dori the 7th of September 2015. It stipulates in Article 23 that any violation of this local land charter should be reported to the "Village Commission on Tenure Conciliation".

Article 24 of the charter states that any violation is punishable by a deposition

| | | | |
|---|---|---|---|
| | of minutes, drawn according to the nature of the violation to the relevant services. In case of absence or immediate unavailability of the competent Technical Departmental Service, the "Village Commission on Tenure Conciliation" and the Rural Land Service / Bureau Domanial (SFR / BD) will establish the facts denounced by all appropriate means.<br><br>Article 25 states that full regulation or conciliation or non-conciliation is punishable by a deposition of minutes drawn up by the "Village Commission on Tenure Conciliation".<br><br>Finally Article 26 concludes that if the offender complies with the sanctions provided by the charter, the dispute is conducted at the village level. Otherwise, the file is forwarded to the competent authority together with any useful evidence. With the recent establishment of communal councils and pending the establishment of the local authority management and conflict resolution ("Village Commission on Tenure Conciliation"), the CVD perform the duties relating thereto. Moreover, pending the implementation of the Rural Land Service (SFR) the planning and land management commission is responsible for performing the functions related thereto. | | |
| **D. Conformance** | Yes [x] | No [ ] | N/A [ ] |
| **E. Corrective Actions (describe)** | Creation of a special account for the Plan Vivo project under direct reponsibility of the Sahel Coordination in Dori and the appointment of an accountant for the financial and accounting management of the Sahel Coordination. The financial audit of the project funds will be carried out by the Sahel Coordination and the Ouagadougou Africa Representation will provide internal control and expenditure monitoring. | | |
| **F. REACH Italia response** | REACH Italia will open a special account at the Bank of Africa for the Plan Vivo project to be managed by the Sahel Coordination. | | |
| **G. Status** | | | |
| **A. Requirement** | **1.2 Technical capabilities**<br>Is the project, through its staff or partners, able to provide timely and good quality technical assistance to producers and/or communities in planning and implementing the productive, sustainable and economically viable forest management, silvicultural and agroforestry actions proposed for the project and for any additional livelihoods activities that are also planned? | | |
| **B. Guidance Notes for Validators** | Technical capabilities may be determined through:<br>• Discussions with project staff who should be able to define clearly who is responsible for the provision of technical support<br>• Interviews with project staff to demonstrate that they are familiar with the content of project technical specifications e.g. species to be planted, spacing requirements, management systems and any potential issues<br>• Feedback from farmers/communities who have been supported in the past<br>• On-site evidence of project activities (possibly from other projects) that | | |

| | | | |
|---|---|---|---|
| | have benefited from technical support | | |
| **C. Findings (describe)** | The technical team of the project is based at the Gorom-Gorom antenna and includes three people that we have met, including two people which are competent with regard to the environmental part of the project. These technicians work with two other technicians for the sponsorship (education) component in the same areas of intervention and who are able to compensate for temporary departure or absence. The environment team has been working together for at least 5 years.<br><br>The team has a work experience related to the rehabilitation of degraded pasture land and community outreach.<br><br>The team conducts a Northern Environmental Safeguarding Project (P / SEN) that is a component of the NGO's activities in the Sahelian region of northern Burkina Faso. The objective of this project is to fight desertification through the recovery of heavily degraded pasture lands.<br>The P / SEN has more than 4000 ha of land recovered mechanically for agro-sylvo-pastoral purposes. Sixty percent (60%) of these achievements have been made to various partners (Sahel Burkinabe program on co-financing of GTZ, Swiss Cooperation, PDL / UDL, UNCDF, Deserto Verde, SA / RTD, Cap Solidaire suisse, Association Noode -Nooto, PAGEN, etc.).<br><br>This experience is illustrated in the rehabilitation of Sahelian ecosystems and followed with Déserto Verto, a Swiss NGO. This NGO uses a sowing cane about which a film, Deserto verdo, was made in 2013 showing the implication of Mr Amadou Boureima, supervisor of the Gorom-Gorom Antenna. He explained the impermeability characteristics of Glacis soils, the operation of half-moons, the need for seeding and management of regenerated plant resources.<br><br>The Gorom-Gorom antenna is carrying out other ongoing activities.<br><br>The technical team has 2 Vallerani tractors that carried out the half-moons and which offer high quality services. Visited facilities meet the technical standards of mechanized recovery of degraded lands.<br><br>REACH Italia has already provided some technical support and capacity building for communities involved in the Plan Vivo project. They recognized, among other, awareness-raising and training on the collection and processing of seeds. Furthermore, CVD were trained in the management of funds, conflict management, planning and inventory, assessment and monitoring of their rehabilitated sites.<br><br>The REACH Italia is engaged in the continuing support of the organized communities in raising awareness, monitoring the regenerated plant resources and the implementation of the management plan. | | |
| **D. Conformance** | Yes [x] | No [ ] | N/A [ ] |

| | |
|---|---|
| **E. Corrective Actions (describe)** | N/A |
| **F. REACH Italia response** | N/A |
| **G. Status** | |
| **A. Requirement** | **1.3 Social capabilities**<br>Is the project, through its staff or partners able to demonstrate an understanding of the social conditions of the target groups/communities and likely implications of the project for these? This might include:<br>1.3.1 A demonstrated ability to select appropriate target groups through stakeholder analysis and to understand the implications of the project for specific groups e.g. poor, women, socially disadvantaged etc.<br>1.3.2 Groups/communities that are well-informed about the Plan Vivo System and the nature of carbon and ecosystem services<br>1.3.3 Local groups/communities that can demonstrate effective self-governance and decision-making<br>1.3.4 Well-established and effective participatory relationships between producers and the project coordinator<br>1.3.5 Demonstrated ability to establish land-tenure rights through engaging with producers/communities and other relevant organisations<br>1.3.6 Ability to consult with and interact with producers/communities on a sustained basis through participatory 'tools' and methods<br>1.3.7 Established system for conflict resolution |
| **B. Guidance Notes for Validators** | Social capabilities may be determined through:<br>• Records/minutes/photographs of community meetings and training workshops etc.<br>• Project staff able to explain (in line with PDD) how land tenure is checked by the project<br>• Project staff and communities able to explain how communities/target groups were selected and involved in the development of the project and in the choice of activities<br>• Project staff able to demonstrate that they are familiar with the communities/target groups and able to interact with them easily through meetings facilitated during the validation<br>• Meetings held with specific target groups e.g. women, socially disadvantaged etc. |
| **C. Findings (describe)** | The NGO has demonstrated its capacity to mobilize producers during field visits when there is no overlap of activities in the same village and at the same time as it was the case at Bossey Etage. Nevertheless, participation was significant with a dominant participation of women.<br><br>For the means of communication, REACH Italia stated that the local Gorom-Gorom radio would only have a range of less than 3km and did not reach the target villages of the project for a nearby rural radio animation.<br><br>The animation activities mentioned and which can be used, are the theater |

| | | | |
|---|---|---|---|
| | forum and the animation by themes with songs of local music groups in fulfulde and/or tamashek.<br><br>The facilitator and the animators of REACH Italia have a proven experience of animation and technical leadership of the work of recovery of the degraded lands by being involved themselves and working with the populations on the sites during the sowing. What caused the astonishment of the populations for this active participation is that the technicians work in their place and manipulate the animal manure without wearing gloves. The answer is that they also come from these areas and share the same environmental concerns. Such community involvement during community work facilitates the mobilization and a strong involvement of rural communities in the restoration and securing of land in degraded lands, especially at the animation meetings. During the meetings, there was a strong familiarity first with the facilitator and then between the supervisor and the populations who attended the validation meeting in the 3 villages and particularly Tadabat. | | |
| **D. Conformance** | Yes [x] | No [ ] | N/A [ ] |
| **E. Corrective Actions (describe)** | N/A | | |
| **F. REACH Italia response** | N/A | | |
| **G. Status** | | | |
| **A. Requirement** | **1.4 Monitoring and Reporting capabilities**<br>Does the project have an effective monitoring and reporting system in place that can regularly monitor progress and provide annual reports to the Plan Vivo Foundation according to the reporting schedule outlined in the PDD?<br>1.4.1 Accurately report progress, achievements and problems experienced<br>1.4.2 Transparently report sales figures and demonstrate resource allocation in the interest of target groups | | |
| **B. Guidance Notes for Validators** | Monitoring and reporting systems and capabilities may be determined through:<br>• Staff and participating communities able to explain the monitoring system (how each of the indicators in the PDD will be monitored)<br>• Records of any monitoring already undertaken e.g. baselines or other information<br>• Project staff showing an understanding of the importance of annual reporting to Plan Vivo as a requirement for issuance of certificates<br>• Demonstrated ability to produce simple reports (e.g. for other projects) | | |
| **C. Findings (describe)** | The monitoring system is based on organizational self assessment. Local land charter (defined in the Plan Vivo) is defined with the establishment of management structures. For example, in Tadabat, there is the establishment of a 4-person oversight committee with two people each morning on the field and possibly in the evening. Furthermore, women who are going to bring food to | | |

| | | | |
|---|---|---|---|
| | their husbands in the fields, can inform of any negative action on sites as well as shepherds of grazing animals nearby. So, in case a transhumance installs in the vicinity of rehabilitated sites, the ax is removed until his departure.<br><br>Annual inventories of resources will be made on the basis of permanent plots to evaluate the evolution of the wealth and wood density on the rehabilitated sites in order to provide the necessary information for the an annual report as it is done every year by the Regional Coordination of the NGO.<br><br>The reporting is a form of monitoring of internal assessment which simplifies the results of activities conducted by REACH Italia NGO. The NGO has a system of programming and annual reporting of its activities and implements report of projects in execution. | | |
| **D. Conformance** | Yes [x] | No [ ] | N/A [ ] |
| **E. Corrective Actions (describe)** | N/A | | |
| **F. REACH Italia response** | N/A | | |
| **G. Status** | | | |

| **Theme** | **2. Carbon Benefits** |
|---|---|
| *Ensuring that the project meets requirements 5.1-5.20 of the Plan Vivo Standard (2013)* | |
| **A. Requirement** | **2.1 Accounting methodology**<br>Have the carbon benefits been calculated using recognised carbon accounting methodologies and/or approved approaches and are the estimates of carbon uptake/storage conservative enough to take into account risks of leakage and reversibility? |
| **B. Guidance Notes for Validators** | Check the carbon accounting methodology used including:<br>• The level of understanding of the methodology used amongst technical project staff<br>• Whether all references and sources of information are available (include copies with the validation report if possible)<br>• Whether the carbon accounting models are clear and transparent i.e. are the spreadsheets available and readily understandable? Can project staff answer and explain any technical questions about these?<br>• Are local experts able to comment on the accounting methodology and on the sources of information used? |
| **C. Findings (describe)** | The carbon benefits were calculated using recognized carbon accounting methods and/or approaches approved by references to many studies on the Sahel region and on the average growth in Sahelian woody. The estimates of |

| | | | |
|---|---|---|---|
| | intake / carbon storage are also conseravtive enough by taking into account the ecological risks. On the other hand, the risk of leakage is minimized because previously there was no operations on the rehabilitated sites. Reversibility is also minimized by the consensus around the implementation of the local land charter and the support of technical and communal services.<br><br>The numerous meetings between CO2logic, the project AZAWAK and REACH Italia project coordinator, allowed for a good understanding of the methodology used to calculate the carbon sequestration as well as the one used for the annual tracking assessment of the evolution of wood biomass by the technical staff of REACH Italia.<br><br>Carbon spreadsheets are given in the PDD and easily understandable and carbon accounting models are understood by REACH Italia.<br><br>Local experts including the National Forestry Research approved sources of information used and the results obtained in terms of inventory, density simulation and carbon sequestration. Besides studies are underway to supply information on the potential of carbon sequestration levels of aerial and underground parts of Sahelian woody. | | |
| **D. Conformance** | Yes [x] | No [ ] | N/A [ ] |
| **E. Corrective Actions (describe)** | Adapting the inventory methods for woody population monitoring to the harmonized habits of the NGO REACH Italia while ensuring the reduction of potential bias. | | |
| **F. REACH Italia response** | The initial forest inventory approach provided an inventory of circular plots of 1% of the total area of all sites. This approach has the disadvantage that it does not sufficiently take into account the diversity of the sites that are characterized by different soil types. As a consequence, it was decided to take the approach of linear plots as 2 diagonal transects. This new approach, of inventory method of woody population monitoring, is adapted to the habits of REACH Italia and includes:<br><br>• Define diagonal transect the first year from GPS codes;<br>• Count the number of half-moons located along the two diagonal transects and the number of tree-plants in the basin of the half-moons, and the direct bead around each half-moon on the transect;<br>• Minimum count of 1% of the half-moons of a site (number of half-moons per hectare reference: 300 (240 to 360));<br>• Record the number of half-moons without any treeplants.<br><br>The period for the annual inventory is October after the rainy season. | | |
| **G. Status** | | | |
| **A. Requirement** | **2.2 Baseline**<br>Are the carbon benefits of the project measured against a clear and credible carbon baseline (for each project intervention)? | | |

| | | | |
|---|---|---|---|
| **B. Guidance Notes for Validators** | Check the baseline scenario in the technical specifications of the PDD:<br>• Check that baseline measurements have been carried out and information properly recorded<br>• Check that the information from the baseline matches that in the PDD/Technical specifications and corresponds to the situation on the ground (by discussing with local experts and others) | | |
| **C. Findings (describe)** | Several reference studies were cited and used for this calculation and exchanges with experts mentioned in the PDD have been done. A modeling guide helped to set up a carbon stock quantification system in the Plan Vivo Project: rehabilitation and sustainable management of degraded pastures in the Sahel Burkinabe. It allows updating CO2fix modeling parameters depending on the sites. The tool is designed to help developers to easily update the CO2fix modeling tool. In this context, the main parameters are :<br>The density / species.<br>Estimated average densities of wood<br>Technical specification of the biomass module for the site, woody growth table, etc. | | |
| **D. Conformance** | Yes [x] | No [ ] | N/A [ ] |
| **E. Corrective Actions (describe)** | Given that 1 ha of land contains about 360 half-moons and that there are mortality risks related to climate conditions, it would be appropriate to reduce the density of woody from 300 tree-plants / ha to 260-280 adult trees. | | |
| **F. REACH Italia response** | In order to take the risk of mortality related to climate conditions better into account, the indicator of the density was reduced from 300 tree plants/ha to 260 tree plants/ha. In addition, the modeling of the carbon sequestration per hectare was reviewed in the light of the new density of 260 plants/hectare and with a risk buffer of 20% instead of 12%. From this, the carbon sequestration amounts to 1.62t CO2/ha/year instead of 1.98 tCO2e/ha/year. PES contracts with CVD should be reviewed in this sense. | | |
| **G. Status** | | | |
| **A. Requirement** | **2.3 Additionality**<br>Are the carbon benefits additional? Would they have been generated in the absence of the project? Will activities, supported by the project, happen without the availability of carbon finance? | | |
| **B. Guidance Notes for Validators** | Assess whether the project simply owes its existence to legislative decrees or to commercial land-use initiatives that are likely to be economically viable in their own right i.e. without payments for ecosystem services.<br>Also, assess whether without project funding there are social, cultural, technical, ecological or institutional barriers that would prevent project activities from taking place. | | |

| | | | |
|---|---|---|---|
| **C. Findings (describe)** | This project does not result from any legislation or regulation indicating the rehabilitation of degraded pasture land, but rather results from recommendations of scientific research results. Moreover, there is no financial, social, cultural, scientific technical and institutional barrier to the implementation of this project. The benefits of this carbon project are additional. These benefits would not be generated without the project. This is why CO2logic is involved in the project formulation. The activities supported by the project would not have occurred if payments and financial benefits did not encourage people to sustainable management of developed sites and especially their supervision. | | |
| **D. Conformance** | Yes [x] | No [ ] | N/A [ ] |
| **E. Corrective Actions (describe)** | N/A | | |
| **F. REACH Italia response** | N/A | | |
| **G. Status** | | | |
| **A. Requirement** | **2.4 Permanence**<br>Are potential risks to the permanence of carbon stocks identified in the project technical specifications and are effective and feasible mitigation measures included in the project design? | | |
| **B. Guidance Notes for Validators** | Assess whether members of the community/producers are aware that they will enter into formal sale agreements with the project coordinator and that they therefore need to comply with the monitoring and mitigation requirements of the project.<br>Check whether the risk buffer proposed in the PDD and technical specifications for each intervention (that will be deducted from the saleable carbon of each producer) conforms to the recommended percentages in the Plan Vivo Standard or other Plan Vivo documentation. Check with Plan Vivo if this is unclear. | | |
| **C. Findings (describe)** | The different risks were identified in the PDD while indicating the level of risk, defining the mitigation strategy and assigning a score indicating its importance. Those are :<br>• For the land ownership: land tenure disputes and conflicts caused by the project goals / activities with local communities / organizations<br>• At the financial level: the financial plan of the project<br>• At the technical level: the capacity of the coordinator<br>• At the managerial level: project management, management of unexecuted activities, poor record keeping, relevant staff with skills and expertise, damage to trees due to grazing and damage due to trees fraudulent cuts (transhumance).<br>• At the economic level: financial failure caused by improper or fluctuating carbon prices or inability to attract buyers | | |

- At the political level: the external pressure to engage in unsustainable practices.
- At the social level: community disputes over land tenure, disputes caused by a conflict between the purpose or activities of the project with communities and local organizations.
- At the practical social level: the incidence of forest fires.
- At the ecological / climatic level: extreme weather events particularly: droughts, pests, diseases and rodents.

During the validation mission, the finding that the three weeks of drought have caused great pressure on recovered sites by animals, encourage us to recommend raising the level of risk associated with extreme weather events according to the following table 6.

*Table 6: carbon leakage risk synthesis*

| Risk factors | Level of risk | Mitigation strategy | Score |
|---|---|---|---|
| Land tenure | | | |
| Land tenure | Low | Local land charter based on the new Law on Rural Land formalizes agreements based on local customs and land use. The site selection criteria are: the absence of known land disputes and the lack of mining sites in the neighbourhood of the selected sites. | 0.05 |
| Disputes caused by conflicts project / goals / activities with local communities / organizations | Low | Participatory planning and further consultations with stakeholders during the lifetime of the project. Local land charter provides procedures to manage land conflicts. | 0.05 |
| Financial | | | |
| Financial plan of the project | Medium | The initial costs of restoring degraded pastures are already subscribed by the BKF program / 017. Monitoring costs should be covered by the sale of Plan Vivo certificates. | 0.1 |

| | | | |
|---|---|---|---|
| | | | |
| Technical | | | |
| Capacity of the coordinator | Low | There is a long experience of the project coordinator in assisting local communities in the process of restoring degraded pastures. | 0.05 |
| Ability to achieve the annual wood inventories | Low | Discuss and choose a method for inventory used by NGOs (REACH Italia) | 0.1 |
| Management | | | |
| Management of unexecuted activities | Medium | Close monitoring of the project by the coordinator to ensure effective management (e.g. reseeding campaigns). | 0.1 |
| Poor report keeping | Low | Robust procedures and surveillance. | 0.1 |
| Relevant staff with skills and expertise | Medium | Careful selection of project staff and training. Support for the staff. | 0.2 |
| Tree damage due to grazing | High | No specific protection of trees and plants is necessary because direct seeding limits the damage to the plant after grazing. | 0.4 |
| Damage trees because of fraudulent cuts (transhumance) | Medium | Surveillance increased by the use of crossing corridor by transhumants with animals | 0.1 |
| Economic | | | |
| Financial failure caused by improper or fluctuating carbon prices or inability to attract buyers | Low | The Lux Dev cooperation was presented as interested buyer. CO2logic could help the project | 0.05 |

| | | | | |
|---|---|---|---|---|
| | | | coordinator to sell certificates if necessary. | |
| Political | | | | |
| External pressure to engage in unsustainable practices | Low | Restoration of degraded pastures is vital to these communities as farming is one of the main activities of the area. Transhumance is organized by the local land charter. The project coordinator will assist CVD in monitoring grazing sites rehabilitated by local land charters. | 0.05 |
| Social | | | | |
| Community disputes over land tenure | Low | Local land charters foresee procedures to manage land conflicts. | 0.05 |
| Disputes caused by a conflict between the objective or project activities with communities and local organizations | Low | Participatory planning and further consultations with stakeholders on the project's lifetime | 0.05 |
| Fire | | | | |
| Impacts of forest fire | Low | Not so relevant in the project area | 0.05 |
| Ecological/climatic factors | | | | |
| extreme weather events particularly: droughts | High | Droughts are not unknown in the Sahel but all species are from the Sahel and therefore very resistant to drought. | 0.4 |
| Pests, diseases and rodents | Medium | Not so relevant in the Sahel zones with pastures | 0.1 |
| Total | | | 2.0 |

| | | | |
|---|---|---|---|
| | The recovered sites will theoretically be without pastures during the first two years unless there is a long drought as it was the case this year. In that case, only those sites brought food for the animals. Beyond 2 years, pastures sites will be opened by the pastoral code and subject to the rules of local land charter. So there will be no limitation of movement or limit in the access rights to resources. | | |
| **D. Conformance** | Yes [x] | No [ ] | N/A [ ] |
| **E. Corrective Actions (describe)** | N/A | | |
| **F. REACH Italia response** | | | |
| **G. Status** | | | |
| **A. Requirement** | **2.5 Leakage**<br>Have potential sources of leakage been identified and are effective and feasible mitigation measures in place for implementation? | | |
| **B. Guidance Notes for Validators** | Check the sources of leakage and the effectiveness of mitigation measures:<br>• By discussions with local experts, the project coordinator and others.<br>• Assess whether there is a good understanding of the importance of addressing leakage amongst project participants<br>• Assess whether the mitigation measures proposed are really effective and likely to be implemented. Have they already started? | | |
| **C. Findings (describe)** | The risk of carbon leakage in the region are linked to the gathering of firewood and cattle grazing especially grazing goats. The risk of leakage and potential leak sources is nil since the site was barren for thirty years and was being exploited before the vegetation restoration planning. So it can not have pressure transfer elsewhere. Furthermore, previous experience of rehabilitation of degraded land for a decade of action on the ground, it was observed that communities rarely collect wood from reclaimed land. The rehabilitation of these degraded sites can not increase the operating pressure in the adjacent areas. The application of local land charters excludes the exploitation of wood in the rehabilitated sites and monitored by surveillance committees in each village involved. | | |
| **D. Conformance** | Yes [x] | No [ ] | N/A [ ] |

| | | | |
|---|---|---|---|
| **E. Corrective Actions (describe)** | N/A | | |
| **F. REACH Italia response** | N/A | | |
| **G. Status** | | | |
| **A. Requirement** | **2.6 Traceability and double-counting**<br>Are carbon sales from the project traceable and recorded in a database?<br>Are the project intervention areas covered by any other projects or initiatives (including regional or national initiatives)? Are there formal mechanisms in place to avoid double counting? | | |
| **B. Guidance Notes for Validators** | Check the possibility of double counting and whether the carbon sales are traceable by:<br>• Discussions with local experts, the project coordinator and other projects (including any national or regional level GHG coordination unit)<br>• Understanding the project system for maintaining records of carbon sales and keeping records and determining whether this is sufficiently robust and transparent (through discussions with project staff and local participants) | | |
| **C. Findings (describe)** | This project is the first forest carbon project which reduces the risk of double counting. There is a unanymous consensus for REACH Italia regarding the sale of carbon to Plan Vivo according to contract procedures provided in the Standard.<br>The registry of production and sales will be held by REACH Italia for records to ensure traceability of operations. | | |
| **D. Conformance** | Yes [x] | No [ ] | N/A [ ] |
| **E. Corrective Actions (describe)** | N/A | | |
| **F. REACH Italia response** | N/A | | |
| **G. Status** | | | |
| **A. Requirement** | **2.7 Monitoring**<br>Does the project have a monitoring plan in place? Is it being implemented and does it seem to be an effective system for monitoring the continued delivery of the ecosystem services?<br>Does the project coordinator prescribe and record corrective actions where monitoring targets are not met and are these effectively followed up in | | |

| | | | |
|---|---|---|---|
| | subsequent monitoring? | | |
| **B. Guidance Notes for Validators** | Check whether the monitoring plan is effective and likely to be fully implemented:<br>• Assess the level of understanding of project staff and participating communities of the monitoring system and ensure that the montiring responsibilities are matched by sufficient capacity<br>• Are the selected indicators (covering all aspects of monitoring) SMART? I.e. Specific, Measurable, Achievable, Relevant and Time-bound?<br>• Do the selected indicators properly measure impacts of the project or are they only able to measure inputs/activities?<br>• Are communities effectively involved in monitoring and do they understand their role? | | |
| **C. Findings (describe)** | REACH Italia planned a regular monitoring in close collatboration with the CVD including 2 representatives who were trained in assessment and monitoring of natural resources, to determine the performance of the recovery of pasture sites. Circular plots were planned within 25m and have been provided in the PDD. INERA used a wood inventory method focused on rectangular plots of 1 hectare which the location may introduce a strong bias and can be impractical for the NGO. To reach a consensual and adapted approach, it would be appropriate to apply the linear plot method with transect by REACH that has the advantage to cross diagonally all the recovered surface.<br><br>On the other hand, an example of monitoring of recovered sites has already been published by these actors with Deserto Verde following a 6-year follow-up on the recovery of degraded ecosystems in Oudalan, an article published in the magazine Wood and Tropical Forests in Conedera Et al. (2010),<br><br>People are aware of the financial benefits (payment PES) if there is proper management of woody plant resources. The fact that the sites are a pastoral area since the village exists, contributes to the chances of securing land of the rehabilitated sites. The implementation of the project has a community meaning above individual interests. Finally, there is a consensus from the social components of the village on the conservation area as shown in the village development plan. Site monitoring committees were set up in the villages.<br><br>For example in Pételdaye the Supervisory Committee is composed of 6 people and two of the interested parties present at the meeting confirmed have accepted to work voluntarily.<br><br>The defined indicators are the plant density of trees and the diversity of specific tree species (defined as a minimum of 5 tree seedlings per species per hectare) are representative. However, accuracy is essential to specify the performance indicator relative to the density (if it is independent of timber size, or if there is a tree that is to say a timber 7m high). The performance indicators are part of PES model agreement between REACH Italia and CVD. | | |
| **D. Conformance** | Yes [x] | No [ ] | N/A [ ] |
| **E. Corrective Actions (describe)** | Specify in the PDD that it is feet per hectare instead of trees per ha | | |

| | | | |
|---|---|---|---|
| **F. REACH Italia response** | The description of the indicator on the density was changed in the PDD: number of trees per ha by number of tree plants per ha. | | |
| **G. Status** | | | |
| **A. Requirement** | ***2.8 Plan Vivos***<br>Are the *plan vivos* (or land management plans) clear, appropriate and consistent with approved technical specifications for the project? Will implementation of the plans cause producers' overall agricultural production or revenue potential to become unsustainable or unviable? | | |
| **B. Guidance Notes for Validators** | Where small-holder farmers have prepared individual *plan vivos*, check a sample of these on the ground (in the company of the farmer) to determine whether they have really been prepared by the farmer and what the farmer expects to be the results of implementation.<br>For community-projects managing a common (forest) resource, check the management plan for the forest area and assess the extent to which target groups within the community have been involved in preparing it (especially women and disadvantaged groups) and the extent to which its future impacts have been discussed and agreed. | | |
| **C. Findings (describe)** | In all the villages, communities interviewed claim to have developed land charters and to have implemented reclaimed site monitoring committees. This is already a form of management even if it is not formalized in management plan. This local land charter involves all target groups including women and youth, traditional and religious authorities and was approved by the municipality of Gorom-Gorom and Markoye. It is a management tool that can be read to be adapted. Indeed, the recovered sites are freely accessible to all farmers in the village, the surrounding villages and livestock farmers (except for the first two years of development). The community must ensure to reduce the number of animals based on the level of pastoral resources. The community target groups were involved in its preparation (particularly women and disadvantaged groups) as evidenced by the report of the meetings in every village (municipality of Gorom-Gorom, 2015 et municipality of Markoye, 2015).<br>We must not only build awareness, but also build the organizational capacity of farmers in order to have sustainable grazing resources of reclaimed spaces. | | |
| **D. Conformance** | Yes [x] | No [ ] | N/A [ ] |
| **E. Corrective Actions (describe)** | N/A | | |

| | |
|---|---|
| **F. REACH Italia response** | N/A |
| **G. Status** | |

| **Theme** | **3. Ecosystem benefits** |
|---|---|
| *Ensuring that the project meets requirements 2.1-2.4 of the Plan Vivo Standard (2013)* | |
| **A. Requirement** | **3.1 Planting native and naturalised species**<br>Are the planting activities of the project restricted to native and naturalised species? If naturalised species are being used are they invasive and what effects will they have on biodiversity? Have the species been selected because they will have clear livelihoods benefits? |
| **B. Guidance Notes for Validators** | Check this using a number of sources:<br>• Visual observations of local tree-growing practices<br>• Discussions with communities and project staff<br>• Discussions with local experts (forestry and biodiversity experts)<br>• Published information (refer to this in the validation report if used) |
| **C. Findings (describe)** | A *naturalized species* qualifies as any foreign species, non-native, that is well established in a biotope, a region ... This especially refers to the geographical location, and there is thus either a non-native species, a species transferred, etc. . A *naturalized species* (or introduced) becomes invasive when found in a territory where it was not present and when it disrupts the biodiversity already established in that territory.<br><br>Seeding activities have focused on herbaceous and woody native species. No non-native species were used. Herbaceous species that regenerate are annual and for forage and they play a social and economic role for milk production, growth and productivity of livestock (cattle, goats, donkeys, camels) and wildlife. *Cassia obtusifolia* is harvested as a food plant during the lean seoson and the rods are used for making seccos used by households or sold in the market for residential construction.<br><br>Trees play a vital role in the lives of Sahelian populations constituting not only a relay forage for herbaceous pastures during the dry season but also a stable fodder resources throughout the annual cycle and it is less dependent on rainfall distribution of the previous season. In addition, they provide a food supplement and are used as lumber, timber, medicines by resident populations (Lykke et al, 2004).<br><br>*Balanites aegyptiaca* germs more quickly on seeded sites, but dies in the event of prolonged drought. *Acacia tortilis* which dominates on rehabilitated sites is not intrusive even if it is not well appreciated by Sahelian farmers in crop fields (Ganaba et al. 2005). The *Acacia Senegal* gum tree plays an important socio-economic role in the Sahel. These plants are all fodder and have multiple use. These plants can not change the woody and herbaceous biodiversity of the region. |

| | | | |
|---|---|---|---|
| **D. Conformance** | Yes [x] | No [ ] | N/A [ ] |
| **E. Corrective Actions (describe)** | N/A | | |
| **F. REACH Italia response** | N/A | | |
| **G. Status** | | | |
| **A. Requirement** | **3.2 Ecological impacts**<br>Have the wider ecological impacts of the project been identified and considered including impacts on local and regional biodiversity and impacts on watersheds? | | |
| **B. Guidance Notes for Validators** | Check this using a number of sources:<br>• Visual observations of the environment in the project area<br>• Discussions with communities and project staff<br>• Discussions with local experts (environmental experts)<br>• Published information (refer to this in the validation report if used) | | |
| **C. Findings (describe)** | Ecological indicators that will be monitored and reported by REACH Italia and communities in the resource surveys are: the number of woody species; the number of herbaceous species; the number of wildlife species.<br><br>Performance indicators are relative to the number of tree plants per hectare and must be reduced from 300 to 260 in relation to the woody regeneration rate and recognized animal pressures.<br><br>Positive indicators (nesting birds in the sites,…) and negative (number of livestock killed by wild animals, ..) will be useful in assessing the changes in biodiversity.<br><br>Untreated seeded or reseeded seeds are resistant to environmental conditions for several years before germinating and have thus all adaptive characteristics towards the aridity of the environment. Indeed, these plants have a normal taproot that allows them to adapt to water shortage unlike nursery plants that do not have normal pivot. Seedings will create vegetation that will cover the soil, reduce global warming and protect them.<br><br>The women recognize to have water in half-moons cavities. The permeability of the structure of the cavity slope remains functional several years even if it becomes covered after some time.<br><br>It is noted that certain rare species appear to develop in the conditions of the half-moons as *Bauhinia rufescens*, *Acacia nilotica* and *Cassia italica*.<br><br>As part of its activities in support of basic education, the NGO REACH Italia insists on environmental education and encourages young people to discover what degradation of resources is and how to fight it (participation in Seeding, periodic surveys, etc.).<br><br>The rehabilitated sites can attract wild animals like jackals and hyenas, as well as birds with many nesting. Rats also can multiply if the cutting or grazing grass is | | |

| | | | |
|---|---|---|---|
| | not practiced on the rehabilitated sites. The structure and soil fertility will evolve with input from animal organic matter (manure) from the infiltration of water and vegetation development. There is an important development of *Cassia obtusifolia* during the first two years in the sites. Disadvantaged groups find their advantages in picking leaves of *Cassia obtusifolia* whose young leaves are eaten boiled in households and / or sold to the market so that children from Gorom-Gorom travel 6 km of town looking for them in the shallows or rehabilitated areas.<br><br>The rods are harvested for making mats. Food gathering of leaves of *Corchorus tridens* is done to make sauce; *Eragrostis tremula* are gathered to make brooms and and *Panicum laetum* (wild fonio) for food.<br><br>Other non-timber forest products for consumption and sale are: Fruit of *Balanites aegyptiaca*, *Ziziphus mauritiana*, *Acacia Senegal Gum / laeta, branches of Cassia italica* for pharmacopoeia care.<br><br>The rehabilitated sites may constitute relief areas in particular for elderly people.<br><br>The rehabilitated areas reduce transhumance movements to some herds of the village making available animal droppings in parks, fields and developed sites. The concentration of animal waste in the sites can be collected to fertilize the fields, it can also constitute pottery work for artisans.<br><br>Medicinal plants like *Cassia italica, Euphorbia hirta* appear with amenities. | | |
| **D. Conformance** | Yes [x] | No [ ] | N/A [ ] |
| **E. Corrective Actions (describe)** | N/A | | |
| **F. REACH Italia response** | N/A | | |
| **G. Status** | | | |

| Theme | 4. Livelihood Benefits |
|---|---|
| *Ensuring that the project meets requirements 4.1-4.14, 7.1-7.5 and 8.1-8.10 of the Plan Vivo Standard (2013)* | |
| **A. Requirement** | **4.1 Community-led planning**<br>Has the project undergone a producer/community-led planning process aimed at identifying and defining sustainable land-use activities that serve the community's needs and priorities? |
| **B. Guidance Notes for Validators** | Assess this by discussions with project staff and communities and by looking at any records of the planning process. It may be useful to conduct a time-line exercise with communities to understand the planning process that has taken place. |
| **C. Findings (describe)** | Different information and awareness-raising activities have been organized with the different communities:<br>- Meetings with breeders / Men on February 17, 2015 in the village of Tadabat, February 18, 2015 in the village of Pételdaye and February 19, 2015 in the village of Bossé Etage. (Information on the Vivo Plan and collection of data on the recovered sites)<br>- Bossey Etage (development of the Vivo Plan, selection of the indicators and their validation.) Meeting on 14 Sep 2015 in Tadabat, 15 Sept 2015 Pételdaye and 16 Sept 2015<br>- Meeting on June 3, 2016 Tadabat, June 4, 2016 Pételdaye and June 5, 2016 in Bossey Etage (development of PES and revision of indicators).<br><br>In all exchange meetings at village level, community groups participating in the project are identified through the Village Development Council (CVD). With the recent elections and the establishment of municipal councils in July 2016, the CVD's were renewed in all the villages and will continue the activities initiated by the CVD who served previously in special communal delegations. The Village Development Council was established in 2007 by Decree No. 2007-032 / PRES / PM / MATD) as an official authority to give the village a unique and formal structure to organize and develop local initiatives.<br><br>Rural Communities of involved villages acknowledge having participated in the development of the project through several local meetings involving all members of the community. They were involved in the process of decision making on sites to recover, the selection of species for sowing, the sharing of benefits arising from PES scheme and managing the use of developed land. They decided which tree and herbaceous species were introduced on the rehabilitatted sites and how sites should be managed on the basis of local land charters. The sharing and awareness sessions have helped local communities to understand the objective of the rehabilitation of degraded pastures and to participate in decisions and to be responsible for the selection of species and the management of these sites.<br><br>The consultation procedure has used the "focus group" technique because in the dominant Fulani culture, the women and the girls are not authorized to speak publicly before the men and the elderly. For this, the players were grouped into homogeneous groups to promote free and conscious expression, to gather opinions and improve the consideration of the concerns of vulnerable groups. After the exchange of the focus groups, the views were shared in plenary session and a consensus was reached in the process of decision |

| | | | |
|---|---|---|---|
| | making. This approach has ensured that, for example, women's needs were taken into account when selecting tree and grass species for rehabilitated pastures. This step allowed the direct participation of women with men in exchange meetings of project validation in all the villages, the principle being that nobody should speak for the other or engage in a decision without its opinion (photos 10, 11 and 13). | | |
| **D. Conformance** | Yes [x] | No [ ] | N/A [ ] |
| **E. Corrective Actions (describe)** | N/A | | |
| **F. REACH Italia response** | N/A | | |
| **G. Status** | | | |
| **A. Requirement** | **4.2 Socio-economic impact assessment/monitoring plan**<br>Is there a robust socio-economic impact assessment and monitoring plan in place that can measure changes against the baseline scenario? | | |
| **B. Guidance Notes for Validators** | Discuss with project staff and communities to understand how the baseline assessment was conducted and how the socio-economic monitoring plan developed out of this. Assess in particular:<br>• Whether the livelihoods indicators can effectively monitor socio-economic changes taking place<br>• The extent to which women, disadvantaged people and other social groups have been involved in the project processes and whether the selected indicators will enable impacts on them to be determined<br>• Whether any groups in the community are likely to be adversely affected by the project and whether there are any mitigation meausures in place to addres this | | |
| **C. Findings (describe)** | As no household survey and referential resources have been conducted as baseline before the project intervention, investigations should be conducted in villages with similar basic conditions that are not included in the scope of the project.<br><br>Socio-economic indicators :<br>Socio-economic indicators are used for the household and the village. The socio-economic indicators identified for the household and the village allow for effective monitoring of socio-economic changes taking place. However, these indicators are numerous enough to inquire. It would be interesting to target the most relevant ones.<br><br>The indicators at the household level could be:<br>The number of goats (grazing shrubs and affecting the regeneration)<br>The number of improved stoves | | |

| | | | |
|---|---|---|---|
| | The indicators at the village level could be:<br>The amount of milk produced per cow<br>The number of cows calving<br>The number of households with herds left in transhumance<br><br>But there are also negative impacts to report with measurement indicators. The number of animals injured in the rehabilitated sites<br>The number of animals eaten by wild animals<br><br>Carbon payments could be used to reinvest in seeding sites, solve other socio-economic problems of the village for example the creation and / rehabilitation of water points (boreholes), improve other socio-economic conditions of the village (acquire improved stoves to reduce the pressure on wood resources). | | |
| **D. Conformance** | Yes [x] | No [ ] | N/A [ ] |
| **E. Corrective Actions (describe)** | | | |
| **F. REACH Italia response** | The chosen indicators are:<br>(i) Livelihoods:<br>- Annual revenue<br>- Income-generatings activities from the herbaceous products (eg Sekko from the stems of Cassia Tora.)<br>- Income-generatings activities from non-timber forest products<br>- Annual expenditure on education and health<br>- Materials used for homes<br>- Access to food during the lean season<br>- Use of medicinal species<br>- Temporary Transhumance<br>- Number of dead animals<br>- Calving rate in cattle<br>- Need purchase fodder<br>- Number of goats<br>- Calving rate in cattle<br>(ii) Village:<br>- Number of conflicts in NRM<br>(iii) Negative Impacts:<br>- Return of wild carnivores | | |
| **G. Status** | | | |
| **A. Requirement** | **4.3 Sale agreements and payments**<br>Does the project have clear procedures for entering into sale agreements with producers/communities based on saleable carbon from *plan vivos*?<br>Does the project have an effective and transparent process for the timely administration and recording of payments to producers? | | |

| | | | |
|---|---|---|---|
| **B. Guidance Notes for Validators** | Check the systems that are being proposed by the project and make an assessment of whether these are fully functional already or whether they can be made functional when required? Are communities/producers aware of the system and do they understand it? Are documents and materials readily available to producers/communities? | | |
| **C. Findings (describe)** | Communities / producers gradually learn about carbon offset system which is a first in Burkina Faso but are aware that they can not only improve their pastoral resources. They can get better organized to manage their plant resources but also receive funding to fight against poverty.<br><br>The project has clear procedures for concluding sales contracts with producers / communities on the saleable carbon-based Vivos plans at a density of vines / ha minimum required over the 30 years.<br><br>The documents and materials are readily available to producers / communities as an Excel spreadsheet. | | |
| **D. Conformance** | Yes [x] | No [ ] | N/A [ ] |
| **E. Corrective Actions (describe)** | N/A | | |
| **F. REACH Italia response** | N/A | | |
| **G. Status** | | | |
| **A. Requirement** | **4.4 Benefit sharing and equity**<br>Will the project have livelihoods benefits for the local community? Are these benefits likely to accrue to all community members and/or are benefits targeted at particular groups within the community? What other actions is the project taking to ensure that disadvantaged groups e.g. women, landless households, poor people will benefit from sales of Plan Vivo certificates? | | |
| **B. Guidance Notes for Validators** | Whilst there may be livelihoods benefits resulting from the project, it is critical to ensure that benefits are equitably shared. This can be assessed by:<br>• Checking whether a local stakeholder/well-being analysis has been conducted to identify socio-economic groupings in the community<br>• Assessing the level of governance of local groups (are issues of equity and benefit sharing discussed during meetings?)<br>• Discuss with a small sample of households from different socio-economic groups to determine their level of understanding of the benefits they are likely to get from the project. | | |
| **C. Findings (describe)** | The communities / producers gradually learn about carbon offset system which is a first in Burkina Faso but are aware that they can not only improve their pastoral resources, organize better to manage their plant resources but also benefit from financing to fight against poverty.<br>The project has clear procedures for concluding sales contracts with producers | | |

| | | | |
|---|---|---|---|
| | / communities on the basis of saleable credits of the Plan Vivos at the minimum density of tree-plants / ha.<br>A model producer / group agreement in the form of a PES scheme contract has been elaborated with the village development council of each village involved. The contract describes the roles and responsibilities of the parties to the contracts. It also describes the terms and conditions governing the production of ecosystem services and payment for these services related to seeding activities and sustainable management of recovered sites<br><br>Documents and materials are immediately available to producers / communities in Excel spreadsheet format. | | |
| **D. Conformance** | Yes [x] | No [ ] | N/A [ ] |
| **E. Corrective Actions (describe)** | N/A | | |
| **F. REACH Italia response** | N/A | | |
| **G. Status** | | | |

The Validator: GANABA Souleymane

Signature:  Date: 12 octobre 2016

## 2. POST SITE VISIT ADDITION

| AREA TO BE ADDED POST SITE VISIT |
|---|

*Geographical and Socio-Economic description of the site to be added to the existing project area*

The fourth village, Gargara I, was included in the project after our first field visit. However, we give an opinion on its conformity as it presents the same baseline, the same floristic composition of the vegetation of the managed parcels, the same socio-economic characteristics and the same reference zone of the project area.

Description :

a) Geographic and demographic situation

Located in the municipality of Gorom-Gorom, Oudalan province, Sahel region in the far north of Burkina Faso, the village of Gagara 1 is home to a predominantly rural population. The main activities of its population are agriculture, livestock and crafts. In 2005 GAGARA 1 had 443 inhabitants, including 217 women and 226 men.

Figure : the 45the province of Burkina Faso

RURAL POPULATION

A predominantly rural population which rely on assistance from international humanitarian programs during particularly difficult times for crops and livestock. It is very difficult to find an economy based essentially on agro-pastoralism activities that are highly dependent on the extreme and unstable climate of the area.

FOOD

Millet and sorghum account for 90% to 75% of the basic diet of this population. Nearly 100% of these cereals are used for consumption and they are rarely marketed.

ETHNICITIES

The Bellas (majority ethnic group) live with the Fulani, the Touareg, nomadic herders, and with Songhaï and Mossis, sedentary farmers, in a peaceful atmosphere.

MAIN SOURCE OF INCOME AND MIGRATION

Livestock is the main source of income. Mostly, cattle, sheep and camels are kept there. The population of Gagara 1 records a relative migration during difficult periods in the direction of central Burkina Faso and the neighbouring countries Cote d'Ivoire, Niger and Mali.

INFRASTRUCTURE

Gagara 1 is located on the axis of the extension of the National Road No. 3 Ouaga Markoye and has

a primary school and a drill. The nearest health centre is 15 km away.

## 3. REFERENCES


Bambara D. (2016) : Changements climatiques en zones Centre et Nord du Burkina Faso : comparaison entre savoirs locaux et connaissances scientifiques, adaptation par les composts. Thèse de doctorat de l'Université de Ouagadougou , Spécialité : Sciences Biologiques Appliquées, Option : Botanique et Phytoécologie, 173p.

Burkina Faso (2010) : DECRET N°2010-_400_/PRES/PM/MAHRH/ MRA/MECV/MEF/MATD portant modalités d'élaboration et de validation des chartes foncières locales.

Burkina Faso (2009) : LOI N° 034-2009 / AN PORTANT REGIME FONCIER RURAL. www.gouvenement.gov.bf

CILSS (2009) : Récupération des sols fortement dégradés à des fins sylvopastorales : Une évaluation quantitative des aménagements mécaniques à partir de la charrue Delfino réalisés par l'ONG REACH au Burkina Faso. CILSS FERSOL, Ouagadougou, 34 p.

Commune de Gorom-Gorom (2015) : Charte foncière locale inter villageoise de la commune de Gorom-Gorom. Délibération 2015/07/CM/GG, 10p.

Commune de Markoye (2015) : Charte foncière locale de la commune de Markoye. Délibération 2015/07/CM/M, 8p.

Conedera M., Bomio-Pacciorini N. Bomio-Pacciorini P Sciacca S., Grandi L. Boureima A. Maria Vettraino A. (2010) : Reconstitution des écosystèmes dégradéssahéliens . Bois et Forêts des Tropiques , 2010, 304 (2) 61-71.

Enete A.A. & Onyekuru A.N., 2011, Challenges of agricultural adaptation to climate change: empirical evidence from southeast Nigeria. Tropicultura, 29(4), 243-249 FAO, 2007

Fontès J. et Guinko S., 1995. Carte de la végétation naturelle et de l'occupation du sol, Burkina Faso. + notice explicative 67p.

Ganaba S. (2005). Impact des aménagements de conservation des eaux et des sols sur la régénération des ressources ligneuses en zone sahélienne et nord soudanienne du Burkina Faso. Vertigo 6 (2) | septembre 2005

Ganaba S. (2008) : *Caractérisation, utilisation, tests de restauration et gestion de la végétation ligneuse au Sahel, Burkina Faso.* Thèse de Doctorat d'Etat ès Sciences Naturelle. Université Cheikh Anta-Diop n°117. Faculté des Sciences et Techniques, 287 p.

Grouzis M. (1988) : Structure, productivité et dynamique des écosystèmes écologiques sahéliens (mare d'Oursi, Burkina Faso). Thèse de doctorat d'Etat ès-Sciences Naturelles, Univ. Paris Sud, Editions de l'ORSTOM. Collections ETUDES et THESES, 336p.

Grouzis M., Nizinski J., Akpo E. (1991) : IVe Congrès International des Terres de Parcours Montpellier – France – 22-26 Avril 1991, « L'arbre et l'herbe au Sahel : Influence de l'arbre sur la structure spécifique et la production de la strate herbacée, et sur la régénération des espèces ligneuses »

IFN2 (2015) : Equations allométriques d'estimation des volumes de bois et de la biomasse foliaire des arbres.

INERA (2014 et 2015) : Rapports techniques d'état d'avancement du Protocole d'accord entre l'INERA et le Projet Azawak : Suivi scientifique des sites de récupération de terres dégradées réalisées par le Projet BKF/017 « Azawak Ressources Pastorales » notamment dans les communes de Gorom-Gorom, Markoye, Dori et Bani.

IPCC (2003) : Good Practice Guidance for Land Use, Land-Use Change and Forestry. Penman J., Gytarsky M., Hiraishi T., Krug, T., Kruger D., Pipatti R., Buendia L., Miwa K., Ngara T., Tanabe K., Wagner F. (Eds).Intergovernmental Panel on Climate Change (IPCC), IPCC/IGES, Hayama, Japan. http://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf_contents.html

IPCC 2007. Bilan 2007 des Changements climatiques, rapport du groupe d'experts intergouvernemental sur l'évolution du climat, rapport de synthèse. [En ligne : http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_fr.pdf (Accès le 15/01/2013)].

Kadéba A., Nacoulma BMI, Ouédraogo A., Bachmann Y., Thiombiano A., Schidt M., Boussim IJ., (2015): Land covers change and plants diversity in the Sahel: A case study from northern Burkina Faso. In Ann. For. Res. 58(1): 109-123, 2015.

Kadéba A. (2016) : Dynamique spatio-temporelle de la végétation sahélienne: Analyse des modifications et des indicateurs de la dégradation des terres (Burkina Faso, Afrique de l'Ouest)» Thèse de doctorat de l'Université Ouaga 1 Professeur Joseph Ki-Zerbo, UFR/SVT, 126p.

Kambiré HW, Djenontin INS, Kaboré A, Djoudi H, Balinga MPB, Zida M et Assembe-Mvondo S. (2015) : La REDD+ et l'adaptation aux changements climatiques au Burkina Faso : causes, agents et institutions. Document occasionnel 123. Bogor, Indonésie : CIFOR.

Kiéma A., Nianogo A.J., Ouedraogo T. (2008) : Effets des cordons pierreux sur la régénération d'un pâturage naturel de glacis au sahel [Effect of rock bunds on the regeneration of the vegetation of a natural pasture on open glacis in the Sahelian region of Burkina Faso]. Cahiers d'Agriculture 17(3): 281-288.

Kiéma A., Nanogo JA., Kaboré-Zoungrana CI., Jalloh B. (2012) : Effets des demi-lunes associées au scarifiage sur les productions fourragères en région sahélienne du Burkina Faso

KINOME (2015): « Mise en place d'un système de quantification des stocks de carbone dans le cadre du Projet Plan Vivo : récupération et gestion durable des pâturages dégradés au Sahel Burkinabé »

Lykke A.M., Kristensen M.K., Ganaba S. 2004 – Valuation of local use and dynamics of 56 woody species in the Sahel. Biodiversity and Conservation 13:1961-1990, 2004.

MBow C., Chhin S., Sambou B et Skole D. (2013): Potential of dendrochronology to assess annual rates of biomass productivity in savanna trees of West Africa. In Dendrochronologia 31 (2013) 41– 51.

MECV (2006) : Revue scientifique sur l'état de la dégradation des terres au Burkina Faso

MECV (2007) : « Programme d'action national d'adaptation à la variabilité et aux changements climatiques (Pana du Burkina Faso) »
http://unfccc.int/resource/docs/napa/bfa01f.pdf

MEF (2008): Recensement général de la population et de l'habitation de 2006 – RGPH-3

MRA (2005) : « Initiative Elevage Pauvreté et Croissance (IEPC) »
http://hubrural.org/IMG/pdf/burkina_iepc.pdf

PNUD (2012) : « Rapport National sur le Développement Humain Burkina Faso 2012 »
http://www.bf.undp.org/content/burkina_faso/fr/home/library/human_development/rapnatdh12/

Pagot J., (1985) : L'élevage en pays tropicaux. Éditions Maisonneuve et Larose, Collection techniques Agricoles et productions tropicales.

Poupon H. (1980) : Structure et dynamique de la strate ligneuse d'une steppe sahélienne au nord du Sénégal. Paris : ORSTOM, 1980, (115), 351 p. (Travaux et Documents de l'ORSTOM ; 115). Th. Sc. nat. : Paris Sud. Orsay : 1979/09/26, ISBN 2-7099-0562-0.

Saidou O., Douma S., Djibo AZ et Fortina R. (2010): Analyse du peuplement herbacé de la station sahélienne expérimentale de Toukounous (Niger) : composition floristique et valeur pastorale. Sécheresse 2010; 21(2):154-60

Sanou Y. et al. (2008) : Zones d'Importances pour la Conservation des Oiseaux (ZICO) du Burkina Faso Statuts et Tendances 2008

Tindano E., Ganaba S. et Thiombiano A. (2011). Rocky Woody Vegetation Diversity and Structure in the Oursi Dam Area, Northern Burkina Faso. *ISESCO Journal of Science and Technology* 7 (12) : 15-28.

Tindano E. (2016): Diversité floristique, phytosociolgie et dynamique de la végétation ligneuse des inselbergs suivant un gradient climatique nord-sud au Burkina Faso. Thèse de doctorat de l'Université de Ouagadougou, Spécialité : Sciences Biologiques Appliquées, Option : Botanique et Phytoécologie, Spécialité : Sciences Biologiques Appliquées, Option : Botanique et Phytoécologie, 127p.

Zizka A., et al. (2015) : Traditional plant use in Burkina Faso (West Africa): a national-scale analysis with focus on traditional medicine

# 4. ANNEXES

## Photo board of the Plan Vivo project validation by REACH Italia

Photo 3 : Woody regeneration in a restored site of the village of Peteldaye


Photo 4: Animal pressure on a restored site in Gargara

Photo 5 : Organization of the distribution of regenerated vegetation in a 3-year-old half-moon basin at Tadabat

Photo 6 :
Aerial grazing of a camel in the site of Bossey Etage

Photo 7 : Materialization of site of restoration with placard in Pételdaye

Photo 8 : Women (disadvantaged group) returning to the village of Bossey Floor with firewood

Photo 9 : Exchange session with the Bossey rural communities Floor

Photo 10 : Strong female and male representation at the meeting with the validation mission at Bossey Floor


Photo 11 : Validation mission meeting with the rural communities of Tadabat

Photo 12 :
Validation mission meeting with the rural communities of Pételdaye

| | |
|---|---|
| | |

## Summary of the different training courses

| Dates | Places | Themes | Name and reference animator | Concerned villages | Nomber of participants | Different socio-economic groups | Number of women |
|---|---|---|---|---|---|---|---|
| April 2014 | Village | Training on local seed collection and processing | animator REACH | 20 villages | 426 participants | ✓ 20 CVD<br>✓ 197women<br>✓ 209 men | 197 |
| 12 Mai until 8 June 2014 | Recovered sites | Training in direct seeding technique with woody and herbaceous seeds on recovered sites | animator REACH | 20 villages | 400 participants | ✓ 92 men<br>✓ 153 women<br>✓ 155 young | 153 women |
| 26-27-28/03/2014 | Meeting room of the DPEDD OUDALAN | Training on the development and adoption of specific rules for the management of recovered sites | BORO Sidi DPRAH OUDALAN | 20 villages | 40 participants | ✓ CVD<br>✓ advisers | 2 |
| 18-19-20/03/2014 | Meeting room of the DPEDD OUDALAN | Acts and Regulations Governing the Management of Natural Resources | DABIRE K EMMANUEL DPEDD OUDALAN | 20 villages | 41 participants | ✓ CVD<br>✓ advisers | 1 |
| 02-03-04 /04/2014 | Meeting room of the DPEDD | Inclusion and involvement of young | Naré Polycarpe et Conombo P Evariste Golbert : | 20 villages | 41 participants | ✓ CVD<br>✓ representatives of GF | 6 women |

| Dates | Places | Themes | Name and reference animator | Concerned villages | Nomber of participants | Different socio-economic groups | Number of women |
|---|---|---|---|---|---|---|---|
| | OUDALAN | people and women in all activities to recover degraded lands | economist planner, spécialist in gender and development at DREP/ Dori et Gorom | | | and representatives of the youth group,<br>✓ REACH Animators | |
| 18-19-20 /03/2014 | Meeting room of the DPEDD OUDALAN | Right and Duty of populations in the use and management of natural resources. | DABIRE K EMMANUEL DPEDD OUDALAN | 20 villages | 41 participants | ✓ CVD,<br>✓ Advisors<br>✓ REACH Animators | 1 |

## Timeline of the evaluation mission of the Plan Vivo project of REACH Italia

**Monday 11/07** : 06h30 - 11h : Travel to Ouaga-Dori
10h - 12h : Briefing witht he Sahel coordination of the REACH Italia project
14h - 15h : Travel to Dori – Gorom-Gorom
15h - 17h : Exchange with the REACH project team and adoption of the chronogram and harmonization of the meetings with the provincial structures
17h - 19h : Synthesis and analysis of the collected information of the day and preparation of the visit

**Thuesday 12/7** : 8h - 9h : Travel to Tadabat (commune of Markoye)
9h - 13h : Field visit of the recovered and degraded lands and meeting with the rural communities of the village of Tadabat
15h - 16h: Meeting with the DPEEECC of Oudalan
16h - 17h: Meeting with the regional coordinator of the IBA-FEM project

**Wednesday 13/7** : 8h -9h : Travel to Pételdaye (Commune of Gorom-Gorom)
9h - 11h : Field visit of the recovered and degraded lands and meeting with the rural communities of the village of Pételdaye
9h - 9h15 : Travel to Bossey Etage (Commune de Gorom-Gorom)
9h15 - 12h45 : Field visit of the recovered and degraded lands and meeting with the rural communities of the village of Bossey Etage
12h45 -1 3h15 : Travel back to Gorom-Gorom
16h - 17h30 : Meeting with DPRA of Oudalan
17h30 -19h : Synthesis and analysis of the informations

**Thursday 14/7** : 8h30 - 9h : Meeting with the representative of the commune of Gorom-Gorom
9h - 9h30 : Meeting with the first 2 deputies of the mayor of Gorom-Gorom
Summary presentation of the mission to the mayor of Markoye
10h - 11h30 : Debriefing at the ONG REACH Italia
12h - 14h: Travel back Gorom-Gorom - Dori

## Presence lists

**List of presence of the producers of the village of Bossey Etage to the collection of information on July 13, 2016**

| N° order | Name and surname | Sex | |
|---|---|---|---|
| | | Men | Women |
| 1. | Abass Boureima | + | |
| 2. | Abdoulaye Sidi | + | |
| 3. | Aboubacar Ali | + | |
| 4. | Aboudjali Issouf | + | |
| 5. | Adizetou Mohamed | | + |
| 6. | Ahadou Boureima | + | |
| 7. | Aissa Haïdara | | + |
| 8. | Aissata Issa | | + |
| 9. | Aisséta Matali | | + |
| 10. | Aminata Alladji | | + |
| 11. | Aminata Oumarou | | + |
| 12. | Asséta Ali | | + |
| 13. | Asséta Ousmane | | + |
| 14. | Djénéba Alkadri | | + |
| 15. | Fadimata hamadalamine | | + |
| 16. | Fatimata Sidi | | + |
| 17. | Habseta Abdoulkadri | | + |
| 18. | Halimata Issa | | + |
| 19. | Hamar Salah | + | |
| 20. | Havizétou Abdoul Kadri | | + |
| 21. | Hawa Abdoulkadri | | + |
| 22. | Houreydjeta Alkadri | | + |
| 23. | Inoussa Gorko | + | |
| 24. | Inoussa Moussa | + | |
| 25. | Mama Hamad Almoctar | | + |
| 26. | Moctar Abdoulye | + | |
| 27. | Mohamad Alamine Ousmane | + | |
| 28. | Mohamed Abdoulaye | + | |
| 29. | Rahamata Amadou | | + |
| 30. | Rakia Mohamed | | + |
| 31. | Ramata Hadou | | + |
| 32. | Roukiatou Alou | | + |
| 33. | Roukiatou Idrissa | | + |
| 34. | Sakinata Alladji | | + |
| 35. | Sidi Idrissa | + | |
| 36. | Sidi Issa | + | |
| 37. | Sidi Mohamed Assaley | + | |
| 38. | Souhayata Amadalamine | | + |
| 39. | Souleymane Moussa | + | |
| 40. | Soumaila Issa | + | |
| 41. | Zakaria Sidi | + | |
| **Sub total** | | **17** | **24** |
| **TOTAL** | | **41** | |

**List of attendance of the producers of the village of Petel Daye to the collection of information on July 13**

| N° order | Name and surname | Sex | |
|---|---|---|---|
| | | Men | Women |
| 1. | Aboubacar Aliou | + | |
| 2. | Aboubacar Hamadou | + | |
| 3. | Aboubacar Issa | + | |
| 4. | Aboubacar Seydou | + | |
| 5. | Aboubacr Sofiya | + | |
| 6. | Adouhamar Abdoukadri | + | |
| 7. | Adoulaye Aboubacar | + | |
| 8. | Aichatou Hamadou | | + |
| 9. | Aissatou Saboa | | + |
| 10. | Amadou Hamadou | + | |
| 11. | Amadou Hamadou | + | |
| 12. | Amadou Issouffo | + | |
| 13. | Aminata Beidari | | + |
| 14. | Arhamatou Zoulhalmi | | + |
| 15. | Assiyata Marou | | + |
| 16. | Assouma Hamadou | | + |
| 17. | Assouman Aboubacar | + | |
| 18. | Assouman Amadou | + | |
| 19. | Assouman Hamadalmi | + | |
| 20. | Ayssatou Amadou | | + |
| 21. | Balkissa Aboubacar | | + |
| 22. | Boureima Hamar | + | |
| 23. | Boureima Lokassou | + | |
| 24. | Dafiourai Amadou | | + |
| 25. | Djénéba Issa | | + |
| 26. | Djeneba Marou | | + |
| 27. | Djibrilla Ibouka | + | |
| 28. | Fatimata Mohamane | | + |
| 29. | Fatoumata Aboubacar | | + |
| 30. | Fatoumata Adoulkadri | | + |
| 31. | Fatoumata Bondi | | + |
| 32. | Fatoumata Mahamadou | | + |
| 33. | Fatoumata Youssoufi | | + |
| 34. | Fatoumatou Alkassoume | | + |
| 35. | Fili Adoulhaudaw | | + |
| 36. | Habibata Oyyahi | | + |
| 37. | Hadiatou Marou | | + |
| 38. | Hadjatou Mouta | | + |
| 39. | Hadjatou Adoulkadri | | + |
| 40. | Hadjatou Zoulkalmi | | + |
| 41. | Halimata Sidi | | + |
| 42. | Hamadalmi Hamar | + | |
| 43. | Hamadou Djededo | + | |
| 44. | Hamadou Oumarou | + | |
| 45. | Hamadou Oumarou | + | |
| 46. | Hamar Amoukon | + | |

| | | | |
|---|---|---|---|
| 47. | Hamar Hamadou | + | |
| 48. | Hamar Sissoa | + | |
| 49. | Hamarsol Hamoutar | + | |
| 50. | Hassane Tamil | + | |
| 51. | Lamanatou Amadou | | + |
| 52. | Mahamadou Tamel | + | |
| 53. | Mairama Boula | | + |
| 54. | Mamoudou Ousseini | + | |
| 55. | Moctar Hamadou | + | |
| 56. | Moussa Abitou | + | |
| 57. | Moussa Hamadaye | + | |
| 58. | Moussa Sofiyan | + | |
| 59. | Moustapha Mahamadou | + | |
| 60. | Nafissatou Mahamane | | + |
| 61. | Nafissatou Youssouffi | | + |
| 62. | Oumou Gossou | | + |
| 63. | Pouloy Issa | + | |
| 64. | Ramatoulaye Bonzeiya | | + |
| 65. | Roukiatou Alladji | | + |
| 66. | Safiayatou Agaicha | | + |
| 67. | Samira Hamadou | | + |
| 68. | Seidou Aboubacar | + | |
| 69. | Sidi Hamadou | + | |
| 70. | Sidi Hamadou | + | |
| 71. | Souleymane Tissa | + | |
| 72. | Soumaye Boureima | + | |
| 73. | Younoussa Aboubacar | + | |
| **Sub total/ Sex** | | **39** | **34** |
| **TOTAL GENERAL** | | **73** | |

## List of the presence of the producers of the village of Tadabat in the collection of information on July 12

| N°order | Name and surname | Sex | |
|---|---|---|---|
| | | Men | Women |
| 1. | Abdou Ag Akmoud | + | |
| 2. | Abdoulaye Ag Karimou | + | |
| 3. | Aboubacar Ag dakaw | + | |
| 4. | Adouala Welet Siwaka | | + |
| 5. | Agali Ag Isoilaweit | + | |
| 6. | Agali Ag Mohamed Altacher | + | |
| 7. | Ahmoudou Ag Lamed | + | |
| 8. | Ahmoudou Ag Manga | + | |
| 9. | Alhassane Ag Roumar | + | |
| 10. | Almahdi Ag Akli | + | |
| 11. | Almahmoud Ag Hama | + | |
| 12. | Amakouyat Welet Idbaltan | | + |
| 13. | Amina Welet Rissa | | + |
| 14. | Anagmat Welet Alhousseini | | + |
| 15. | Asmaou Welet Mito | | + |
| 16. | Assilawat Ag Lamed | + | |
| 17. | Asssoumaou Welet Mohamed | | + |
| 18. | Attacher Ag Lamed | + | |

| | | | |
|---|---|---|---|
| 19. | Bouba Ag Akli | + | |
| 20. | Boubacar Ag Issouf | + | |
| 21. | Boureima Ag Alzoumagat | + | |
| 22. | Boye Ag Abdou | + | |
| 23. | Daouda Ag Roumar | + | |
| 24. | Djibrilla Ag Alzoumagat | + | |
| 25. | Fadimat Welet Mitou | | + |
| 26. | Fateh Welet Akmoudou | | + |
| 27. | Fati Welet Aboubacar | | + |
| 28. | Fati Welet Dakou | | + |
| 29. | Fatimata Welet Daouda | | + |
| 30. | Guissa Ag Roumar | + | |
| 31. | Hadira Welet Afouran | | + |
| 32. | Hadira Welet Ahmoudou | | + |
| 33. | Hadireitou Welet Feti | | + |
| 34. | Hadissa Welet Ousmane | | + |
| 35. | Hadjira Welet Alkadri | | + |
| 36. | Hadjira Welet Daouda | | + |
| 37. | Hamadou Ag Abdou | + | |
| 38. | Hamadou Ag Abdoulaye | + | |
| 39. | Harouna Ag Anasbagart | + | |
| 40. | Ibrahim Ag Issouf | + | |
| 41. | Idrissa Ag Aboubacar | + | |
| 42. | Idrissa Ag Almougamet | + | |
| 43. | Illiassa Ag Watinisken | + | |
| 44. | Ineytan Ag Alwaza | + | |
| 45. | Issiaka Ag Akmoudou | + | |
| 46. | Isside Welet Ibrahim | | + |
| 47. | Issouffa Ag Mittou | + | |
| 48. | Leila Welet Amid | | + |
| 49. | Madina Welet Adiane | | + |
| 50. | Mahamout Ag Hassane | + | |
| 51. | Makata Welet Insalam | | + |
| 52. | Mariama Welet Ahmoudou | | + |
| 53. | Mayat Welet Bargui | | + |
| 54. | Mohamed Ag Abdoulaye | + | |
| 55. | Mohamed Ag Manga | + | |
| 56. | Moussa Ag Abdou | + | |
| 57. | Moussa Ag Akmoudou | + | |
| 58. | Safiat Welet Talib | | + |
| 59. | Saguid Ag Harouna | + | |
| 60. | Souley Ag Abdou | + | |
| 61. | Soumaila Ag Aboubacar | + | |
| 62. | Tamar Welet Guissa | | + |
| 63. | Zenaba Welet Ineitane | | + |
| **Sub total** | | **37** | **26** |
| **TOTAL** | | **63** | |

## Site description sheet

Date……

Site…… Village …..……. Commune ……

Type of implementation: ……Coordinates GPS (X)……
GPS (Y)……

Topographic Situation: foothills/ _ / Glacis / _ / Dune / _ / Plateau / _ /
Type of soil : gravel /_/ rocky /_/ sandy /_/ clay /_/

Type of vegetation : 1= steppe with trees 2= shrub steppe 3= grassy steppe 4= other
/_ /

Recovery rate: 1 = zero to very low: 0 à 10 % 2 = low: 10 à 25 %
3 = moderate: 25 à 50 % 4 = high: 50 à 75 %
5 = very high: 75 %

- woody species / _ /
- herbaceous species/ _ /

Maximum stand height: wooded……..... shrub……herbaceous…….
Mean stand height: wooded……. shrub…… herbaceous……

Dominant species:- tree stratum 1……..…2 ……..……
3…….……..… 4…….…….

- shrub stratum 1……..…2…….…….
3……..…. 4…….…….

-herbaceous stratum 1……..…2…….…….
3……..…. 4…….…….

Type of plantation: indigenous species / _ / naturalized species / _ / both/ _ /

Fires: yes / _ / no / _ / Last accidental fire:…….....

Woodcut: none / _ / weak / _ / moderate / _ / high / _ /

Non-timber forest product or pharmacopoeia exploitation : none / _ / weak / _ / moderate / _ / high / _ /

Pasture : none / _ / weak / _ / moderate/ _ / high / _ / very high/ _ /

Neighbouring agricultural activity Yes /_/ No /_/ Surrounding distance ……..

Neighbouring mining industry Yes /_/ No /_/ Surrounding distance ……..

Land Status of the site :……

Observations : ……

## Identification and characterisation sheet of the project coordinator

| | | | |
|---|---|---|---|
| Name of the structure | | Status | |
| Date of creation | | | |
| Amount of the operating budget (in 2016 in FCFA) | | Banks for direct debit accounts | |
| Signatories of accounts | 1. | 2. | 3. |
| Unique Financial Identification Number (IFU) | | | |
| Workforce 2016 | Total workforce | | |
| | Number of Local National | | (Nationals originating in the region of exploitation) (Nationals other than those of the region of exploitation) |
| | Number of non Local National | | |
| | Number of non National | | |
| Authorisation of creation | N° Decree | Address/contact | Region/Commune |
| | | | |

| | Identification | Address/contact | Qualification |
|---|---|---|---|
| Name of Director / Coordinator | | | |
| Name of External Auditor / PCA | | | |
| Have the financial statements for 2016 been audited? (Yes No) | | | (If yes, please attach the financial and |

| | | | |
|---|---|---|---|
| | | | accounting report for 2016 and / or earlier)<br>If not consider prior periods |
| Is there a Board of Directors or Management? (Yes No) | | | (If yes, please attach the report of the last and / or previous session) |
| Producer groups or associations in the intervention villages of the project (Indicate the recognition receipts) | Farming | Forestry | Craft |
| State structures partners of the project (quote) | | Private Structures Partners of the project (cite) | |
| Participatory methods and tools for the involvement of producers | | | |
| Communication plan of the project implementation | | | |
| Conflicts resolution system of the project | | | |
| Number of meetings and training workshops for producers | | | |
| Number and dates of meetings with specific target groups (youth, women, disadvantaged social groups) since the project was finalized | Young | Women | Farmers |
| Monitoring system developed by the project (against cuts, bush fires) | | | |
| Is there a management plan for the developed area? | | | |

Certification by the reporting entity's management
I, the undersigned for and on behalf of the reporting entity declare that the information contained in the attached declaration is correct and reliable.
Name_____
Position_____