



## Plan Vivo Interim Issuance Report 2011



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## 1. Summary

|   |   |   |   |
|---|---|---|---|
| <b>Reporting period</b>   |   | September 2011 – January 2012                                     |   |
| <b>Technical specifications in use</b>  |   | Forest plantations  |   |
| <b>Area under management (ha)</b>   | <b>Areas put under management since last report (ha)</b>      | 195.75 hectares   | 120.25 hectares   |
| <b>Smallholders with <i>plan vivos</i> and PES agreements (total for project)</b>           | <b>New smallholders with PES agreements since last report</b> | 152 families  | 92 new families<br>7 families with extended surface       |
| <b>Community groups with <i>plan vivos</i> and PES agreements (total)</b>                   | <b>New groups with PES agreements since last report</b>       | 152 families belong to 50 different communities                   | 40 new communities<br>7 communities with extended surface |
| <b>PES made to communities to date (\$)</b>   |   | 32,636 USD approximately (228,452 BOB ) + 21,550 USD in materials |   |
| <b>Plan Vivo Certificates issued to date</b>  |   | 13,415 tCO2e  |   |
| <b>Submission for Certificate Issuance for new areas under management (tCO<sub>2</sub>)</b> |   | 30,501 tCO2e – 10% buffer = 24,401<br>For sale: 21,351 tCO2e *    |   |

\* A further 20% of ex-ante credits is held by the project until biomass measurements in the permanent sample plots demonstrate the carbon benefit estimated at the start of the project is being delivered.



## 2. Key Events, Developments and Challenges

### 2.1. From CDM to Plan Vivo

As stated in the PDD, the ArBolivia project started in 2007 as a portfolio of small scale reforestation activities within the Clean Development Mechanism of the UNFCCC. However due to a change of policy by the Bolivian government the project is now focusing on voluntary markets based on the Plan Vivo Standard.

The plantations reported here, are plantations planted in between 2008 and 2011 in the municipality of San Buenaventura, Rurrenabaque and San Borja , part of the so called “Rurrenabaque area” (see map) of the ArBolivia initiative and in the municipality of Puerto Villaruelo in the Cochabamba Tropics.

Figure 2.1: Location of the “Rurrenabaque” area

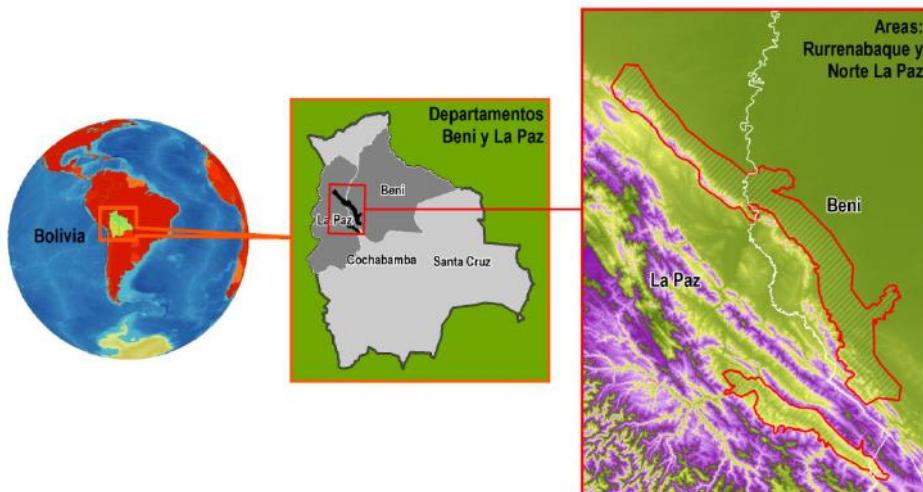


Figure 2.2: Location of the Cochabamba Tropics area





## 2.2 Developments and Challenges

Important was the signing of an agreement between the farmer's federations and ArBolivia as well between the local municipality of Chimoré and ArBolivia. With the other municipalities in the area as well a good level of coordination could be established. This is important for the acceptance of the project by the actual and future participating farmers.



Until now in the areas mentioned in the PDD the following agreements have been signed:

- Federación de Comunidades Agropecuarias de Rurrenabaque (FECAR -Department of Beni)
- Federación Sindical de productores Agropecuarios de Iturralde (FESPAY - Department of La Paz)
- Federación especial de colonizadores de Chimoré (FECH-Department of Cochabamba)
- Federación Sindical de comunidades Interculturales productores agropecuarios Yapacani - Ichilo (FSCIPAY-Department of Santa Cruz)
- Central Sindical Unica de Trabajadores de Campesinos de Buena Vista
- Municipality of San Carlos (Department of Santa Cruz)
- Municipality of San Juan (Department of Santa Cruz)
- Municipality of Buena Vista (Department of Santa Cruz)
- Municipality of Chimoré (Department of Cochabamba)
- With the "Federación Especial de Colonizadores de Carrasco Tropical (FECCT-Department of Cochabamba) no formal agreement was signed, but the FECCT signed a letter approving the ArBolivia activities in the area.

It is expected that an agreement will be signed soon with the municipality of Pto Villarroel.

These agreements cover almost all areas in which the project is being implemented.

- ArBolivia is in the process of recovering areas which had high mortality during 2010 due to a cold period. The same cold spell also hindered the ripening of the seeds of the main species used for reforestation, leading to problems for replanting in these parcels. In July and August 2011, seed production from native species was excellent and replanting is carried out during the months November and December of this year. The areas with mortality over 20% are not reported for the issuance of Plan Vivo certificates in this report but will be reported once these plantations are successfully re- established.



- ArBolivia started with the implementation of permanent sample plots, measuring tree growth and evaluating quality criteria. At this moment 20 plots have been established.
- To meet the increasing demand of farmers who wish to participate in ArBolivia, Sicirec Bolivia Itda. and its associates will put maximum effort into finding funds for the up-scaling of the project.
- Another challenge is controlling the cost of maintenance for the plantations whilst also guaranteeing the farmers their short term income. Additional to the woodlots, ArBolivia distributed citrus and cacao trees to the participating farmers in order to cover part of their medium term needs and to introduce sustainable agroforestry production, which has higher biomass and ecological values than traditional cropping. ArBolivia started as well with the introduction of annual crops, such as beans, peanuts and other leguminous crops, which will result in lower maintenance costs for the farmers, and will provide revenues in the short term, making the Arbolivia concept even more attractive.
- The micro-financing entity IDEPRO together with SICIREC-Bolivia started a pilot project for a micro-financing scheme, providing small loans to the participating farmers for activities based on their integrated farm plan, using the value of the trees as collateral. The loans will be provided in order to improve food and income security by improving agricultural practices through the introduction of organic cropping with higher biomass values.



### 3. Activities, total project size and participation

All activities are embedded in a proper land use planning system. One of the considerations for this is that the reforestation activities should not compete with food-security or short term income, neither should the reforestation activities result in the displacement of people, land-use activities or deforestation.

With proper planning land use can be improved, agriculture can be more efficient and the deforestation caused by traditional slash and burn methods, can be reduced. Improved land use planning results in a lower rate of deforestation and higher levels of sustainability for the implemented project activities. The project is managed in order to improve the amount of biomass and ecological value not only on the tree planting sites but across the entire smallholding. Apart from the introduction of Integrated Land Use Plans at individual farmer level, and the plantation activities as described in the Technical Specification, ArBolivia also introduces agro-forestry systems, which are more sustainable over time than rice, and will result in higher revenues per hectare, as well as higher revenues per working day.

The basic activity is the implementation of the wood-plantations. The basic requirement is the acceptance of the project approach by each farmer and their willingness to plant at least 1 hectare on eligible land, which means land which meets the requirements of the project and the Standards against which the project was validated.

Trees have only been planted on land deforested for over 10 years. Eligibility maps are available in ArcGIS and all potential planting sites are matched against these maps (see annex 1):

Land is eligible if:

- No forest cover currently exists.

And:

1. It can be shown in the satellite image that no forest cover existed 10 years ago
2. Where satellite image analysis is unable to demonstrate clearly whether if the particular area was deforested 10 years ago or not, the land owner signs a statement in which he or she declares that land was deforested more than 10 years ago. This conforms with the eligibility tool for CDM-SSC-AR projects

The requirement to plant trees only on land deforested for over 10 years, means that for the region land is degraded or in process of degradation.

The areas reported in this report represent a surface of 120.25 hectares. In the table below 3.1 the distribution of planted areas in the different strata is show.

*Table 3.1: Surfaces of the different strata on which trees are planted*

| Strata               | Surface (Ha)  |
|----------------------|---------------|
| Annual               | 70.20         |
| Grassland            | 1.00          |
| Perennial            | 46.80         |
| Grassland with trees | 2.25          |
| <b>Total</b>         | <b>120.25</b> |



The land use type “annual crops/fallow land”; is in practice mainly planted with rice, which after harvesting will be used for a few months more for maize and after that will become fallow land for several years. Since these lands have been part of such a system for a long time, they are becoming very poor and no crop production can be expected for almost 10 years. ArBolivia aims to replace this slash and burn system with a land use system in which ecological principles prevail.

The perennial crops are predominantly full grown, low productive banana plantations and palmhear plantations in less extend citrus plantations at the end of their rotation. These areas are expected to show a decline in biomass in future rather than an increase. Since these crops are very low productive farmers might let their cattle onto the land, resulting in a decline of biomass, or they just leave it for a few years more after which they slash and burn the perennials and use the land for low productive annual crops. In both cases natural regeneration is expected to be zero, since the farmer will continue to use the land for some marginal crop production, contributing further to the degradation of the land.

Grassland and grassland with trees are degraded grazing areas. The cause of degradation can be either: overgrazing or under grazing. Overgrazing results in a significant deterioration of production and soil quality. Undergrazing results in **grassland with trees**, since the partially abandoned and degraded grasslands are invariably invaded by shrubs and small trees. In the absence of the project the most likely scenario is that these areas will be rehabilitated for grazing activities through burning, which means a further degradation of the soils and a decrease of biomass stock in time compared with the biomass which can be found currently in this land use type.

ArBolivia aims on the improvement of sustainable agricultural production by improving the land use planning combined with the establishment of wood lots.

The so called *integrated land use planning* and the tree planting are based on the following principles:

- Selection of timber species according to ecological conditions of plant site and personal preferences of farm family
- Identification and selection of plant site surface according to estimated potential and available farm resources of farm family through elaboration of integral farm planning
- Adaptation of the forest implementation process according to the traditional agricultural calendar and adopted activities in order to avoid competition and additional preparation/ management expenses

In addition ArBolivia promoted and is promoting successive crop cultivation within implemented forestry plantations

- Improve biophysical conditions for tree growth within plantations through promotion of adequate use of natural generation within plantation
- Regular site visits to assure technical assistance to smallholder and impact monitoring on plantation quality and development.

In conformance with the Plan Vivo PDD and the Technical Specification all data collected on the condition of each site, is stored in paper files and in the ArBolivia database. Coordinates of the different land use types and the sectors in which trees are planted are stored in the database as well. Mapping is done using ArcGis. To improve transparency of the project activities for investors and for the clients for PES the database is coupled with the website on which all planted sites, under Plan Vivo and others are shown.



The principal stakeholders are the farmers and their communities. Considering the importance of syndicalism in Bolivia in general and within the project area in particular, acceptance by the community and coordination with community groups on different levels is of vital importance.

Therefore the following procedures have been and continue to be followed:

- i. Introducing the project idea to the federations and syndicate representatives, as well as local, departmental and national authorities. This resulted in signing agreements with the farmer organisation in this specific area: FESPAI, FECAR. Joint activities and an interchange of information are carried out with the Federations as well with the organisations for indigenous people and the municipalities on a regular but informal base. Some of the participating communities are part of the Indigenous Territory of the Tacanas represented by CIPTA (Consejo Indigena del Pueblo Tacana), although still no formal agreement exists on the coordination of activities, staff from ArBolivia maintain communication with the authorities of the CIPTA by visiting them regularly
- ii. Introduction of the project idea to the communities in conjunction with the farmers organisations
- iii. Identifying interested land holders within the communities
- iv. Visits to every individual interested landholder to establish
  - a. Requirements on land ownership
  - b. Acceptance of contract
  - c. Selection of eligible land within the farm
  - d. Biophysical evaluation of eligible area
  - e. Evaluation of actual and potential land use
  - f. Collection of ideas on the design of the reforestation activities
- v. Documenting data in forms and on data base.
- vi. With the participating farmers, together with the communities and with the support of FESPAI two Forestry Committees have been established and it is expected that one extra Forestry Committee will be formed, due to the particular characteristics of those farmers who are part of the indigenous communities.

All documents mentioned above are stored in paper files as well in the data-base and are available on request.

This report includes the establishment of woodlots with 99 farmer families, 92 farmer families are new and 7 farmer families had already plantations validated under Plan Vivo, but extended these. This makes the total number of families with woodlots established under the Plan Vivo Standard 152. All farmers have signed an agreement which includes provision for the transfer of PES rights to the project, and the project in turn agrees to transfer the eventual revenues from these rights to the farmers as part of the investment on the farmers land. See table 3.2.



Table 3.2: Surface planted per community of new participants under the Plan Vivo Standard (since the 2010 annual report)

| Department | Municipality      | Community               | Surface planted (Ha) | Farmer families with agreement |
|------------|-------------------|-------------------------|----------------------|--------------------------------|
| Beni       | Reyes             | Propiedad privada       | 4.00                 | 2                              |
| Beni       | Reyes             | San Jose                | 2.00                 | 2                              |
| Beni       | Rurrenabaque      | Carmen Soledad          | 0.50                 | 1                              |
| Beni       | Rurrenabaque      | Collana                 | 6.00                 | 5                              |
| Beni       | Rurrenabaque      | Colorado Bajo Nucleo 34 | 0.51                 | 1                              |
| Beni       | Rurrenabaque      | Com. Villa Jichani      | 1.00                 | 1                              |
| Beni       | Rurrenabaque      | El Bala                 | 1.50                 | 2                              |
| Beni       | Rurrenabaque      | El Cebu                 | 2.00                 | 2                              |
| Beni       | Rurrenabaque      | Los Tigres              | 1.50                 | 2                              |
| Beni       | Rurrenabaque      | Nueva Esperanza         | 3.50                 | 4                              |
| Beni       | Rurrenabaque      | Nuevos Horizontes       | 2.00                 | 2                              |
| Beni       | Rurrenabaque      | Propiedad privada       | 9.00                 | 9                              |
| Beni       | Rurrenabaque      | San Bernardo            | 1.50                 | 1                              |
| Beni       | Rurrenabaque      | San Miguel              | 0.90                 | 1                              |
| Beni       | Rurrenabaque      | Ticala Linares          | 1.50                 | 2                              |
| Beni       | Rurrenabaque      | Uncallamaya             | 0.50                 | 1                              |
| Beni       | Rurrenabaque      | Villa El Carmen         | 0.50                 | 1                              |
| Beni       | San Borja         | Inca Suyo               | 2.00                 | 3                              |
| Beni       | San Borja         | Borjanita               | 2.00                 | 2                              |
| Beni       | San Borja         | El Palmar               | 2.00                 | 2                              |
| Beni       | San Borja         | Embocada                | 0.50                 | 1                              |
| Beni       | San Borja         | Marca Coroico           | 0.50                 | 1                              |
| Beni       | San Borja         | Propiedad privada       | 2.00                 | 1                              |
| Beni       | San Borja         | San Juan                | 1.50                 | 2                              |
| Beni       | San Borja         | Villa Borjana           | 1.98                 | 2                              |
| Beni       | San Borja         | Villa Imperial          | 9.35                 | 8                              |
| Beni       | San Borja         | Yacumita                | 6.01                 | 6                              |
| La Paz     | San Buenaventura  | Hurehuapo               | 0.50                 | 1                              |
| La Paz     | San Buenaventura  | Nueva Palestina         | 1.00                 | 1                              |
| La Paz     | San Buenaventura  | Propiedad privada       | 3.50                 | 4                              |
| La Paz     | San Buenaventura  | San Isidro              | 1.00                 | 1                              |
| La Paz     | San Buenaventura  | San Silvestre           | 0.60                 | 1                              |
| La Paz     | San Buenaventura  | Santa Ana               | 0.70                 | 1                              |
| La Paz     | San Buenaventura  | Tumupasa                | 5.20                 | 5                              |
| Cochabamba | Puerto Villarroel | 9 de Agosto             | 2.50                 | 1                              |
| Cochabamba | Puerto Villarroel | Agro Sacta              | 1.50                 | 1                              |
| Cochabamba | Puerto Villarroel | Alianza                 | 3.90                 | 1                              |
| Cochabamba | Puerto Villarroel | Gualberto Villarroel    | 3.60                 | 2                              |
| Cochabamba | Puerto Villarroel | Valle Hermoso           | 24.40                | 10                             |
| Cochabamba | Puerto Villarroel | Villa Verde             | 5.60                 | 3                              |
| Total      |                   |                         |                      | 120.25                         |
|            |                   |                         |                      | 99                             |

In the table 3.3, the species planted per strata are shown in table 3.4 the average carbon amount over a 40 year period is shown for each of the tree species and per strata.



### 3.4 Tree species planted per strata (surface in Ha)

| Specie                    | Common name                | Strata       |             |              |                      | Total Surface (Ha) |
|---------------------------|----------------------------|--------------|-------------|--------------|----------------------|--------------------|
|                           |                            | Annual       | Grassland   | Perennial    | Grassland with trees |                    |
| Buchenavia oxycarpa       | Verdolago negro (pepa)     | 0.60         |             | 1.00         |                      | 1.60               |
| Calophyllum basiliense    | Palo María                 | 4.97         | 0.60        | 1.54         | 1.00                 | 8.11               |
| Centrolobium tomentosum   | Tejeyeque                  | 5.45         |             | 16.64        |                      | 22.09              |
| Dipteryx odorata          | Almendrillo                | 9.35         |             | 14.99        |                      | 24.34              |
| Guarea rusby              | Trompillo de altura        | 1.60         |             | 5.50         |                      | 7.10               |
| Hymenaea courbaril        | Paquio                     | 0.90         |             |              |                      | 0.90               |
| Schizolobium amazonicum   | Serebo                     | 0.50         |             |              |                      | 0.50               |
| Tapirira guianensis       | Palo román                 | 4.83         |             |              | 0.05                 | 4.88               |
| Tectona Grandis           | Teca                       | 29.05        |             | 2.76         |                      | 31.81              |
| Terminalia amazonica      | Verdolago negro (de ala)   | 3.03         |             | 1.96         | 0.75                 | 5.74               |
| Terminalia oblonga        | Verdolago amarrillo de ala | 3.00         |             |              |                      | 3.00               |
| Virola flexuosa           | Gabún                      | 0.48         |             | 0.55         | 0.45                 | 1.48               |
| Stryphnodendron purpureum | Palo yugo                  | 6.44         | 0.40        | 1.86         |                      | 8.70               |
| <b>Total</b>              |                            | <b>70.20</b> | <b>1.00</b> | <b>46.80</b> | <b>2.25</b>          | <b>120.25</b>      |

As stated in the PDD the buffer is 10% in accordance with Plan Vivo requirements. However ArBolivia will only sell 70% of the expected carbon stocks as ex-ante credits, which means ArBolivia will retain another 20% until the biomass measurements in the permanent sample plots are demonstrating the actual amounts of carbon stocks as estimated. Once biomass measurements demonstrate the exact carbon stock then the 20% credits which have been retained, can also be issued. In annex 2 the average amount of carbon per farmer and per sector is shown.

Table 3.4: Tree species planted and average carbon stocks

| Specie                    | Common name                | Strata        |            |               |                      | Total average GHG removal (tCO2e) | Plan Vivo Buffer (tCO2e) | Retained by ArBolivia (tCO2e) | Total exante credits for sale (tCO2e) |
|---------------------------|----------------------------|---------------|------------|---------------|----------------------|-----------------------------------|--------------------------|-------------------------------|---------------------------------------|
|                           |                            | Annual        | Grassland  | Perennial     | Grassland with trees |                                   |                          |                               |                                       |
| Buchenavia oxycarpa       | Verdolago negro (pepa)     | 140           |            | 232           |                      | 372                               | 37                       | 74                            | 261                                   |
| Calophyllum basiliense    | Palo María                 | 1,067         | 128        | 327           | 213                  | 1,735                             | 174                      | 347                           | 1,215                                 |
| Centrolobium tomentosum   | Tejeyeque                  | 1,256         |            | 3,800         |                      | 5,057                             | 506                      | 1,011                         | 3,540                                 |
| Dipteryx odorata          | Almendrillo                | 2,591         |            | 4,121         |                      | 6,712                             | 671                      | 1,342                         | 4,698                                 |
| Guarea rusby              | Trompillo de altura        | 458           |            | 1,563         |                      | 2,021                             | 202                      | 404                           | 1,415                                 |
| Hymenaea courbaril        | Paquio                     | 211           |            |               |                      | 211                               | 21                       | 42                            | 147                                   |
| Schizolobium amazonicum   | Serebo                     | 124           |            |               |                      | 124                               | 12                       | 25                            | 87                                    |
| Tapirira guianensis       | Palo román                 | 1,463         |            |               | 15                   | 1,478                             | 148                      | 296                           | 1,034                                 |
| Tectona Grandis           | Teca                       | 7,245         |            | 682           |                      | 7,927                             | 793                      | 1,585                         | 5,549                                 |
| Terminalia amazonica      | Verdolago negro (de ala)   | 844           |            | 542           | 208                  | 1,593                             | 159                      | 319                           | 1,115                                 |
| Terminalia oblonga        | Verdolago amarrillo de ala | 685           |            |               |                      | 685                               | 69                       | 137                           | 480                                   |
| Virola flexuosa           | Gabún                      | 97            |            | 110           | 91                   | 299                               | 30                       | 60                            | 209                                   |
| Stryphnodendron purpureum | Palo yugo                  | 1,697         | 105        | 486           |                      | 2,288                             | 229                      | 458                           | 1,601                                 |
| <b>Total general</b>      |                            | <b>17,877</b> | <b>233</b> | <b>11,864</b> | <b>527</b>           | <b>30,501</b>                     | <b>3,050</b>             | <b>6,100</b>                  | <b>21,351</b>                         |

As shown in table 3.5, certificate Issuance (ex-ante credits) is applied for a total of 21,351 tCO2e. These credits will be transferred to the Cochabamba Project Ltd.



Table 3.5: Project CO<sub>2</sub> sales and allocations for this reporting period

| Total volume of CO <sub>2</sub> forward sold (tCO <sub>2</sub> ) | Total Sale Price (\$) <sup>1</sup> | Total number of producers/producer groups allocated to buyers | Total area (ha) | Technical specification applied | Price to producer/group (\$/tCO <sub>2</sub> ) <sup>2</sup> | % of Sale Price that will reach communities as PES* |
|--|------------------------------------|---|-----------------|---------------------------------|---|---|
| 21,351 tCO <sub>2</sub> e  |                                    | 99  | 120.25          | Forest Plantations              | N/A (see section 6)   | N/A (see section 6)                                 |

\* Please see for information on payments to farmers, section 6

#### 4. Sales of Plan Vivo Certificates

| Vintage | Name of purchaser/source of funds | Number of Plan Vivo Certificates purchased | Price per Certificate* | Total amount received (\$) |
|---------|-----------------------------------|--|------------------------|----------------------------|
| 2010    | Forest Finance                    | 10,034                                     |                        | Removed from public report |
| 2010    | The Cochabamba Project            | 3,381                                      |                        |                            |
| 2011    | The Cochabamba Project            | 21,351                                     |                        |                            |

<sup>1</sup> Pricing information will be removed before the report is made publicly available

<sup>2</sup> This information is used to assess whether the project benefit sharing structure is as laid out in the PDD. Please add an additional column to this table if there are additional payments to the community e.g. community trust fund.



## 5. Monitoring Results

Farmers received several visits before and after planting and during the maintenance of the trees.

All farmers receive instructions on how to plant and farmers also receive specific recommendations based on their specific site conditions, site-preparation (in case of establishment) and the quality of the plantation.

During site selection process, the coordinates of the future plantation were measured with GPS. The eligibility map was uploaded to the GPS, so GPS points could be matched directly against the eligibility map.

During the first two years 6 evaluation visits of the plantations are foreseen, after that this is reduced to one per year. In some cases, the number of evaluation visits planned during the first two years has had to be deferred because of delays by the farmer in proceeding with certain recommendations.

The visits are carried out according the following scheme:

1. During establishment process a number of recommendations are made. Compliance with these recommendations is checked 1 to 3 weeks after. Although during site selection the coordinates were measured by GPS the area finally planted was measured again, giving the exact coordinates (UTM WGS84) and surface of each sector. Once introduced into the data base a unique sector code is assigned (annex 1a). If the farmer has followed up the recommendations, the technical adviser is authorized to proceed with the payments, which are based on the surface area, as measured and recorded.
2. After about 3 months, a second evaluation takes place, farmers will receive recommendations on how to carry out the maintenance if they have not done so yet on their own initiative or have not done so according to the general instructions given to all farmers.
3. In the first year after planting two other evaluation visits are carried out (3 and 4 in table 5.1), with the same purpose as the visits mentioned above, and during the second year another two visits (5 and 6 in table 5.1) are carried out. After that period evaluations related to payments will be done only once a year.

In practice farmers are normally visited almost twice as frequently as the above mentioned formal visits. ArBolivia decided to register these visits as well, in order to have a more efficient follow up of the quality and compliance of activities related to the plantations.

The different recommendations are grouped and the surfaces for which each of the recommendations was given is summarized in table 5.1, for a full set of recommendations see annex 4. If no recommendations were given, the plantation was in compliance with the requirements of ArBolivia.

Although, it must be mentioned, that this was not always done within the established time frame, in the woodlots reported here all recommendations were followed up. Delays in the execution of activities by the farmers, or in cases where from a silvicultural point of view activities could be deferred without undue consequences, meant that in some cases only 4 payments were made during the two years.

- Cover crop: Due to soil conditions it is recommended to implement a leguminous crop, in which case appropriate seeds were provided by ArBolivia



- Pest control: Some pests, mainly ants might attack the plantations and there is a need to apply biological pesticides. These products were also provided by ArBolivia, or training was given on how to produce biological pesticides.
- Fertilization: Fertilization was recommended with organic fertilizer.
- No recommendation: No special recommendation were necessary
- Pruning required: Branches and shoots
- Protection against cattle: In case no fencing, or no sufficient fencing, was done before establishment, and due to land use changes (for example where one of the neighbours decided to begin raising cattle) fencing is necessary, ArBolivia provides a quantity of barbed wire. The farmer provides the poles and, and additional barbed wire as required.
- Replanting: In all cases when mortality exceeds 20%, replanting is recommended, ArBolivia provides the plants and the farmer carries out the planting.

*Table 5.1: Main recommendations during evaluation visits. Number 1-7: Different site visits over initial 2 year period. After 2 year period, visits are on annual basis. Full list of recommendations can be seen in annex 4.*

| Type of recommendation    | Main recommendations per hectare per evaluation visit |        |        |        |        |        |        |
|---------------------------|---|--------|--------|--------|--------|--------|--------|
|                           | 1   | 2      | 3      | 4      | 5      | 6      | 7      |
| Pest control              | 5.50  | 9.30   | 8.00   | 2.50   | 4.00   | 2.00   |        |
| Cover crop                | 4.10  | 12.70  | 17.50  | 5.00   | 1.00   | 3.00   |        |
| Weeding                   | 47.65   | 38.85  | 37.50  | 40.60  | 38.15  | 25.90  | 3.90   |
| Re-planing (partial)      | 17.60   | 13.60  | 9.20   | 8.60   | 5.60   | 1.50   | 1.00   |
| Pruning                   | 2.00  | 13.00  | 25.70  | 29.10  | 36.20  | 24.50  | 6.00   |
| No recommendation         | 26.40   | 17.20  | 5.10   | 3.10   |        |        |        |
| Other                     |   | 12.10  | 7.00   | 13.90  |        |        |        |
| Protection against cattle | 17.50   | 4.00   | 4.50   | 2.00   |        |        |        |
| Fertilisation             |   |        | 0.50   |        | 2.50   |        |        |
| Fire control              |   |        |        | 1.70   |        | 1.25   |        |
| No evaluation visit       |   |        | 5.75   | 14.25  | 33.30  | 62.60  | 109.85 |
| Total                     | 120.75  | 120.75 | 120.75 | 120.75 | 120.75 | 120.75 | 120.75 |

This data is checked on quality and data are verified in the field for consistency as described in the monitoring protocol.



## 6. PES update

In accordance with the PDD, the contract signed between the farmers and the project stipulates that the farmers will transfer their rights regarding the sale of carbon-credits to the Asociación Accidental Cetefor Sicirec (AACS). Sicirec Bolivia Itda, the main partner in the AACS, will then transfer these rights to the investors in the project. The investors in turn will guarantee that the revenues they obtain for the carbon-credits will be transferred to the farmers as part of the total investment capital of the project. More specifically carbon revenues will be used to make staged payments to the farmers for the establishment and maintenance of plantations. The payments are made periodically in line with specific monitoring targets.

In accordance with the provisions established in the PDD, if these payments cannot be covered by the revenues for carbon credits, the project manager (SICIREC Bolivia Itda) is obliged to cover the deficit. In the event that carbon revenues are higher than the partial payments then the surplus funds will be used for investments, which directly benefit the farmers, such as barbed wire, agroforestry plants etc.

Until now few Plan Vivo credits have been sold by the investor, which means payments to farmers until now are disbursed by the investor (SICIREC Group and IPS-Cochabamba Project Ltd).

The participating farmers received the payments shown in table 6.1

Table 6.1: Payments to farmers

| Number of Farmers | Type of payment                        | Total Amount (BOB) | Total Amount USD (aprox) |
|-------------------|--|--------------------|--------------------------|
| 99                | Establishment                          | 75,676             | 10,811                   |
| 99                | Maintenance 1 (after approx. 3 months) | 38,277             | 5,468                    |
| 96                | Maintenance 2 (after > 6 months)       | 38,970             | 5,567                    |
| 92                | Maintenance 3 (after > 10 months)      | 37,291             | 5,327                    |
| 66                | Maintenance 4 (after > 14 months)      | 21,710             | 3,101                    |
| 40                | Maintenance 5 (after > 20 months)      | 13,544             | 1,935                    |
| 11                | Maintenance 6 (after > 26 months)      | 2,982              | 426                      |
| Suma de Maint 7   |  | 228,452            | 32,636                   |

\*includes tax according Bolivian tax-regulations

Payments amounting to the equivalent of 32,636 USD, besides farmers received citrus and cacao plants for a value of 8,200 USD, as well as seeds of leguminous species for a value of 100 USD, with the aim of improving the soil.

80 farmers received a total of 232 rolls of barbed wire with a value of 13,250 USD. Farmers receive barbed wire when there is a need to protect the young plantations against invasion by cattle.

For a detail of the payments, and delivery of plants, see annex 3.



## 7. Ongoing Community Participation

The project has a high presence in the area, and works closely with the farmers; partly by individual visits to the farmers, but also through the coordination with the farmer federation and the organisation of indigenous people. Communal and/or local organizational regulations, as well as verdicts, are mandatory for the project implementation according to their degree of authority. Therefore formal agreements with the farmers 'organisation FESPAI and FECAR are established and a process of continuous coordination with the Council of Indigenous People Tacana (CIPTA) and community authorities is taking place. On the same way ArBolivia coordinates its activities with the FEPAY and the FECCT in Pto Villarroel

With the authorisation and help of the famers' federation, 7 forestry committees have been set up. In the indigenous communities this role is taken up directly by the communities. The forestry committees, as well as the communities, play an active role in decision-, strategy-, and policymaking. In table 7.1 below the Forestry committees are shown for each community. In the Cochabamba region it is the communities and the federation involved in decision-, strategy-, and policymaking.

These committees are organised according to their documented internal rules and procedures, which were approved during a meeting with all the farmers. All committees have a board of 4 members, of which 2 represents to ArBolivia a 2 to the communities. Board meetings take place at least every 2 months in which the members representing ArBolivia are giving an update of the situation on the executed and programmed activities and quality of the plantations. If there are any problems raised whereby ArBolivia has failed in its commitment to the farmer, these are discussed at this meeting. Similarly if there are farmers, who have been having problems in the plantations and these problems could not been solved between the farmer and the fieldworker, then a solution is sought in the committee and if necessary a visit with one of the farmer members of the board and the field worker is arranged to visit the parcel. In the general meeting board members representing the farmers inform the farmers on the results of the activities, measures taken and measures which should be taken, as well as all the strategies and activities programmed until the next meeting. Once a year, ArBolivia presents a financial and technical report to the forestry committees.



Table 7.1: Community, farmer organisation and Forestry Committees

| Department   | Municipality      | Community               | Organisation | Forestry Committee | Surface (ha)  | Farmer families |
|--------------|-------------------|-------------------------|--------------|--------------------|---------------|-----------------|
| Beni         | Reyes             | Propiedad privada       |              | Tamarindo          | 4.00          | 2               |
| Beni         | Reyes             | San Jose                | FECAR        | Tamarindo          | 2.00          | 2               |
| Beni         | Rurrenabaque      | CARMEN SOLEDAD          | FECAR        | Tamarindo          | 0.50          | 1               |
| Beni         | Rurrenabaque      | COLLANA                 | FECAR        | Las Tecas          | 6.00          | 5               |
| Beni         | Rurrenabaque      | Colorado Bajo Nucleo 34 | FECAR        |                    | 0.51          | 1               |
| Beni         | Rurrenabaque      | Com. Villa Jichani      | FECAR        |                    | 1.00          | 1               |
| Beni         | Rurrenabaque      | El Bala                 | FECAR        |                    | 1.50          | 2               |
| Beni         | Rurrenabaque      | EL CEBU                 | FECAR        | 12 de Junio        | 2.00          | 2               |
| Beni         | Rurrenabaque      | LOS TIGRES              | FECAR        | 12 de Junio        | 1.50          | 2               |
| Beni         | Rurrenabaque      | NUEVA ESPERANZA         |              | 12 de Junio        | 3.50          | 4               |
| Beni         | Rurrenabaque      | NUEVOS HORIZONTES       | FECAR        | 12 de Junio        | 2.00          | 2               |
| Beni         | Rurrenabaque      | Propiedad privada       | FECAR        | Las Tecas          | 9.00          | 9               |
| Beni         | Rurrenabaque      | SAN BERNARDO            | FECAR        | Las Tecas          | 1.50          | 1               |
| Beni         | Rurrenabaque      | SAN MIGUEL              | FECAR        | Ambiente Sano      | 0.90          | 1               |
| Beni         | Rurrenabaque      | TICALA LINARES          | FECAR        | Las Tecas          | 1.50          | 2               |
| Beni         | Rurrenabaque      | UNCALLAMAYA             | FECAR        | Las Tecas          | 0.50          | 1               |
| Beni         | Rurrenabaque      | VILLA EL CARMEN         | FECAR        | 12 de Junio        | 0.50          | 1               |
| Beni         | San Borja         | Inca Suyo               | FEPAF        | Ambiente Sano      | 2.00          | 3               |
| Beni         | San Borja         | Borjanita               |              | Ambiente Sano      | 2.00          | 2               |
| Beni         | San Borja         | EL PALMAR               | FEPAF        | Ambiente Sano      | 2.00          | 2               |
| Beni         | San Borja         | Embocada                |              |                    | 0.50          | 1               |
| Beni         | San Borja         | Marca Coroico           | FEPAF        | Ambiente Sano      | 0.50          | 1               |
| Beni         | San Borja         | Propiedad privada       | FEPAF        | Ambiente Sano      | 2.00          | 1               |
| Beni         | San Borja         | San Juan                | FEPAF        | Ambiente Sano      | 1.50          | 2               |
| Beni         | San Borja         | VILLA BORJANA           |              | Ambiente Sano      | 1.98          | 2               |
| Beni         | San Borja         | VILLA IMPERIAL          | FEPAF        | Ambiente Sano      | 9.35          | 8               |
| Beni         | San Borja         | YACUMITA                | FEPAF        | Ambiente Sano      | 6.01          | 6               |
| La Paz       | San Buenaventura  | HUREHUAPO               | FESPAI       | Madidi             | 0.50          | 1               |
| La Paz       | San Buenaventura  | NUEVA PALESTINA         | FESPAI       | Gabú               | 1.00          | 1               |
| La Paz       | San Buenaventura  | Propiedad privada       |              | Gabú/Madidi        | 3.50          | 4               |
| La Paz       | San Buenaventura  | SAN ISIDRO              | FESPAI       | Gabú               | 1.00          | 1               |
| La Paz       | San Buenaventura  | SAN SILVESTRE           | CIPTA        |                    | 0.60          | 1               |
| La Paz       | San Buenaventura  | SANTA ANA               | FESPAI       | Gabú               | 0.70          | 1               |
| La Paz       | San Buenaventura  | TUMUPASA                | CIPTA        | Gabú               | 5.20          | 5               |
| Cochabamba   | Puerto Villarroel | 9 de Agosto             | FECCT        |                    | 2.50          | 1               |
| Cochabamba   | Puerto Villarroel | Agro Sacta              | FECCT        |                    | 1.50          | 1               |
| Cochabamba   | Puerto Villarroel | Alianza                 | FECCT        |                    | 3.90          | 1               |
| Cochabamba   | Puerto Villarroel | Gualberto Villarroel    | FECCT        |                    | 3.60          | 2               |
| Cochabamba   | Puerto Villarroel | Valle Hermoso           | FECCT        |                    | 24.40         | 10              |
| Cochabamba   | Puerto Villarroel | Villa Verde             | FECCT        |                    | 5.60          | 3               |
| <b>Total</b> |                   |                         |              |                    | <b>120.25</b> | <b>99</b>       |



## 8. Breakdown of Operational Costs

The Plan Vivo parcels are part of the wider ArBolivia project. A cost estimation was made for the 120.75 ha based on the total expenses of the project. In Table 8.1 a cost specification is given.

Table 8.1 Breakdown of Operational Costs in USD<sup>3</sup>

| COST                           | ADM           | MAN          | CONS         | MAINT         | MON          | PLANT         | SOCIAL/INST  | ESTABL        | TOTAL          |
|--------------------------------|---------------|--------------|--------------|---------------|--------------|---------------|--------------|---------------|----------------|
| Personal                       | 3,225         | 5,848        | 676          | 16,323        | 4,190        | 22,022        | 2,998        | 20,310        | 75,591         |
| Operational costs              | 11,319        | 944          | -            | 3,265         | 555          | 804           | 109          | 1,779         | 18,774         |
| Materials and consumables      | 1,364         | 1,037        | -            | 5,516         | 722          | 5,224         | 928          | 11,219        | 26,010         |
| Equipment/Furniture            | 15,780        | 829          | -            | 12,331        | 1,116        | 2,593         | 920          | 5,202         | 38,771         |
| Agroforestry systems           | -             | -            | -            | 276           | 423          | 10,452        | 170          | 1,269         | 12,590         |
| Tools for farmers              | 1,147         | -            | 287          | -             | -            | -             | -            | 1,538         | 2,972          |
| Carbon and project development | -             | -            | -            | -             | -            | -             | -            | 15,049        | 15,049         |
| Nursery materials              | -             | 212          | 1,360        | -             | -            | -             | -            | -             | 1,572          |
| Seeds                          | -             | -            | -            | -             | -            | 4,851         | -            | -             | 4,851          |
| Payments to farmers            | -             | -            | -            | 25,294        | -            | 12,610        | -            | -             | 37,904         |
| <b>Total general</b>           | <b>32,835</b> | <b>8,871</b> | <b>2,322</b> | <b>63,004</b> | <b>7,007</b> | <b>58,556</b> | <b>5,124</b> | <b>56,367</b> | <b>234,085</b> |

<sup>3</sup> ADM=Administration, MAN=Management, CONS=Consultancies, MAINT= Maintenance, MON=Monitoring, PLANT= Seedling production, SOCIAL/INST= Social and institutional strengthning, promotion, ESTABL=Establishment costs (exl seedlings)



## Appendix 1: Monitoring results for new plan vivos

Maps: Location of planting areas under Plan Vivo Standard

